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Action Plan for Improving Performance of Los Alamos National Laboratory's Environmental Restoration Program

Environmental Restoration Project Team

12564

Los Alamos
NATIONAL LABORATORY

Action Plan for the ER Project

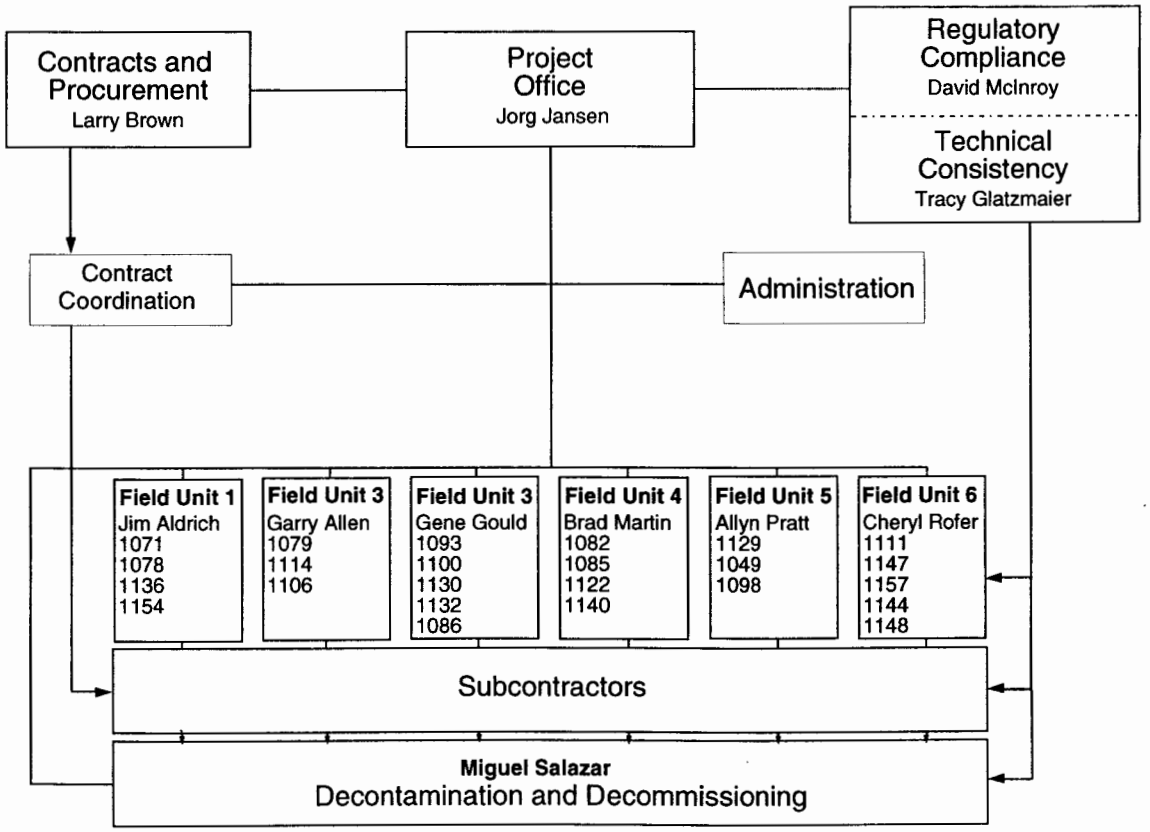
The Environmental Restoration (ER) Project is launching a streamlined program that will yield the following results:

- **A $24 million reduction in the estimated cost for FY96 (from $104 million to $80 million).**
- **An approximately $250 million reduction in the estimated cost to completion (from $1487 million to $1237 million).**
- **A three-year reduction in schedule to successfully complete the project (from 2010 to 2007).**

Improved ER Project Management

- The Laboratory will develop a streamlined management structure in which field units have full cost, schedule, and performance responsibilities.
- The project will have a strong command and control system and will improve communications with DOE and the regulators.

Environmental Restoration Project Organization



Subcontracting Strategy

- Through industrial collaboration the Environmental Restoration Project will
  - lower costs
  - benefit from existing industrial experience
  - move programmatic liabilities to the contractor
- Specialty contractors will provide consistent services project-wide
- A funding split of 70% to 30% between subcontractors and the Laboratory will be achieved

Regulatory Strategy

- The ER Project will obtain regulatory approval on the action plan
- It will involve the regulatory agencies early in preparing plans and reports
- It will adopt proven industrial approaches

Assessment Strategy

The ER Project will

- cut assessment costs by 16% by FY96;
- accelerate the RFI/ corrective measures study (CMS) schedule;
- improve the cost-effectiveness of ER data collection while maintaining appropriate data quality and defensibility;
- accelerate the process for high-priority, high-risk sites.

Remedial Design and Corrective Action Strategy

- The ER Project will implement a cost-effective remediation strategy
  - value engineered designs
  - use of commercial equipment
  - use all commercial and existing technologies
  - development of new technology where cost effective
- Whenever possible, voluntary corrective actions will be used
  - saves time
  - reduces cost
  - entails some risk

Waste Management Strategy

- The ER Project will implement a comprehensive waste management strategy
  - minimize the generation of waste
  - minimize waste disposal costs and liabilities
  - develop temporary waste storage capabilities
  - integrate Environmental Restoration and Waste Management efforts

Public Involvement Strategy

- The ER Project will continue to build a strong relationship with all stakeholders
  - public involvement with clear goals and objectives
  - identify and respond to public concerns early
  - reflect the concerns in project plans and policies, and
  - involve Northern New Mexico pueblos

Future Land Use Strategy

- The ER Project's future land use strategy is based on the Laboratory's long-term Site Development Plan
  - residential clean uplevels in townsite
  - industrial/operational cleanup levels on Laboratory land
- Future land use decisions will be coordinated with the Laboratory and Department of Energy

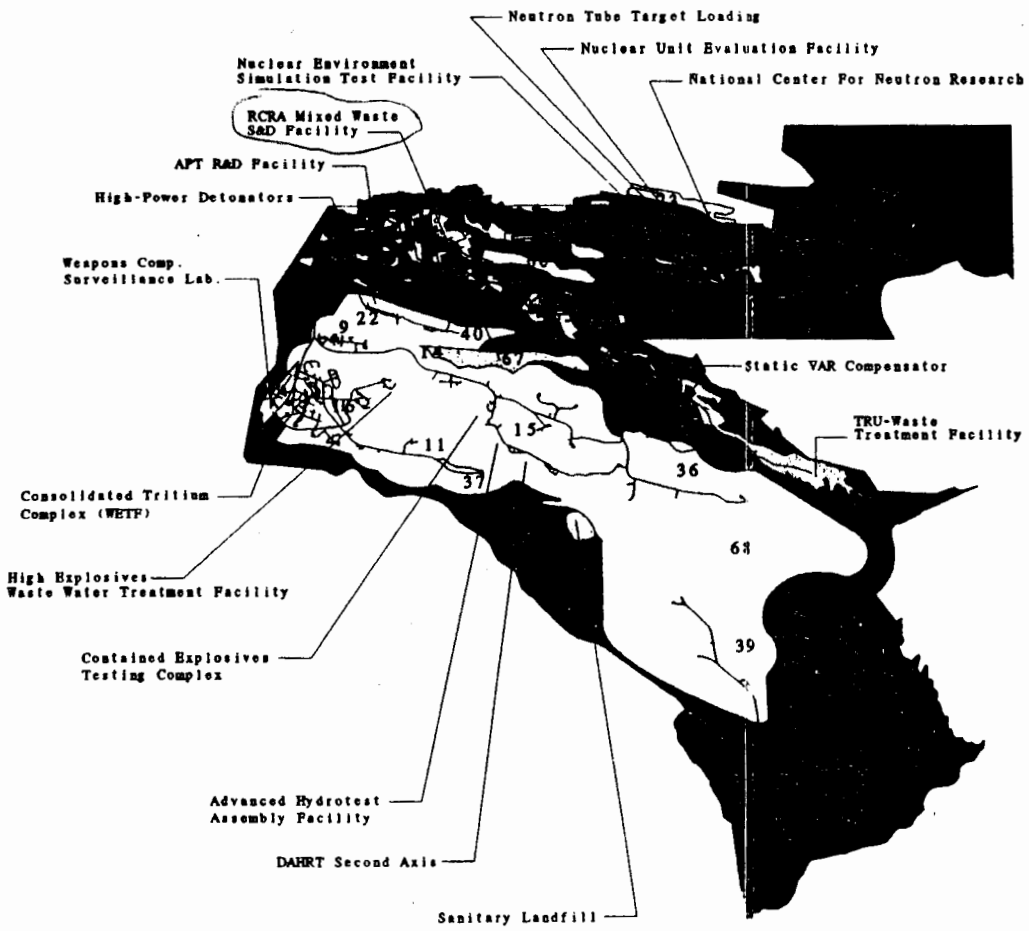


Figure 9-1. Laboratory plans for future land use.

LANL FUTURE LAND USE (LABWIDE)

PREPARED FOR:
SITE DEVELOPMENT PLAN
ANNUAL UPDATE, 1994

LEGEND

- ENVIRONMENTAL RESEARCH /BUFFER (ER)
- PHYSICAL SUPPORT AND INFRASTRUCTURE (PSI)
- EXPERIMENTAL SCIENCE (EX)
- HIGH EXPLOSIVES R&D AND TESTING (HE)
- SPECIAL NUCLEAR MATERIALS R&D (SNM)
- PUBLIC AND CORPORATE INTERFACE (PC)
- ADMINISTRATIVE AND TECHNICAL SERVICES (ATS)
- WASTE MANAGEMENT (WM)
- THEORETICAL AND COMPUTATIONAL SCIENCE (TC)
- NON-DOE LAND : POTENTIALLY PSI
- HIGH EXPLOSIVES ADMINISTRATIVE AND TECHNICAL SUPPORT AREA
- 03 TECHNICAL AREA NUMBERS
- PAVED ROADS
- BUILDINGS

PREPARED BY:
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3000 0 3000 6000 FEET
914 0 914 914 METERS

N

NEW MEXICO STATE PLANE COORDINATE SYSTEM (CENTRAL ZONE)
1927 NORTH AMERICAN DATUM

Cooperative Implementation of the ER Project

- Clarify the relationship of the Laboratory and Department of Energy as copermittees
  - define roles and responsibilities of Department of Energy and the Laboratory in overseeing and managing the project
  - establish clear points of contact
  - simplify reporting requirements to Department of Energy and EPA, and
  - create a commercial advisory board.

Budget

- The ER Project has reduced its FY96 target budget of $104 million to an action plan budget of $80 million—a reduction of $24 million.
- Project-wide technical support will be reduced to $5M.
- Project-wide administrative support will not exceed $14M.
- Productivity savings will be reinvested into accelerated clean-up
  - extensive use of voluntary corrective actions
  - anticipated savings of $14M in FY95 and $24M in FY96.

Performance Measurement System

The performance measurement system is based on milestone tracking:

- baseline-related milestones
  - 40 voluntary corrective actions in FY95*
  - 290 no further actions in FY95*
- administrative milestones are tracked quarterly;
- a milestone-scoring system is proposed.

*based on full FY95 funding

EXECUTIVE SUMMARY

1.0 Introduction

The Environmental Restoration (ER) Project is launching a streamlined approach to project management that will yield the following results:

- A $24 million reduction in the estimated cost for fiscal year (FY) 1996 (from $104 million to $80 million).
- An approximately $250 million reduction in the estimated cost to completion (from $1,487 million to $1,237 million).
- A 3-year reduction in schedule to successfully complete the project (from 2010 to 2007).

Los Alamos National Laboratory (the Laboratory) has supported this country through 50 years of science and technology development. In carrying out its mission, contamination of the natural environment occurred, and the Laboratory acknowledges its moral obligation to remediate contaminated lands. A core mission of the Laboratory is reducing the nuclear danger, which includes cleanup.

The Department of Energy (DOE) is requiring, and Laboratory management is supporting, major changes leading to environmental restoration. The Laboratory's director has articulated a clear vision of the ER Project at Los Alamos. ER Project personnel have developed extensive site-specific knowledge and are pursuing successful ER and decommissioning activities. There are no technological barriers to the success of this project.

The Assistant Secretary of Environmental Management has called upon the Laboratory to help the entire DOE complex. It is incumbent on this Laboratory to apply the knowledge it has acquired in implementing the ER Project to these and other problems of national interest.

The Laboratory has developed an improved, integrated approach to the ER Project. This approach directly responds to (1) DOE's requirements that the Laboratory reduce costs and demonstrate rapid progress in cleaning up contaminated sites and (2) the recommendations of an independent technical to review team. This action plan addresses all the project's performance objectives in a practical management plan.

The following initiatives will ensure that the ER Project maintains budget and schedule goals for FY96 and beyond:

- Improve project management by streamlining the organization, eliminating one management layer, and introducing an efficient command and control system.
- Implement a subcontracting strategy that shifts cost and schedule liability to the subcontractors.
- Implement a regulatory strategy that involves regulators as early as possible and uses industrial approaches.
- Implement an aggressive assessment strategy that focuses on individual potential release sites (PRSs), which results in an average assessment time of 4 years per PRS and yields $9 million in cost savings in FY96.

- Implement a remediation strategy that reduces the time from approval of the Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) report to completion of the corrective measures study (CMS) report to 18 months or less.
- Integrate waste management with ER efforts, minimize waste, and deal effectively with treatment and disposal.
- Pursue an open and sincere public involvement strategy that involves a broad cross section of the northern New Mexico public, informs the public, and involves the public in cleanup decisions.
- Establish a partnership between DOE, the regulators, and the ER Project; improve internal and external communications; and assign points of contact to ensure that information exchange takes place in a timely manner.

The sections of this executive summary correspond to the section numbers in the text of this action plan.

2.0 Improved ER Project Management

> The Laboratory will develop a streamlined management structure in which field units have full cost, schedule, and performance responsibilities. The project will have a strong command and control system and will improve communications with DOE and the regulators.

The new ER Project organization is based on the idea of a small, tightly knit management team in which each team member leads his/her specific team. The management team consists of the project manager, six field project leaders (FPLs), and four coordinators. The team members provide the vertical management connection to field personnel as well as the link to their peers.

The project manager directs the project and serves as the primary contact for Laboratory management, DOE, and the regulators. FPLs are fully responsible for

- budget, schedule, and performance;
- investigating and remediating PRSs in their field units; and
- leading their field units as effective teams implementing projectwide approaches and procedures.

The project office provides coordination, support, and customer interaction.

- The regulatory compliance coordinator ensures internal compliance and interacts directly with the New Mexico Environment Department (NMED) and the Environmental Protection Agency (EPA) Region 6.
- The technical consistency coordinator ensures consistency in the technical approaches to investigations, remediation methods, work plan development, and reporting.
- The administrative support coordinator provides administrative support to all field units and the project office.

- The technical contract coordinator handles the specialty contractors and works closely with the dedicated procurement team.

The ER Project has combined 24 operable units in 6 field units to simplify the management structure. This new structure provides more flexibility, increases the autonomy of the field units, and improves their productivity. The structure distributes priority sites so that field units now possess balanced priorities as a function of time and allocation of funding. The new structure also takes into consideration geographic proximity, thereby improving the logistics of managing several operable units. The field units will be self-contained—they will have all the resources necessary to carry out and take full responsibility for cost, schedule, and performance.

To ensure effective project planning and control, the project office will integrate field unit planning and control efforts. This integrated system provides a mechanism for conducting critical path analysis and developing what-if scenarios. It will also generate project management reports.

To ensure accountability, the ER Project will use negotiated, contractlike internal work packages, which industry has used successfully on large-scale projects. The packages clearly define objectives, deliverables, milestones, and costs. These packages, together with the baseline, will be used as tracking tools. They play a crucial role in conducting performance evaluations and cost accountability audits.

3.0 Subcontracting Strategy

> By collaborating with industry, the ER Project will lower costs, benefit from existing expertise in the private sector, and move cost and schedule liabilities to the contractors. Specialty contractors will be hired to provide consistent and efficient integrated services projectwide. The ER Project's goal is to attain a funding split in which industry handles "standard" sites (80%) and the Laboratory handles "complex" sites (20%).

The ER Project has in place several effective collaborations with private contractors. Although the Laboratory will minimize disruption and rearrangement of these existing teams during the assessment phase, it does plan to eliminate duplication of effort and to increase productivity by restructuring into six field units. Most of the current contractors will become subcontractors to the two main contractors. The main advantages will be

- lessons learned will apply across the board.
- technologies, approaches, and data management systems will be standardized.
- sample management may take place without a centralized facility.
- health and safety authority and liability reside with one site contractor (as opposed to several).

During the remediation phase, the ER Project will use contractors across the board. This approach yields the following principal advantages:

- Cost and schedule liabilities will be moved to the contractors.
- Fixed-price work release contracts will be awarded, when possible.

- Contractor productivity will increase as the project assigns the principal contractors to the six field units and as specialty subcontractors remediate a succession of similar Laboratory sites.

4.0 Regulatory Strategy

> The ER Project will involve the regulatory agencies early in preparing plans and reports. It will obtain clear regulatory guidance and concurrence on proposed approaches to site-specific assessment and remediation and will achieve regulatory approval or agreement on this new action plan and its seven cost-saving approaches within six months.

The Laboratory will work with DOE and EPA to implement new regulatory strategies. These strategies will help the ER Project demonstrate early progress because they allow expeditious investigation, remediation, and reporting. Moreover, these strategies will reduce the cost and schedule for performing environmental restoration work at the Laboratory. To accelerate the regulatory process, ER Project staff will meet with the DOE, EPA, and the NMED frequently to develop many decisions related to investigation and remediation objectives.

The ER Project will adopt an industry-proven strategy to prepare plans, conduct site investigation and remediation, and prepare reports. As a result, DOE and the ER Project may sometimes challenge regulators' decisions. DOE must support the project in this approach to ensure a cost-effective, results-oriented outcome.

Within six months, the ER Project will obtain regulatory concurrence on the following seven issues:

- Define a mechanism that enables the project to perform voluntary corrective actions (VCAs) with a minimum of administrative requirements.
- Submit frequent, small RFI reports on small groups of sites rather than submit one report when the RFI has been completed for a particular operable unit.
- Establish corrective action management units to serve as staging or temporary storage for ER-generated wastes.
- Revise and potentially expand criteria for no-further-action (NFA) sites to eliminate minimal risk units.
- Obtain agreement on land use scenarios.
- Confirm that the regulatory agencies will consider PRS-specific amendments to approved work plans.
- Revise the ER Project schedule to ensure that all high-priority PRSs are funded as fully possible so that significant progress takes place as soon as possible.

5.0 Assessment Strategy

> The ER Project will cut assessment costs by 16% by FY96, accelerate the RFI/CMS schedule, improve the cost-effectiveness of ER data collection while maintaining appropriate data quality and defensibility, and accelerate the process for high-priority, high-risk sites.

The ER Project has adopted the environmental engineering industry's approach to RCRA corrective actions. Rather than attempt to perform complete characterization, this approach recognizes that environmental decisions often must be made in the face of uncertainty. This approach emphasizes

- the continued development of a site conceptual model and early identification of potential response actions based on existing information, (knowledge of process, interviews etc ?
- phased site characterization to close the site as early as possible,
- integrating the phases of the RFI/CMS/corrective measures implementation (CMI) so that the collected data serve the needs of all phases and so that the engineering analysis can begin as early as possible.

The most important element of this new approach is the emphasis on planning each data collection effort in support of reducing decision uncertainties to close the site. In addition to streamlining data collection, this approach will dramatically reduce data validation efforts.

6.0 Remedial Design and Corrective Action Strategy

> The ER Project will implement a cost-effective remediation strategy, implement a design strategy that includes value engineering, use commercial standard equipment and techniques, and will potentially implement new technology if it doesn't delay the field effort. Whenever possible, the VCA approach to remediation will be used, which entails a certain amount of risk but saves tremendous time and cost.

The ER Project will undertake corrective actions in the most direct, time- and cost-effective path to final site restoration or other disposition; it also will ensure that the corrective action process mitigates adverse impacts to human health and the environment.

The ER Project will use the VCA approach, when appropriate, to site remediation because this approach allows project personnel to plan, design, and implement a site-specific, customized remediation process without proceeding through the entire corrective action process or the DOE's Title I, II, and III design and construction processes. For more complicated corrective actions, such as remediating the former materials disposal areas (MDAs), the ER Project will implement conventional processes that include risk assessment, CMS, and detailed design; these processes allow personnel to evaluate exposures, compare alternatives, and prepare detailed plans and specifications for the action.

The ER Project will use value engineering conducted by specialized engineering firms to develop remedial designs and will implement the preferred and most cost-effective remedial action. The firms selected will have significant experience in remedial design for conditions that are typical for Los Alamos.

To speed up the design review process, the ER Project intends to use a three-step design procedure. In addition, the project will not delay the cleanup effort pending development of new technology. Off-the-shelf technologies will be used whenever possible, unless cost and time savings can be obtained by using new technology.

7.0 Waste Management Strategy

> The ER Project will develop and implement a comprehensive, long-term waste management strategy, minimize waste disposal costs and liabilities, develop temporary waste storage capabilities, conduct waste treatment and disposal in compliance with regulatory requirements, and minimize the generation of waste.

The waste management strategy is based on

- effective actions to significantly reduce the waste volumes generated by environmental restoration activities;
- a clear understanding of the interfaces between environmental restoration and waste management;
- realistic waste type and volume estimates;
- clear waste characterization requirements;
- sufficient waste storage, disposal, and treatment capabilities for all waste types; and
- an aggressive and realistic approach to obtaining regulatory approvals of corrective action management units and mixed-waste-disposal capabilities.

To improve waste management planning, the ER Project will increase its use of field screening techniques and composite sampling and will improve the sample management process. A new procedure, which states that waste can be stored within a PRS boundary without triggering the disposal time clock, ensures that all wastes are handled in full compliance with the regulations.

The ER Project has developed strategies that will yield reduced waste management and disposal costs for hazardous, low-level mixed, low-level radioactive, and solid wastes. In some cases, decreased liability associated with offsite disposal will result.

To improve the capacity of staging areas and assign temporary storage areas for waste, the ER Project intends to modify its RCRA permit to allow the construction of additional greater-than-90-day storage.

For the near term, the ER Project will seek permits for additional storage areas as corrective action management units (CAMUs). The ER Project will also aggressively pursue recycling options for nonhazardous and nonradioactive soils. Also, in collaboration with the Laboratory's Waste Minimization

and Pollution Prevention programs, the ER Project will develop a systematic approach to address waste minimization and pollution prevention, both in the RFI/CMS and decommissioning processes.

8.0 Public Involvement Strategy

> The ER Project will continue to build a strong relationship with all stakeholders to (1) ensure that public involvement activities have clear goals and objectives, (2) identify and respond to public concerns and values early in the process to provide a follow-up system that reflects these concerns and values in project plans and policies, and (3) involve American Indians in environmental issues.

For the past three years, the ER Project has worked with interested stakeholders and the public. The public involvement program includes public meetings, a widely distributed newsletter, information sheets, site tours, briefings for homeowner associations, information repositories, involvement of the northern New Mexico pueblos, high school and community college outreach activities, and interviews with interested and affected parties.

Recently, the ER Project conducted more than 40 interviews with selected members of the public and government agencies. ER Project staff are currently scheduling interviews with pueblo representatives. These interviews elicited information and began to establish an important dialogue between the northern New Mexico community and ER Project staff. The implementation plan for this initiative will be based on these interviews and will include good ideas garnered from other sites.

The principal goal of this effort is to develop and implement a meaningful and effective public involvement process for making cleanup decisions:

- build a trusting relationship between the ER Project, the Laboratory, and all stakeholders;
- ensure that public involvement activities have clear goals and objectives, as well as continuous follow-up, so that both the public and the ER Project staff see the results;
- involve citizens from a broad cross section of the public;
- identify public concerns and values early and incorporate them in cleanup decision making; and
- coordinate efforts with other Laboratory and DOE public involvement efforts.

9.0 Future Land Use Strategy

> The ER Project will implement a future land use strategy based on the Laboratory's Site Development Plan, will coordinate cleanup activities with the Laboratory's long-term plans and the Facilities Planning and Initiation Group, and will connect the regulatory strategy to the land use strategy.

The Laboratory plans to continue to be an active facility for the foreseeable future; as a result, it will continue to use most of the lands within its current boundaries. To integrate its efforts with the

Laboratory's Site Development Plan, the ER Project works closely with several Laboratory groups that are involved in land development and transfer issues.

The ER Project will use two land use scenarios to support its cleanup decisions: residential use in the townsite and industrial use on Laboratory land. The ER Project will negotiate land use scenarios for cleanup decisions with the regulators and will begin discussions with the public to develop acceptable criteria for cleanup decisions. It will also

- continue negotiations with regulators to develop acceptable risk scenarios for cleanup decisions and
- continue discussions with regulators and begin discussions with the public to develop acceptable criteria for cleanup decisions (the initial focus will be on making site-specific decisions).

10.0 Cooperative Implementation of the ER Project

> The ER Project will clarify the relationship of the Laboratory, the DOE, and the EPA; define roles and responsibilities of DOE and the Laboratory in overseeing and managing the project; establish clear points of contact; simplify reporting requirements to DOE and EPA; and create a commercial advisory board.

DOE and the Laboratory are copermitees under the RCRA permit. Once DOE and the Laboratory agree on a course of action, they will act as equal partners in their interactions with the regulators to achieve objectives mutually acceptable to all parties. The Laboratory's principal responsibility is to manage the ER Project, and DOE's principal responsibility is to provide overall guidance, exercise budget authority, and oversee the project.

A few operational issues must be resolved, such as

- reducing paperwork, delays, confusion, and duplication of effort;
- handling "fire drills;"
- determining the best use of current and future DOE resources to add the biggest value to the project.

Proposed departures from the operable baseline revision in terms of schedule, cost, and performance will be handled by a change and contingency control board. The board will consist of DOE and Laboratory members.

The ER Project proposes that an independent technical advisory board be established, consisting of members from industry and government agencies, to provide commercial peer review of ER Project activities.

11.0 Budget

> The ER Project has reduced its FY96 target budget of $104 million to an action plan budget of $80 million—a reduction of $24 million. Activity data sheet activities (ADSs 2105, 2107, and 2100) have been realigned in accordance with DOE guidance. The project has adopted new estimating assumptions, committing to DOE's cost and schedule reduction objectives and to implementing an accelerated, more efficient ER Project, beginning in FY95.

activity data sheet
ADS

DOE guidance for realigning ADS activities has been implemented, as follows:

- Administrative activities have been removed from the technical support ADS 2105 to the administrative support ADS 2107.
- The new ADS 2105 will be $5 million (slightly more than DOE's goal of 5% of total project cost) in FY96; the transition will occur during FY95.
- The new ADS 2107 will be $14 million (less than DOE's goal of 20% of total project cost) in FY96.
- Operable unit (OU) management costs will be drastically reduced by moving some of the costs into ADS 2107.

Estimates for the OU ADSs have been reduced, based on a number of assumptions, which helps to identify potential savings of $20 million. A significant fraction of the savings will be applied to accelerated cleanup.

During the course of preparing this action plan, the Laboratory has developed a new data base for all PRSs that shows their probable disposition (such as NFA or VCA), based on current knowledge of the sites. The ER Project will use these data to update all sites, based on various parameters, such as their priority-based ranking, operable unit, contaminant(s) of concern, and RFI report submittal dates. This information will be invaluable in preparing baselines, determining sampling strategies and waste volumes, and conducting other activities associated with the project.

The ER Project also has evaluated costs for all solid waste management units (SWMUs) in the Hazardous and Solid Waste Amendments (HSWA) Module that have a risk-based ranking of 51 or greater, along with the offsite PRSs in order to reflect the priority-based site-ranking approach. The FY95 baseline revision will reflect all of the changes resulting from this action plan.

12.0 Performance Measurement System

> The performance measurement system is based on milestone tracking. Baseline-related milestones are tracked by 6 months for the near term and 12-month intervals for the long term. Administrative milestones are tracked quarterly. A milestone-scoring system is proposed.

monthly / qtrly report.

Cleanup is the single goal of the ER Project. Cleanup progress is tracked based on completion of NFAs, VCAs, CMSs, and CMI. These decisions are carefully defined to avoid misunderstandings. The related milestones are grouped in 6-month time slots for FY95 and FY96, and in 12-month time slots for the out years. For example, currently a total of 332 NFAs are planned for FY95 and 285 NFAs for FY96. A total of 40 VCAs and 59 VCAs are planned for the same fiscal years, respectively. A number of key administrative milestones that support the remediation effort are also defined for tracking, starting in FY95.

All milestone deliverables and dates will be confirmed or adjusted as a result of the FY95 baseline revision. DOE and the Laboratory will develop and agree on a milestone-scoring system.

CONTENTS

EXECUTIVE SUMMARY *i*

CONTENTS *xi*

1.0 INTRODUCTION 1-1

1.1 Establishing an Integrated Approach to the ER Project 1-1
1.2 Ensuring Cost Savings and Streamlining the Schedule 1-1
1.3 Matching ER Project Strategies with DOE Objectives 1-2
1.4 Conducting Independent Technical Review of the ER Project 1-3
1.5 Ensuring Early Successes 1-3

2.0 IMPROVED ER PROJECT MANAGEMENT 2-1

2.1 Create a Streamlined Central Management Function 2-2

2.1.1 ER Project Manager 2-2
2.1.2 FPLs 2-2
2.1.3 Regulatory Compliance Coordinator 2-4
2.1.4 Technical Consistency Coordinator 2-4
2.1.5 Administrative Support Coordinator
2.1.6 Technical Contract Coordinator 2-4
2.1.7 Contract Administration Coordinator 2-4

2.2 Create Field Units That Have Full Cost, Schedule, and Performance Responsibility 2-5

2.3 Strengthen the Command and Control System 2-5

2.3.1 Management Team 2-7
2.3.2 Project Planning and Financial Control System 2-8
2.3.3 Process Flow Control 2-9
2.3.4 ER Business Unit 2-9

2.4 Improve Communications with DOE and Regulators 2-10

2.4.1 Communications with DOE 2-10
2.4.2 Communications with NMED and EPA Region 6 2-10

2.5 Adjust ADS 2105, 2107, and 2110 and Field Unit Management Budgets 2-10

3.0 SUBCONTRACTING STRATEGY 3-1

3.1 Current Use of Subcontractors 3-1
3.2 Future Use of Subcontractors 3-4
3.3 Procurement Strategy for Future Subcontractors 3-5
3.4 Transition from Present to Future Subcontractor Relationships 3-7
3.5 Management of Subcontractors 3-8

4.0 REGULATORY STRATEGY 4-1

4.1 Involve Regulators as Partners 4-2
4.2 Adopt and Implement Proven Industrial Approaches 4-2
4.3 Obtain Regulator Concurrence for Assessment Phase Activities 4-2

5.0 ASSESSMENT STRATEGY 5-1

5.1 Implement Industrial Strategy at Most Sites 5-1
5.2 Streamline the RFI Process Through an Integrated, Decision-Focused Approach 5-3
5.3 Cooperate with Agencies to Accelerate and Improve the Document Reviews 5-4
5.4 Combine Action on High-Priority Sites with Demonstrated Quick Results on Nonproblematic Sites 5-4
5.5 Achieve Consistency in Approach Across the ER Project 5-4
5.6 DOE Actions 5-5

6.0 REMEDIAL DESIGN AND CORRECTIVE ACTION STRATEGY 6-1

6.1 Take Early Remedial Action and Streamline VCAs 6-2
6.2 Use an Integrated Approach to Corrective Action 6-2
6.3 Streamline Remedial Designs 6-3
6.4 Focus on Use of Effective Standard Commercial Equipment and Technology 6-4

7.0 WASTE MANAGEMENT STRATEGY 7-1

7.1 Establish Consistent Guidelines and Procedures for Waste Characterization and Classification 7-2
7.2 Use Available Onsite Disposal Capacity to the Extent Possible 7-2
7.3 Develop a Waste Disposal Approach for Each Type of Waste 7-3

7.3.1 Hazardous Wastes 7-3
7.3.2 Low-Level Mixed Wastes 7-3
7.3.3 Low-Level Radioactive Wastes 7-3
7.3.4 Solid Waste Soils 7-3

7.4 Improve Capacity of Staging Areas and Temporary Storage Areas for Waste Materials 7-4
7.5 Establish Procedures for Waste Minimization, Recycling, and Reuse 7-7

8.0 PUBLIC INVOLVEMENT STRATEGY 8-1

8.1 Continue Past Public Involvement Efforts That Have Been Successful 8-1
8.2 Build Trust and Credibility 8-2
8.3 Clearly Define the Goals of the Public Involvement Program 8-2
8.4 Identify an Action Plan to Design and Implement the Public Involvement Program 8-3
8.5 Implement Public Involvement Activities 8-3
8.6 Pursue the Initiative for Public Involvement in Cleanup Decisions 8-4

8.7 Coordinate ER Activities with Other Laboratory and DOE Public Involvement Efforts 8-4

9.0 FUTURE LAND USE STRATEGY 9-1

9.1 Propose Land Use Scenarios Consistent with DOE's and the Laboratory's Long-Term Site Planning 9-2
9.2 Coordinate ER Cleanup Activities with Laboratory's Long-Term Planning 9-2
9.3 Pursue Regulatory and Public Involvement Aspects of Land Use Planning 9-4

10.0 COOPERATIVE IMPLEMENTATION OF THE ER PROJECT 10-1

10.1 Clarify Relationship of the Laboratory and DOE as Copermittees 10-1
10.2 Define Roles and Responsibilities of DOE and the Laboratory 10-2

10.2.1 The Laboratory's Roles and Responsibilities 10-2
10.2.2 DOE's Roles and Responsibilities 10-2
10.2.3 Issues Needing Resolution 10-3
10.2.4 Change and Contingency Control Board 10-3
10.2.5 Single Point of Contact 10-4

10.3 Simplify Reporting Requirements to DOE and EPA 10-4
10.4 Create Commercial Advisory Board 10-5
10-5 DOE's Requirements for Success 10-5

11.0 BUDGET 11-1

11.1 Adopt DOE Guidance for Realigning ADS Activities 11-1
11.2 Adopt New Estimating Assumptions 11-2
11.3 Implement an Accelerated, More Efficient ER Project Beginning in FY95 11-9

12.0 PERFORMANCE MEASUREMENT SYSTEM 12-1

12.1 Milestone Definition 12-1
12.2 Milestone Tracking 12-1
12.3 Milestone Scoring 12-8

FIGURES

2-1	ER Project organization.	2-3
2-2	Potential field unit organization structure.	2-6
2-3	ER Project command and control system.	2-7
3-1	Work definition vs. pricing arrangement.	3-6
3-2	Bar chart showing major procurement steps.	3-9
3-3	Organization of assessment tasks and obvious VCAs.	3-10
3-4	Organization of remediation efforts and major VCAs.	3-11
5-1	Generalized decision diagram.	5-2
7-1	TA-15, E-F Firing Site CAMU Proposal.	7-5
7-2	TA-16, GMX-3 High-Explosives Machining Area CAMU Proposal.	7-6
9-1	Laboratory plans for future land use.	9-3

TABLES

1-1	Summary of DOE's Performance Objectives for ER Project	1-3
1-2	Key Successes in the Near Term	1-4
2-1	Summary of Laboratory Actions to Improve ER Project Management	2-11
3-1	ER Project Subcontracts	3-2
3-2	Procurement Lead Times for Competitive Negotiated Lead Times	3-7
3-3	Summary of Laboratory Actions to Improve Use of Subcontractors	3-12
4-1	Summary of Actions to Improve Relationships with Regulators	4-4
5-1	Summary of Actions to Improve Assessments	5-5
6-1	Summary of Laboratory Actions to Improve Remedial Design and Corrective Action	6-5
7-1	Summary of Laboratory Actions to Improve Waste Management	7-7
8-1	Summary of Laboratory Actions to Improve Public Involvement	8-4
9-1	Summary of Laboratory Actions to Improve Land Use Decision Making	9-4
10-1	Summary of Actions to Improve Cooperative Implementation of the ER Project	10-5
10-2	Summary of Required DOE Actions	10-6
11-1	Cost Reductions in Technical Support (ADS 2105)	11-2
11-2	Preliminary Estimates of OU Cost Reductions in FY95 (OU ADSs)	11-4
11-3	Preliminary Estimates of OU Cost Reductions in FY96 (OU ADSs)	11-6
11-4	Preliminary Budget Estimates for FY95 and FY96	11-8
11-5	Summary of Laboratory Actions to Reduce Costs	11-9
12-1	NFA Supporting Performance Objectives; Identify Number of Potential Release sites	12-2
12-2	VCAs Supporting Performance Objectives; Identify Number of PRSs	12-3
12-3	Performance Objectives; Identify Number of SWMUs	12-4
12-4	Performance Objectives Dates	12-5
12-5	Milestone Performance Objectives; Identify Number of SWMUs	12-7
12-6	Performance Measurement Milestones	12-9

APPENDICES

APPENDIX A: Key Strategies for Meeting DOE's Performance Objectives

APPENDIX B: Statement of Work for a Work Package

LIST OF ACRONYMS

1.0 INTRODUCTION

The Laboratory has supported this country through 50 years of science and technology development. In conducting this activity, contamination of the natural environment occurred, and the Laboratory acknowledges its moral obligation to the northern New Mexico community to remediate contaminated lands. A core mission of the Laboratory is reducing the nuclear danger, which includes cleanup.

DOE is requiring and Los Alamos management is supporting major changes leading to environmental restoration. The Laboratory's director has articulated a clear vision of ER at Los Alamos. Personnel have developed extensive site-specific knowledge and are pursuing successful environmental restoration and decommissioning activities. There are no technological barriers to the success of this project.

The Assistant Secretary of Environmental Management has called upon the Laboratory to help the entire DOE complex. It is incumbent on this Laboratory to apply the knowledge it has acquired in implementing the ER Project to other problems of national interest.

1.1 Establishing an Integrated Approach to the ER Project

In response to the DOE's requirement to reduce costs and demonstrate rapid progress in cleaning up contaminated sites, and in response to the recommendation of the Independent Technical Review Team, the ER Project at the Laboratory has revised its approaches to conducting every phase of its work. The project has designed these approaches both to address regulatory requirements and public health and safety concerns and to emphasize practicality and use of proven industrial methodologies and technologies.

Previous presentations to DOE outlined how the ER Project's new integrated approach would save time, minimize cost, and reduce work. This action plan provides detailed information that could not be covered in the oral presentation; the end result is an integrated and comprehensive technical and regulatory approach that successfully meets DOE's short- and long-term goals.

The plan addresses all the project's performance objectives in a format that integrates these objectives in a practical management plan. Appendix A summarizes the key strategies for each performance objective and provides a reference to further detail in the text. Action items, with milestones, are listed at the end of each chapter and are summarized in Table 12-6 at the end of Chapter 12, Performance Measurements.

The ER Project will discuss this action plan with DOE and make the appropriate revisions. After the Laboratory and DOE have approved this plan, the ER Project and DOE will review it jointly with the EPA and NMED. After complete agreement has been reached with all parties, the plan can be presented to the public. The project will immediately begin implementing the plan. In fact, some features of the plan, such as the restructuring of the project organization, the improved use of today's subcontractors, and early interactions with EPA, are already being incorporated.

1.2 Ensuring Cost Savings and Streamlining the Schedule

To save costs and shorten schedules, the ER Project will implement the following initiatives, which are described in detail in this action plan:

- Improve ER Project management by streamlining the organization, eliminating a management layer, and introducing an efficient command and control system. These improvements will increase effectiveness, thereby reducing costs and shortening schedules.

- Implement a subcontracting strategy to integrate subcontractors under two main Laboratory contractors in the near term, use specialty contractors in the long term, shift cost-plus-fixed-fee contracting towards fixed-price or incentive-fee contracting, and streamline the procurement process.
- Pursue a regulatory strategy of early involvement of the regulators and use of industrial approaches. This strategy will result in significant time savings.
- Implement aggressive strategies for site-by-site assessment and for the development of corrective measures studies. Both will result in shortening the schedule and saving cost.
- Implement a remediation strategy that accelerates the cleanup of sites to produce early successes in the next two years. Extensive use of VCAs and NFAs will result in cost and time savings.
- Pursue a waste management strategy that integrates ER efforts and waste management efforts, minimizes waste, and deals effectively with treatment and disposal.
- Develop a public involvement strategy that builds trust, involves a broad cross section of the northern New Mexico public, meets Native American needs, and remains proactive.
- Implement the ER Project cooperatively with DOE and the regulators by clearly defining roles and responsibilities, communication flow, and points of contact, resulting in a cost- and schedule-saving partnership.

These initiatives will yield cost and schedule reductions that are consistent with DOE objectives:

- A $24 million reduction in the estimated cost for FY96 ($104 million to $80 million).
- An approximately $250 million reduction in the estimated cost to completion ($1,487 million to $1,237 million).
- An estimated three-year reduction in schedule to successfully complete the project (2010 to 2007).

All budget figures shown here and throughout the text of this document are preliminary estimates. They will be confirmed or corrected as a result of the FY95 baseline revision.

1.3 Matching ER Project Strategies with DOE Objectives

To ensure that this action plan reflects all DOE objectives, a reference table is presented in Appendix A. This table relates the relevant DOE objectives to each chapter of this action plan. The first column of the table contains DOE performance improvement objectives from five documents (Table 1-1) organized to correlate with the chapters of this action plan. The second column contains the corresponding ER Project strategies. The third column refers to the sections of the text in which the strategies are described in detail. The objective numbers were assigned to each comment of DOE's five guidance documents in sequence.

TABLE 1-1

Summary of DOE's Performance Objectives for ER Project

Title	Objective Numbers	Date
DOE Comments on Laboratory's Presentation	1-29	7/9/94
Minimum Requirements	30-40	7/9/94
Laboratory's ER Project Improvement Proposal	41-48	5/17/94
Laboratory's Baseline Dollars after April 94 Rebaseline	49	6/13/94
Evaluation Criteria for Project Performance Proposals	50-52	4/28/94

1.4 Conducting Independent Technical Review of the ER Project

The Laboratory's senior management assembled a team of independent reviewers who scrutinized the ER Project and made recommendations to improve its effectiveness. The team briefed DOE and Laboratory management on August 2, 1994. This action plan has incorporated many ideas expressed by the review team, such as

- improving process flow;
- exploring creation of a business unit;
- using "commercial standard" in the organization, including subcontractors;
- improving interaction with and accountability of Laboratory organizations;
- making key project personnel accountable to project manager;
- implementing effective project management;
- establishing a clear command and control system;
- clearly defining roles and responsibilities of DOE, the Laboratory, and regulators;
- shifting from assessment to VCA and early remediation; and
- showing near-term successes.

1.5 Ensuring Early Successes

A crucial DOE requirement is that the ER Project yield early successes. Table 1-2 summarizes key success milestones that the project will meet in the near term.

TABLE 1-2

Key Successes in the Near Term

Deliverable	Date
Present action plan to public.	1QFY95
Make new project organization fully functional.	1QFY95
Complete FY95 baseline revision (90 days after action plan approval).	1QFY95
Agree on Laboratory and DOE roles and responsibilities	1QFY95
Obtain concurrence of regulators.	4QFY94
*Complete	
• 6 VCA cleanups	2QFY95
• 25 VCA cleanups.	2QFY96
*Submit request for	
• 611 NFAs	4QFY94
• 332 NFAs.	4QFY95

*Action relates to all PRSs.

2.0 IMPROVED ER PROJECT MANAGEMENT

Objectives

Improve ER Project management:

- simplify organization,
- improve communication,
- improve efficiency,
- improve accountability,
- reduce cost, and
- improve consistency and control.

Improve internal and external communication flow.

Reduce project management to less than 25% of total cost.

Remove 50% of project management cost from each OU.

Strategies

2.1 Create a streamlined central management function.

2.2 Create field units that have full cost, schedule, and performance responsibility.

2.3 Strengthen the command and control system.

2.4 Improve communications with DOE and regulators.

2.5 Adjust ADSs 2105, 2107, and 2110 and field unit management budgets.

The overall objective of the project management strategy in this chapter is to reduce the cost of the ER Project. How this reduction is achieved is described in some detail below but is primarily based on

- a more efficient management structure,
- elimination of one level of management,
- reduction in the number of managers, and
- reduction in project management costs for certain technical support activities.

Many of the required actions have been already taken; some are reaffirmations of existing policies, and some are dramatic changes. Some actions remain to be implemented, and milestones for these are identified. A few other actions are proposed for the future but may not be feasible. Nonetheless, the actions taken to streamline and improve the project management organization will result in reducing FY96 project management costs considerably. The FY96 plan expects project management costs to be 20% or less of the total cost. More detail is given in Chapter 11, Budget, but, in

summary, the project achieved this reduction by removing 50% of project management costs from OU (now field unit) budgets and reorganizing ADSs 2105, 2107, and 2110 as DOE has requested. A review of current and planned actions for improving the management efficiency of the ER Project follows.

The management philosophy of the ER Project is based on well-known project management principles:

- Centralize as little as possible.
- Decentralize as much as possible.
- Delegate responsibility and accountability.
- Provide a clear command and control system.
- Provide for efficient communication channels.
- Clearly define roles and responsibilities.
- Clearly define objectives and deliverables.

2.1 Create a Streamlined Central Management Function

The new ER Project organization is based on the idea of a small, tightly knit management team in which each team member leads a specific team. As shown in Figure 2-1, the ER management team consists of the project manager, six FPLs, and four project office coordinators. The members of the management team provide the vertical management connection to field personnel, as well as the link to their peers.

The management team meets regularly and has dedicated meetings to address special projectwide issues. Team-building workshops have been initiated and will continue. All team members report to the project manager, who prepares their performance evaluations. The roles of each of the management team members are summarized below.

2.1.1 ER Project Manager

The ER project manager is in charge of implementing the ER Project at the Laboratory. All aspects of the project as proposed in this plan reflect the project manager's vision for the implementation of the project. It is through the management team that the project manager ensures that the implementation of the project will conform to the commitments made in this action plan. The strong central leadership is intended to ensure consistency of approach and methodology throughout the project.

2.1.2 FPLs

Six FPLs have responsibility for all PRSs. The organization of the field units managed by each FPL is discussed in Section 2.2. The role of the FPLs is twofold: First, they are fully accountable for budget and schedule, and they negotiate for the least expensive services both within and outside the Laboratory. Second, they are responsible for all investigation and remediation of the PRSs in their field units. Third, they are members of the management team, which sets the direction for the project, and they convey that direction to project personnel through their field units. Fourth, they are responsible for the integration of projectwide procedures, technical approaches, contractor services, etc., in their field unit.

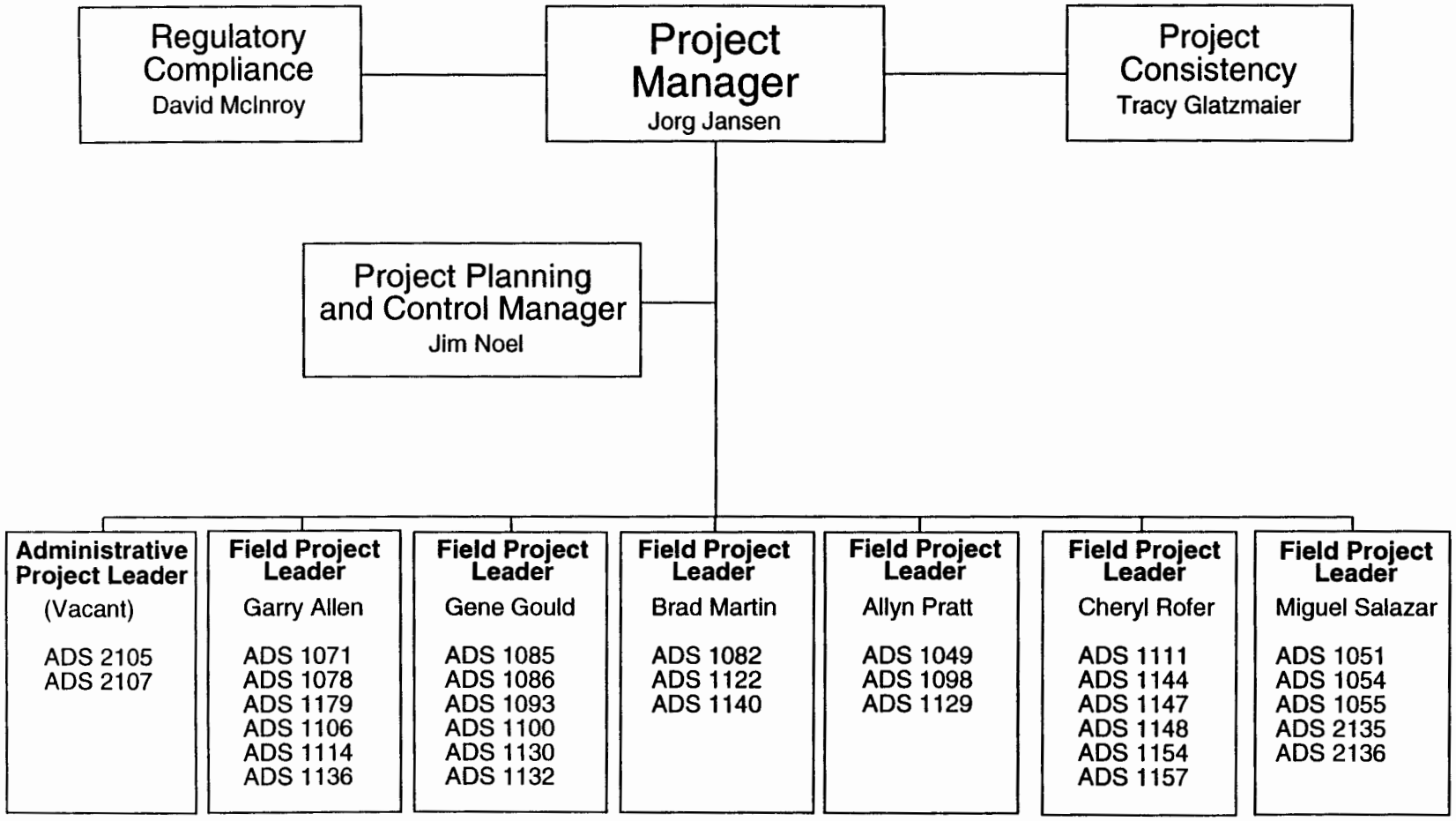


Figure 2-1. ER Project organization.

2.1.3 Regulatory Compliance Coordinator

The regulatory compliance coordinator is the focal point for ER Project interactions with the NMED and the EPA, Region 6. The coordinator will interact directly with NMED and Region 6 and will coordinate technical interactions when they are most appropriately handled at lower levels. Chapter 4, Regulatory Strategy, describes the proposed approach to regulatory interactions.

2.1.4 Technical Consistency Coordinator

The technical consistency coordinator works across all field units to help ensure that consistent approaches and solutions to common problems are implemented. The technical coordinator will promote consistency in technical approaches to investigations, remediation methods and technologies, work plan preparation, and reporting. The coordinator will work with technical specialists from all field units to identify situations that require special techniques and to foster acceptance of new methods by the field units.

2.1.5 Administrative Support Coordinator

A number of project office functions are centralized under the direction of the administrative support coordinator:

- planning and control,
- budget,
- reporting,
- quality assurance,
- health and safety,
- document control,
- data management, and
- programmatic documents.

The coordinator's role is to pull together from all field units these projectwide activities.

2.l.6 Technical Contract Coordinator

The technical contract coordinator handles all technical issues associated with specialty contractors. He/she develops work statements, evaluates proposals, coordinates the work of the contractors with the field work, ensures quality, etc. He/she works closely with the dedicated procurement team.

2.1.7 Contract Administration Coordinator

The Laboratory's Business Systems Division (BUS) has assigned a contract administration coordinator to serve ER Project needs through a dedicated contract administration team assigned to the Environmental Management Programs Office in which the ER Project resides. Having the contract administration coordinator as part of the ER Project management team is expected to expedite the procurement of services required for implementing the ER Project.

2.2 Create Field Units That Have Full Cost, Schedule, and Performance Responsibility

The previous ER Project organization, consisting of 24 OUs, was criticized for a lack of consistency in implementation, lack of communication, and lack of accountability and cost control. The project has been simplified by combining the 24 OUs into 6 field units. Reducing the number of units and unit leaders allows a small, tightly knit management team as described above. The key to responding to the criticisms is largely in the definition of the role of the field units.

Each field unit is composed of the former OUs as shown in Figure 2-1. A number of criteria were used to group the OUs in field units:

- Minimize disruption during the transition from the old to the new structure.
- Consider common issues, such as firing sites, canyons, and material disposal areas.
- Distribute priority sites so that field units have balanced priorities as a function of time and budget allocation.
- Consider geographic proximity to improve the logistics of managing several OUs.

The ER Project is currently working to determine the structure of the field units. A potential structure is shown in Figure 2-2. This structure is based on the philosophy of moving many of the support functions to the field units to strengthen their ability to perform effectively. The new structure will increase internal control in the field units and improve the ER Project's productivity.

As the figure implies, the current vision is of a core technical team whose members represent all disciplines needed to address the full range of PRSs in the field unit. Likewise, a team of dedicated specialists in several support disciplines will provide the required project tracking and implementation skills. One or more field teams will prepare sampling plans, conduct regulatory negotiations and investigations, evaluate results, prepare reports, and manage VCAs and CMS/CMIs.

The personnel to staff the field unit will be drawn from both the Laboratory and its subcontractors. It is expected that field unit teams will be highly integrated but that some discrete tasks may be assigned in total to a subcontractor. Management and integration of subcontractors is specifically discussed in Chapter 3, Subcontracting Strategy.

The field units are intended to be self-contained units having all the resources necessary to allow them full responsibility for cost, schedule, and performance. The coordination of the field units to ensure consistent implementation of the ER Project is the role of the management team. The direction-setting (command) and integration of the several field units (control) as a function of the management team is discussed in the following section.

2.3 Strengthen the Command and Control System

In the simplified and decentralized ER Project organization described above, the role of the project office is to provide the command and control function. The goal is to achieve, through a cost-efficient management structure, consistency in project implementation and industrylike management and operations efficiencies.

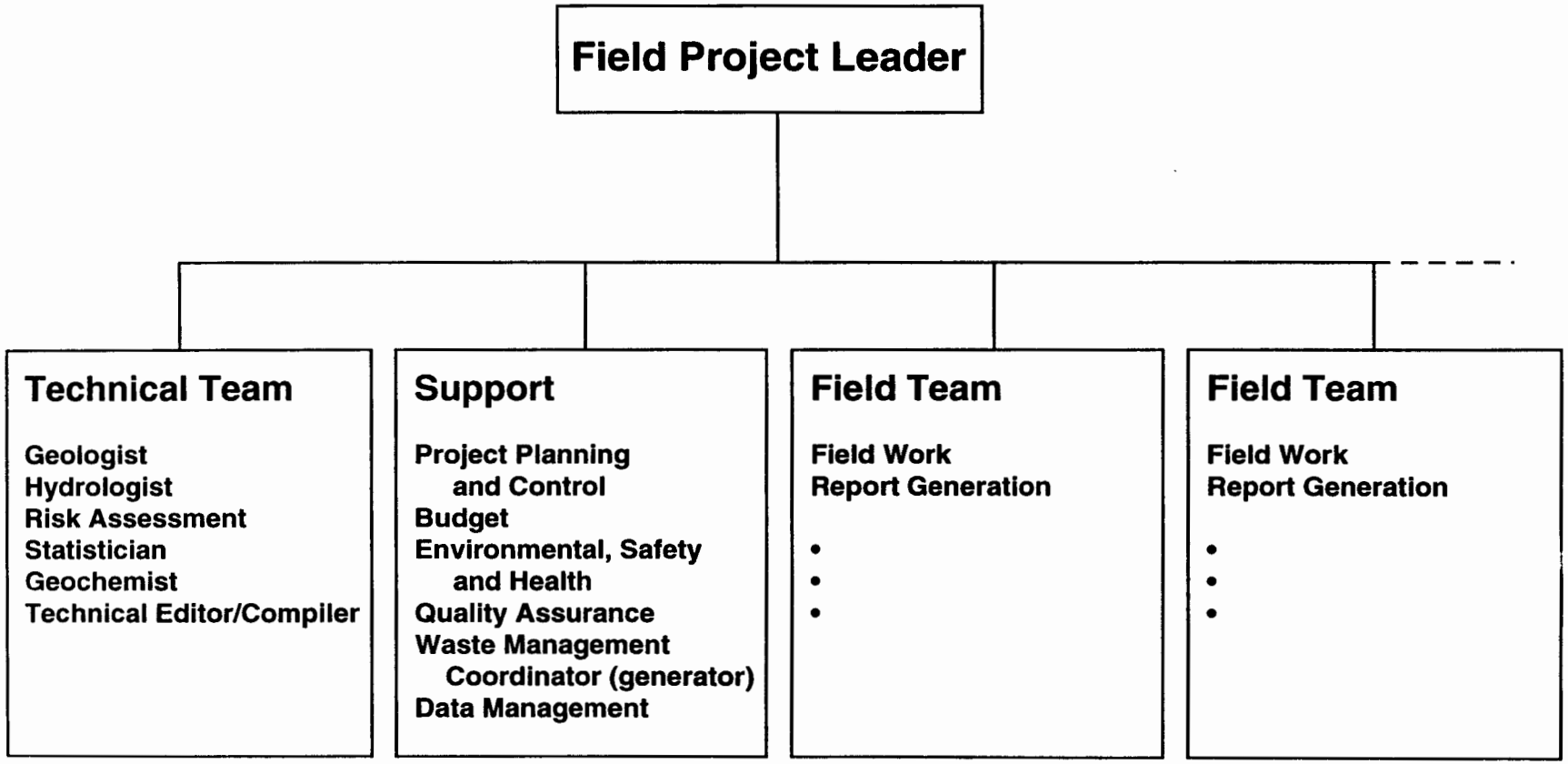


Figure 2-2. Potential field unit organizational structure.

2.3.1 Management Team

The ER Project organizational structure lends itself to an efficient command and control system (Figure 2-3). The management structure can be compared to a wheel: The hub represents the central functions of the project office, where guidance, direction, and control originate. The spokes of the wheel represent the connections to the field units, typically through the FPLs. The rim of the wheel represents the peripheral connections among the field units, which might represent the interaction of any set of specialists from all the field units, who coordinate their discipline throughout the project.

For example, in one case, the rim might represent all of the hydrologists from the field units working through the technical consistency coordinator to define the technology to be used for a particular type of hydrologic investigation. In another case, the rim might represent all of the project planning and control (PPC) specialists from the several field units working through the administrative support coordinator to ensure consistency among cost estimates for the field units.

This management and communication structure ensures that directives, approaches, lessons learned, and issue resolution are addressed cooperatively and that they are consistently received and implemented.

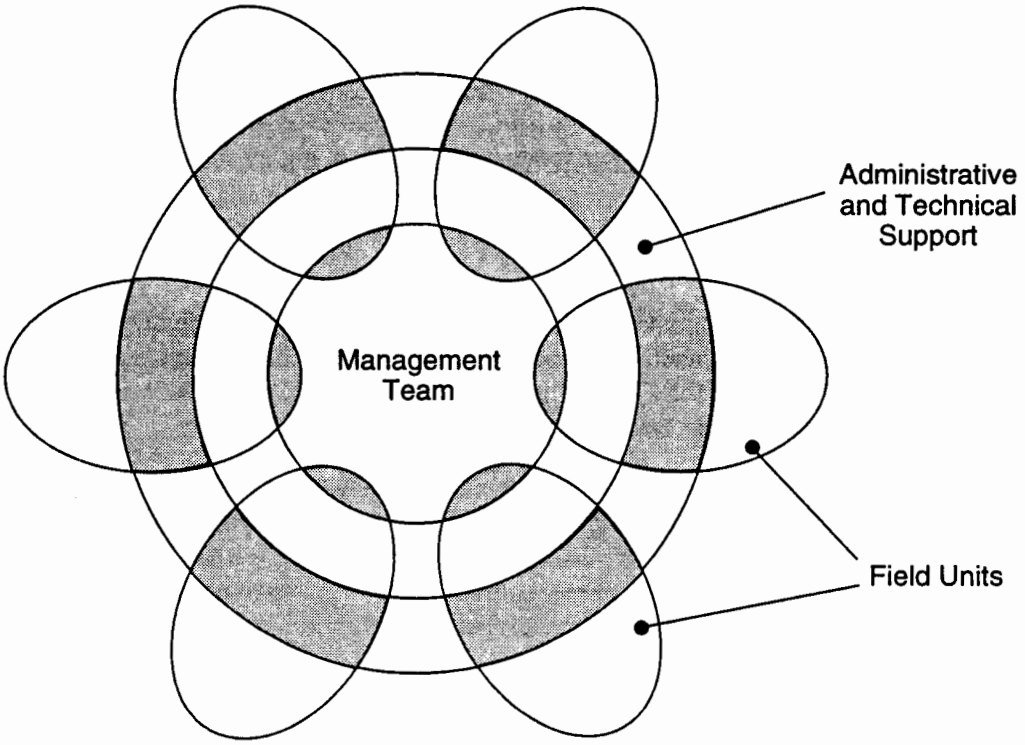


Figure 2-3. ER Project command and control system.

2.3.2 Project Planning and Financial Control System

In the past, the ER Project's Management Information System (MIS), PPC's precursor, was used primarily to support three project office functions: current-year baseline, five-year plan, and DOE reporting requirements. In 1993, the Laboratory terminated contractor support for the MIS, leading to DOE's statement in its "FY93 Annual Performance Appraisal of LANL," that "The MIS component of the LANL Environmental Restoration Program, which was the best in the DOE complex, became one that was barely operational." At this time, the MIS is close to being back up to its former capabilities. In the following paragraphs, key components of the ER Project's project planning and financial control system are re-emphasized.

The MIS was centralized and provided good project office support but provided little additional benefit to the OUs. A new emphasis of the project planning and control system will be to support field unit needs and project office needs. The primary benefit for the field units will be the ability to use the system for project management functions: cost and schedule planning, project tracking, resource management, and load leveling.

The primary use of the project planning and control system for project office functions will be to integrate information from the field units on a projectwide basis. This will be a responsibility of the administrative support coordinator. The information consolidated in the project office will be used for the current-year baseline, five-year plan, and reporting to the project manager and DOE. Both the field unit and the project office will use the system for critical path analysis, what-if scenarios, and load leveling.

Each field unit team will include an PPC specialist. These specialists will coordinate through the administrative support coordinator to ensure consistency in level of detail, unit costs, etc. The ER Project is in the process of integrating a cost module (Parade) with the existing scheduling software module (Finest Hour) to allow consolidation of cost and scheduling functions.

2.3.2.1 Financial Planning and Control

The current financial planning and control system integrates the ER Project's finances with the Laboratory's financial system. As each year's baseline plan is developed, budgets are negotiated between the project manager and the FPLs. These negotiations allow the project to establish the baseline cost for the next fiscal year, based on a proposed budget.

The ER Project is considering integration of its financial system with the Laboratory's financial management information system as soon as it is clear that cost planning and reporting down to the eighth level of the work breakdown structure are reliable and encompass all cost elements needed for the ER Project. As Laboratory systems are improved (time accounting improvements, authorization controls for charging to cost accounts, etc.), the ER Project will integrate these in the financial planning and control system.

2.3.2.2 Accountability

DOE has expressed a concern that the ER Project has used too much level-of-effort funding with too little accountability. To address this concern and to ensure that funding is available to meet its objectives and deliverables, the project is planning to re-emphasize its use of negotiated, contractlike internal statements of work. The statement of work is simply a contract between the project and a participating organization to perform work. It defines objectives, deliverables, necessary reports,

milestones, labor (by skill and/or person), materials and services, and, as the result, a total budget. The budget and schedule are intended to be used as a tracking tool and will be part of the effort to improve performance and cost accountability. This concept, as a very efficient management tool, is used successfully in industry and by a number of projects in the Laboratory. A sample statement of work for a work package is attached as Appendix B.

2.3.2.3 Baseline

As agreed with DOE, the ER Project will revise the FY94 baseline estimate for FY96 and beyond within 90 days after this action plan has been approved. In terms of project planning and control, the baseline is *the* management tool. The field units will prepare the revision from the bottom up. The FPLs, together with their field unit teams and in coordination with the administrative support coordinator, will prepare cost and schedule estimates. The six field unit estimates will be integrated under the project office's planning and control function. The management team will negotiate any necessary adjustments to ensure that the baseline conforms with the commitments in this action plan.

A draft of the baseline revision will be submitted to DOE for cost and schedule review, and both DOE and the Laboratory will review the regulatory milestones with EPA. After preliminary agreement among these three parties, the final baseline will be prepared for DOE approval.

The approved baseline will be the basis for performance measurement. Performance milestones are derived from the baseline. Any departure from this baseline caused by budget changes or schedule changes beyond the control of the project manager, such as delays in the assumed time it will take to receive approvals or comments, will be reflected in changes in the baseline and performance measurements. Such changes will be made via the change control process. This means that performance measurement at any given time is tied to the then-operational baseline.

2.3.3 Process Flow Control

DOE has expressed concern that certain processes that are used throughout the project are not efficient and are probably too slow and costly. Typical processes are work plan preparation through submittal and revision, RFI report preparation through submittal, monthly report preparation, sample management, and analytical data management.

The ER Project will begin to apply the approach used in AT&T's process quality management and improvement method to identify and improve selected processes. This tool, which has been used very successfully throughout AT&T and other industries, was introduced at the Laboratory in 1992. It relies on identifying each process step and the parties involved at each step. An examination of the usefulness, need, and duration of each step follows. As the result of this process analysis, the ER Project will institute improved processes, eliminating duplication, unnecessary steps, rework cycles, delays, and associated costs. A tracking system will be designed for each process, as each process is addressed, to monitor the flow of information and documents, to identify problems in the process, to allow delays to be identified rapidly, and to facilitate corrective actions.

2.3.4 ER Business Unit

The Laboratory's controller is assessing ways to restructure the ER Project from a business perspective. The purpose is to see whether certain Laboratory burdens and general and administrative costs can be decreased by setting up the ER Project as a business unit. It is the intent of the ER Project to pursue this initiative aggressively.

In addition, the ER Project is taking steps to negotiate Laboratory service center (i.e., divisions and groups) overheads so that they are more favorable to the ER Project. This will be pursued independently of the ER business unit concept.

2.4 Improve Communications with DOE and Regulators

This topic is addressed in detail in Chapter 10, Cooperative Implementation of the ER Project, with regard to DOE, and in Chapter 4, Regulatory Strategy, with regard to EPA Region 6 and NMED. However, it is appropriate to mention a few relevant aspects here.

2.4.1 Communications with DOE

The streamlined organization of the project office will focus the interactions between DOE and the ER Project on a few individuals—specifically, the project manager, who will delegate specific topics to the technical consistency coordinator and the regulatory compliance coordinator. These individuals have direct and routine communication with the FPLs, who are responsible for conveying DOE guidance to the field level. In addition, when dealing with site-specific issues, DOE personnel will interact with the six FPLs, enhancing the potential for developing close working relationships and clear communication.

2.4.2 Communications with NMED and EPA Region 6

As described in Chapter 4, Regulatory Strategy, the ER Project's goal is to facilitate early and frequent communication with regulatory agencies. With assent from DOE (as discussed in Chapter 10, Cooperative Implementation of the ER Project), the ER Project's regulatory compliance coordinator will be the focal point for contacts with EPA and NMED.

2.5 Adjust ADS 2105, 2107, and 2110 and Field Unit Management Budgets

Detailed cost information is given in Chapter 11, Budget. However, a summary to highlight the cost savings is appropriate here. As DOE has requested, the Laboratory will restructure ADS 2105, Technical Support; ADS 2107, Project Management; and ADS 2110, Analytical Chemistry Support. DOE specified the following:

- Move 50% of OU management costs to ADS 2107.
- Move records management, quality assurance (QA) and self-assessment, Installation Work Plan (IWP) update, and programmatic funding from ADS 2105 to ADS 2107.
- Move all ADS 2110 activities to ADS 2105 and cancel ADS 2110.

In addition, DOE has provided ceilings for project management costs:

- ADS 2105 is not to exceed 5% of total project cost.
- ADS 2107 is not to exceed 20% of total project cost.

The Laboratory's revised cost estimate complies with all of these items. To incorporate these directives in the revised cost estimate, the ER Project has taken the following actions:

- **OU Management Costs** In the reorganization into field units, these project management costs have been cut by more than 50%, and no cost was transferred to ADS 2107.

- **ADS 2110** This ADS has been canceled. Only funding for the Sample Management Facility has been transferred to ADS 2105. All other project-level support for analytical chemistry has been canceled. If needed by a field unit, those services (data validation, analytical contracts, etc.) will be obtained directly by the field unit from a cost-competitive source within or outside the Laboratory.

- **ADS 2105** The following have been moved from ADS 2105 to ADS 2107: Records Processing Facility (RPF); Facility for Information Management, Analysis, and Display (FIMAD); QA; IWP; training; and standard operating procedures (SOPs). The following have been removed from ADS 2105 and will be supported directly by the field units on an as-needed basis: health and safety support, decision analysis, and human health and ecological risk assessment. The technical support functions remaining in ADS 2105 are framework studies, subsurface studies, technology development (caps, barriers, and sensors for material disposal area closures), and Sample Management Facility.

Further, all projectwide support and management functions will be reviewed and downsized to the extent practicable to meet minimum project requirements. In all cases, FPLs will be expected to negotiate the best price for every service they use, looking both within and outside the Laboratory.

As indicated in Chapter 12, Budget, ADS 2105 represents 5% of the FY96 total project cost and ADS 2107 represents 14.7%.

TABLE 2-1

Summary of Laboratory Actions to Improve ER Project Management

Action	Date
Integrate software.	4QFY95
Submit baseline.	90 days after action plan approval
Complete project reorganization.	1QFY95
Define support functions.	1QFY95
Assign administrative manager and decide on technical unit leader.	1QFY95
Decentralize project planning and control system.	4QFY94
Complete FPL improvements to add support for field units.	1QFY95
Establish monthly audit system.	1QFY95
Introduce work packages.	1QFY95
Analyze process flow.	1QFY95
Establish improved process flow and tracking system.	2QFY95
Complete evaluations of ER business unit restructuring alternatives.	2QFY95

3.0 SUBCONTRACTING STRATEGY

Objectives

Describe current subcontracting arrangements:

- organization and
- funding.

Maximize use of private industry to

- lower cost,
- benefit from existing expertise, and
- pass on cost and schedule risk.

Achieve a funding split of 20 to 80:

- the Laboratory handles "complex" sites (20%), and
- industry handles "standard" sites (80%).

Strategies

3.1 Examine current use of subcontractors. Improve contractor productivity by integrating operable units in field units.

3.2 Increase use of subcontractors in the future by using industry specialties.

3.3 Develop procurement strategy for future subcontractors.

3.4 Show transition from present to future operation with minimal disruption of project progress.

3.5 Develop management strategy for subcontracts.

This subcontracting strategy addresses the concerns that existing subcontractors are not optimally used and that the present deployment of subcontractors does not permit the project to pass on cost, schedule, and liability risks. The strategy also addresses the desire that the ER Project increase industrial participation in the future. This chapter presents short- and long-term improvements to achieve the objectives given above.

3.1 Current Use of Subcontractors

Currently, the ER Project has a large number of industrial subcontracts in place. The scope of these contracts ranges from broad environmental engineering and science subcontracts to subcontracts for special tasks, and their value ranges from $18,720 to $20,000,000. Current subcontracts are listed in Table 3-1.

The companies listed in Table 3-1 are integrated with existing operable units. Typically, the companies provide either integrated field teams or individuals for specific tasks. In OU 1071, the desired funding ratio of 80-20 has already been achieved. In OU 1129, the ratio is approximately 90 to 10. The eight subcontracts for sample analysis are managed by the Sample Management Team to provide additional capacity for analyzing samples for the ER Project.

TABLE 3-1

ER Project Subcontracts

COMPANY	SPECIALTY	TOTAL VALUE $K	FY94 COSTS $K	EXPIRATION DATE
ERM Golder	Primary Project Support	20,000	9,606	6/18/95
ICF Kaiser	Primary Project Support	20,000	6,906	7/6/95
Daniel B. Stephens	Physical and Geochemical Analysis	138	0	1/13/95
Technology Institute	Policy Development	99	0	11/30/94
Geophex Ltd.	Geophysical Surface and Cleanup	500	Not Available	5/19/95
Daniel B. Stephens	Hydrologic Support	700	0	9/30/96
Layne Environmental	Auger Drilling	875	Not Available	7/31/95
Stewart Bros. Drilling	Auger Drilling	800	Not Available	8/31/95
Purdue Resource Foundation	Chlorine-36 Soil and Water Analysis	47	0	9/30/94
LATA	Review and Revision of QA Plans	607	223	9/30/94
Eastman Cherrington	Contaminant Duct-Lining Development	246	147	9/30/94
Eastman Cherrington	SEAMIST	379	437	Not Available
Sierra Rock, Inc.	Soil Processing for Lead	406	255	11/30/94
Geomatrix Consultants	Risk Assessment Support	54	27	9/30/94
Stewart Bros. Drilling	Auger Drilling	993	933	9/30/94
Tonto Drilling Services	Air Rotary Drilling	2,406	1,409	9/30/94
Neptune and Company	QA/QC Risk Assessment and Management	2,781	1,395	2/15/97
Newsome Industries	Support Subsurface Technical Team	258	25	9/30/95
Daniel B. Stephens	Soil Investigation	169	88	9/30/94
Quadrel Services Inc.	Passive Soil Gas Measurement	107	2	9/30/94
LATA	Health and Safety SWMU Delisting-Design and Implementation	1,727	1,025	9/30/94
SAIC	Health and Safety SWMU Delisting-Field Work	887	713	9/30/94
Roy F. Weston, Inc.	Chemical and Mixed Waste Treatment	334	78	9/30/94
IT Corporation	Laboratory Analysis Support	15,000	2	12/31/96
Roy F. Weston, Inc.	Laboratory Analysis Support	15,000	0	12/31/96
Southwest Lab Oklahoma	Laboratory Analysis Support	15,000	0	2/17/97
Maxwell Laboratories	Laboratory Analysis Support	15,000	0	12/31/96
Analytical Technologies	Laboratory Analysis Support	15,000	191	12/31/96
Ecotek Laboratory Services	Laboratory Analysis Support	15,000	39	12/31/96
Environmental Science and Engineering	Laboratory Analysis Support	15,000	11	12/31/96
Kemron Environmental	Laboratory Analysis Support	15,000	12	12/31/96
ADA	Decision Analysis Development	261	27	Not Available
Geotech	Analytical Services for ER Program	3,345	1,700	Not Available

TABLE 3-1

(continued)

COMPANY	SPECIALTY	TOTAL VALUE $K	FY94 COSTS $K	EXPIRATION DATE
ChemRisk	OU1071/Townsite Technical Team	29	16	Not Available
Geoprofile	Technical Support for OU1071	19	11	Not Available
Geomatrix	OU1071/Townsite Technical Team	54	0	Not Available
Texas Tech University	Not Available	49	9	Not Available
Argonne National Lab	Technical Support for ER Program	1,297	292	Not Available
Radian	Health and Safety Support	1,238	708	Not Available
Woodward Clyde Federal	Geologic Investigation of Holocene Faulting	500	368	Not Available
TRK Managment Inc.	Office Space Rental	130	33	Not Available
RE/Spec Inc.	FIMAD Database Support	626	262	Not Available
Curatorial Science	Subsurface Studies	214	147	Not Available
A.T. Kearney, Inc.	Support Environmental Protection	221	178	Not Available
PAR Enterprises	Database Development	1,395	1,191	Not Available
Colorado State University	Ecological Risk	346	240	Not Available
Geophex Ltd.	Geophysical Surveys	323	20	Not Available
Neptune and Company	DQO Facilitation, Training and Review	635	1	Not Available
LATA	OU1129 SWMU Delisting	389	439	Not Available
Neptune and Company	DQO Statistics Project Support	363	384	Not Available
Neptune and Company	Human Health Risk Assessment	57	65	Not Available
Neptune and Company	Ecological Risk Assessment	30	8	Not Available
Neptune and Company	OU1078 Support	39	11	Not Available
Neptune and Company	OU1082 Support	39	23	Not Available
Neptune and Company	OU1114 Support	107	12	Not Available
Neptune and Company	MDA P Support	161	10	Not Available
Daniel B. Stephens	OU1071 Support	49	27	Not Available
Daniel B. Stephens	Hydrological Support	100	150	Not Available
Subtotal Subcontracts		**186,527**	**29,857**	
JCI Support			**9,521**	
Contract Labor Services			**8,248**	
GRAND TOTAL		**186,527**	**47,626**	

The ER Project and the contractors have excellent teams in place with well-developed personal relationships. Some teams have been in the field for two seasons. The project does not intend to change such exceptionally well-working arrangements by disrupting and rearranging these teams during the assessment phase. However, every effort will be made to benefit from the economies of scale made possible by grouping operable units in larger field units. Duplication of effort will decrease and productivity will increase. Some subcontractors and one Laboratory team are already working in the mode proposed for the future; for example, two drilling contractors work for all operable units. A decommissioning team made up of Laboratory personnel and subcontractors is also working across the board.

3.2 Future Use of Subcontractors

Future subcontracting will match the skills and experience of contractors with special projectwide needs. The need will probably continue for a technical assistance contractor who has experience with

- EPA Region 6;
- industrial practices;
- lessons learned from other DOE, Department of Defense (DoD), and industrial sites; and
- remediation design.

To handle the remediation tasks, the project will hire remedial action contractors who have experience in special areas:

- interaction with EPA Region 6,
- cleaning up firing sites,
- removing septic systems, and
- building material disposal areas, etc.

The ER Project Office will manage the contracts and will procure them in conjunction with the dedicated procurement team (Section 3.3).

The contractors will be used across the board of the entire project (Figure 2-1). This approach has the advantage that the productivity of the contractors will increase as they are remediating a succession of similar Los Alamos sites throughout the six field units. An example of this mode of operation is the current use of the drilling contractors.

It is difficult to assess the split between contractor and the ER Project remediation efforts because the remediation tasks are not yet well enough defined. However, based on the categories shown below, a split in the range of 70-80 to 30-20 should be achievable. The expected remediation (including VCAs) efforts are categorized below:

(1) soil removal,

(2) shrapnel removal,

(3) soil treatment,

(4) septic system removal,

(5) capping of MDAs,

(6) inhibition of migration,

(7) drilling and instrumenting monitoring wells, and

(8) decommissioning buildings.

Based on experience to date, Categories 1 through 4 can be considered "standard" sites, which will be handled by general contractors. These contractors do not require designs; however, they do require clearly defined tasks so that the tasks can be accomplished on a fixed-price basis. Category 3 may require a more specialized contractor or Laboratory participation if radioactive contamination is involved.

Categories 5 through 7 may be considered "standard," except that the approaches to remediation are very site-specific. They require designs, more sophisticated contractors, and some Laboratory participation. Depending on the clarity of the design and task definition, these tasks also could be accomplished on a fixed-price basis.

Category 8 is considered "complex." It requires close cooperation between the Laboratory and subcontractors. The current decommissioning team is handling the task very well and has gained significant experience. The project's intent is to let the team continue in its current form pretty much like the projectwide specialty subcontractors.

3.3 Procurement Strategy for Future Subcontractors

A dedicated group of contract administrators and procurement specialists, led by a senior contract specialist, will be assigned to the ER Project. They will work directly with the technical consistency coordinator and the project manager.

The subcontracts with ERM Program Management Company and ICF Kaiser Engineers, Inc., are currently cost-plus-fixed-fee (term) arrangements under which work releases based on specific task statements of work are issued to authorize and fund work. The ER Project is considering negotiating the option portion of those subcontracts on a cost-plus-award-fee basis; work releases would still be used to authorize and fund specific tasks.

Cost-plus-fixed-fee (term) work release subcontracts are also used for specialty subcontracts, such as the contract with Daniel B. Stephens for hydrologic support. Firm-fixed-price and fixed-unit price requirements and time-and-materials types of subcontracts are also being used. For example, the soil support subcontract with Geoprofile and the chlorine-36 analysis subcontract with Purdue Research Foundation are firm fixed prices; the drilling subcontracts and the laboratory analysis subcontracts have fixed-unit prices; and the subcontracts with Technology Institute and Neptune & Company are time and materials.

The two subcontracts that have been providing air rotary and auger drilling services for the ER Drilling Program over the past year have a fixed-unit pricing schedule for all drilling and sampling activities. Mobilization, demobilization, and standby, as well as materials and supplies charges, all have fixed-unit prices that place the maximum amount of risk on the subcontractor and impose a minimum administrative burden on the Laboratory. This is possible because there are clear specifications that enable the project to set realistic prices for the entire contract period. The recently awarded follow-on subcontract for auger drilling used a two-step sealed bidding process.

Fixed unit prices have also been established for a subcontract with Sierra Rock, Inc., for performing onsite cleanup activities involving removal of lead particles from soil at a former small-arms firing range.

The relationship between contract types and risk assumption are shown in Figure 3-1. The complexity of work, the degree of certainty that the work can be defined at the time the subcontract is placed, and the degree of accuracy that costs can be estimated will be the key factors in selecting the appropriate pricing methodology.

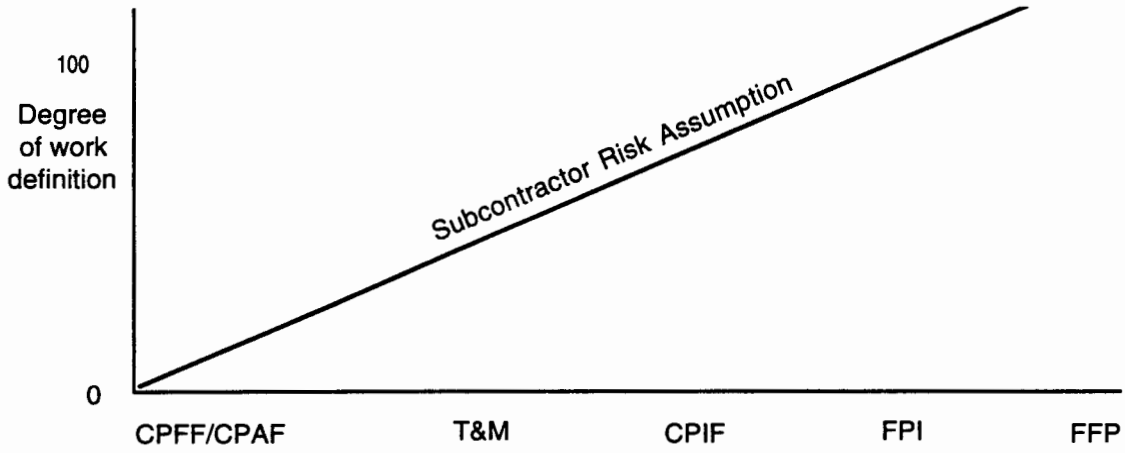


Figure 3-1. Work definition vs. pricing arrangement.

The ER Project will make every effort to let fixed price or incentive fee contracts, if feasible, which will help greatly to pass the programmatic liability down to the contractors. For example, the existing subcontract for geophysical surveys and removal of shrapnel from Bayo Canyon was awarded to a small, disadvantaged company, Geophex, Ltd., with a mixed-pricing arrangement. Because cleanup costs are dependent on the amount of shrapnel found, the initial surveys are being conducted on a time and materials basis. Once the scope of the effort can be more clearly determined, the project intends to negotiate a fixed price per acre for the location and removal of objects. The number of acres to be cleaned is under the control of the Laboratory. The cost risk for shrapnel location and removal will be transferred to the subcontractor.

The three procurement processes defined in the Federal Acquisition Regulation: Negotiations, Two-step Sealed Bidding, and Sealed Bidding, will be used, as appropriate, for the ER Project. Thus far, all but two of the subcontracts awarded by the Laboratory for the ER Project have been awarded through negotiations.

The Laboratory is committed to obtaining goods and services of the highest quality while striving to further certain socioeconomic objectives. The ER procurement team will be responsible for helping to attain the following Laboratory procurement goals:

- small businesses, 55.0% of subcontracted dollars;
- small, women-owned businesses, 9.0% of subcontracted dollars;
- small, disadvantaged businesses, 11.0% of subcontracted dollars.

The Laboratory has also recently implemented a process for subcontracting directly, without an open competition, with subcontractors that are certified by the Small Business Administration as being qualified to perform specific types of jobs, i.e., an 8(a) program.

The Laboratory is particularly concerned with attempting to involve local pueblos in the ER Project. Subcontracting opportunities will be actively sought with American-Indian-owned businesses, and the possibility of qualifying pueblos as 8(a) subcontractors will be investigated. The preferred method of dealing with the local pueblos is to award grants for cleanup in offsite areas, particularly on pueblo land. However, the Laboratory is prohibited from awarding grants. Any grants must come directly from the federal government. The ER Project and DOE will consider this possibility.

The procurement lead times shown in Table 3-2 are expected for competitive negotiated actions based on recent previous experience for subcontracts that are below $25M and therefore do not require DOE Headquarters (DOE-HQ) approval.

TABLE 3-2
Procurement Lead Times for Competitive Negotiated Lead Times

Contract Value	Calendar Days[a]
Under $100,000	115 Days[b]
$100,000-$500,000	130 Days[b]
$500,000-$1M	135 Days[b]
$1M-$25M	150 Days[c]

a. From time complete purchase request is received by contract administrator.
b. Assumes standard turnaround times for DOE required approvals for organization conflict-of-interest determinations, if required, and foreign ownership, control, or influence determinations, if required.
c. Assumes DOE Office of Inspector (OIG) approval of exception to initiate audits before source selection and expedited turnaround times for DOE-required approvals for equal employment opportunity (EEO) and organizational conflict of interest (OCI) reviews, if required, and foreign ownership, control, and iterest (FOCI) review, if required.

If OCI or FOCI are involved and turnaround times for approvals are not expedited, lead times must be increased by 35 calendar days. If DOE OIG approval is not obtained, lead time for procurements over $1M must be increased by 25 days.

The dedicated procurement team will ensure that the procurement times (Figure 3-2) can be attained. Figure 3-2 shows the times for each procurement step, which have been agreed upon by the ER Project and the BUS organization.

3.4 Transition from Present to Future Subcontractor Relationships

During the transition phase, the ER Project will move from the assessment mode of operation (mix of technical assistance and specialty contractors) to the remediation mode of operation (specialty contractors and possibly one technical assistance contractor).

The project will assign one or the other of its main contractors to individual field units, asking smaller contractors to become subcontractors to each main contractor when this change does not become too disruptive to a well-working operation. The new arrangements will have a number of cost- and time-saving benefits:

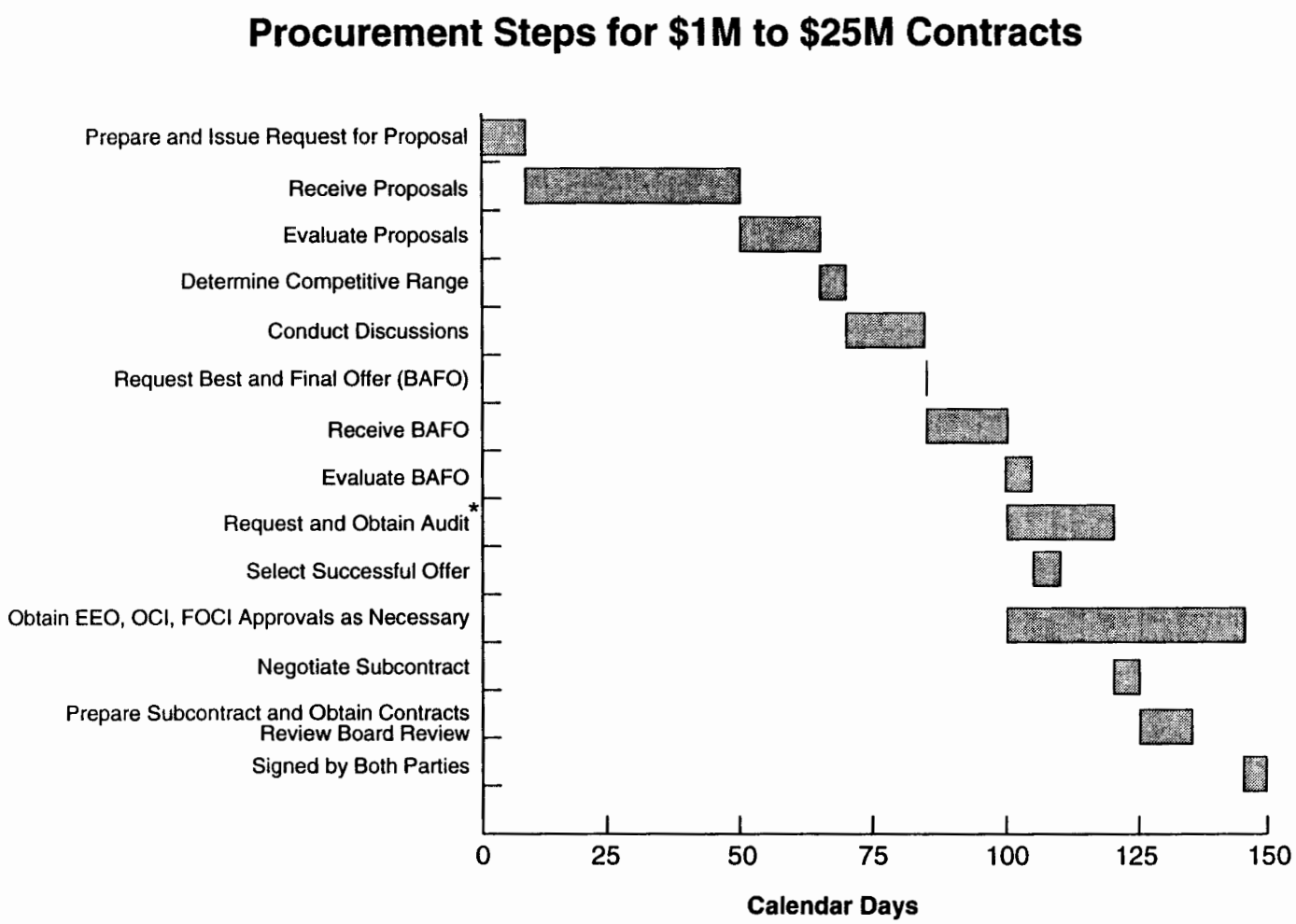
- Lessons learned will be applied across the board.
- Technologies, approaches, and data management systems will be standardized.
- Sample management may become possible without a centralized facility.
- Health and safety authority and liability will reside with one site contractor and not several.
- All specialty contracts will be competitively bid, which will allow for a competitive product at the lowest possible price.

Based on a reexamination of the contractual language of the project's two main technical assistance contracts, the two main contractors will be permitted to participate in or to conduct obvious VCAs. This approach will greatly simplify the project's ability to handle obvious VCAs during the assessment phase under current contractual arrangements. VCAs that require a design and are of significant magnitude will be carried out by remediation contractors.

3.5 Management of Subcontractors

Figure 3-3 shows the proposed organization structure for assessment tasks and obvious VCAs. The primary contractors are directed by the FPLs. They (the contractors) subcontract all necessary services. Certain specialty contract services now in place for one or more operable unit will be used across the board. These contractors are managed by a technical coordinator, who also works with the ER procurement and contracts team in letting the contracts. Site-specific tasks are coordinated by the technical coordinator, specialty contractor, and primary contractor. The primary contractor does not direct the specialty contractor's efforts.

Figure 3-4 shows the organization structure for remediation and major VCAs. In the new structure, all remediation contracts are managed by a technical contractor. The FPLs provide task definition so that tasks can be bid mostly fixed price. The specialty contractor, who is the only contractor on a given site, carries all risk and liability.



*Assumes audits can be performed by Laboratory Audits and Analysis. If Defense Contract Audit Agency audit asistance is required, Department of Energy Inspector General approval of an exception to initiate audits before source selection decision is made will be required. Normal Defense Contract Audit Agency turnaround is 45 days.

Figure 3-2. Bar chart showing major procurement steps.

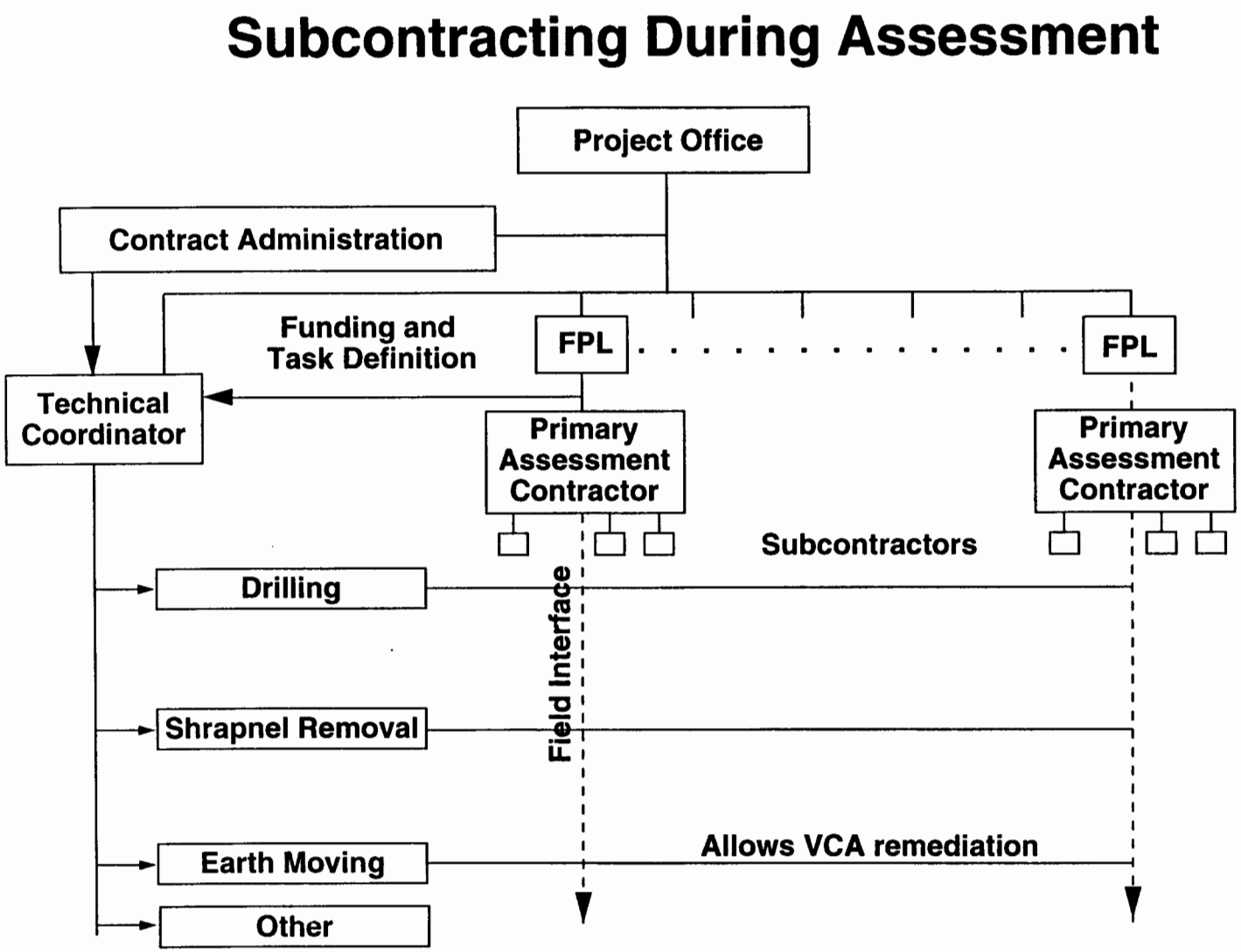


Figure 3-3. Organization of assessment tasks and obvious VCAs.

Subcontracting During Remediation

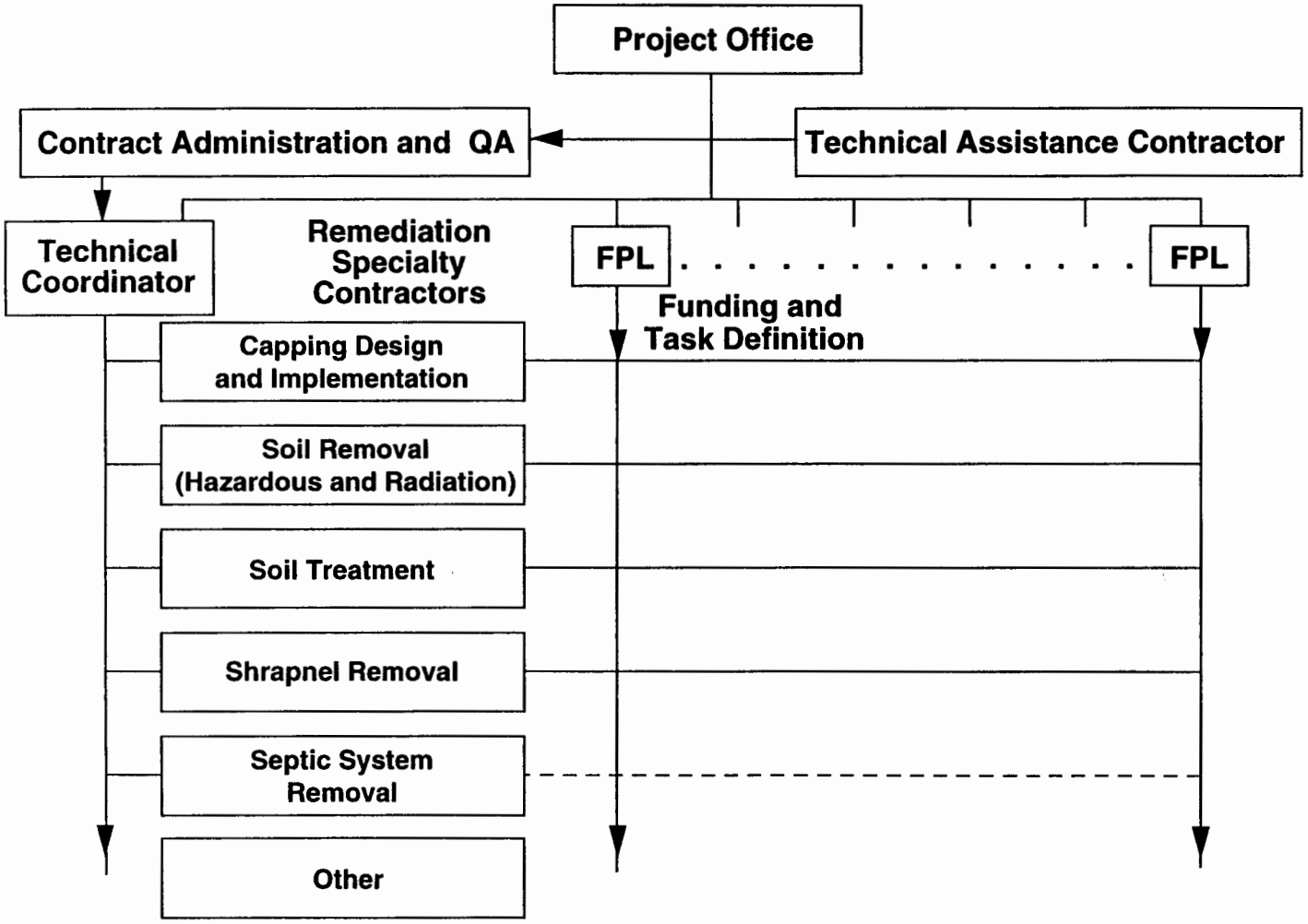


Figure 3-4. Organization of remediation efforts and major VCAs.

TABLE 3-3

Summary of Laboratory Actions to Improve Use of Subcontractors

Summary	Date
Develop transition plan.	1QFY95
Improve use of present subcontractors as part of project reorganization.	2QFY95
Develop procurement plan for future subcontractors	1QFY95
Place contract for first specialty subcontractor (moving contaminated earth).	3QFY95

4.0 REGULATORY STRATEGY

Objectives

Improve early EPA and NMED involvement in the ER Project.

Obtain clear regulatory guidance and concurrence on proposed approaches to site-specific assessment and remediation.

Achieve regulatory approval or agreement on this new action plan and the cost-saving approaches.

Strategies

4.1 Involve regulators as partners.

4.2 Adopt proven industrial approaches.

4.3 Obtain regulator concurrence with action plan for assessment phase activities.

Reducing ER Project costs and shortening the schedule can be achieved by increasing the efficiency of the project's interactions with regulatory agencies and by reducing any overkill in fulfilling regulatory compliance requirements. In the projected project costs presented in Chapter 11, Budget, and in the proposed schedule reflected in the milestones and performance measures of Chapter 12, Performance Measurement, reductions in cost and time have been included based on assumptions that the ER Project believes are achievable because of increases in efficiency and reductions in overkill. In the cost estimates, these reductions have been incorporated as reduced time and effort for preparing work plans, RFI reports, and CMS activities and reduced review cycle durations.

The project has made the following key assumptions:

- Early involvement of regulators in preparing plans and reports and selecting assessment and remediation approaches will increase efficiency in obtaining approvals.
- Early involvement of regulators will focus ER Project personnel on acceptable approaches and the aspects that are important to the regulators.
- Careful listening to the regulators will provide a clear understanding of minimal regulatory requirements, allowing the project to reduce overkill.

How these assumptions are turned into actions and made to work is discussed in the sections below. Responsibility for pursuing the specific necessary actions falls on the ER Project's regulatory compliance coordinator, as described below, and in Chapter 2, Improved ER Project Management.

The Laboratory will work with the DOE and EPA to implement new regulatory strategies. These strategies, which will allow expeditious investigation, remediation, and reporting, will aid in demonstrating early progress. The new approach will also result in reducing the costs of doing environmental restoration work at Los Alamos.

4.1 Involve Regulators as Partners

The ER Project proposes to improve its relationship with EPA Region 6 and NMED by involving these regulators early in identifying acceptable site-specific assessment and remediation approaches, including decision points for VCA, NFA, and Phase II investigations. In coordination with DOE, appropriate ER Project staff and their contractors will meet with EPA staff to discuss ideas and issues. DOE and the ER Project will involve EPA and NMED in developing many decisions related to investigation and remediation objectives. ER Project management will review and concur in approaches developed in such meetings.

Implementation of this strategy requires concurrence of the regulatory agencies because of an increased burden from participating in such strategy meetings. It is expected, however, that the increased burden will be offset by a decrease in the effort required to review and approve deliverables. To manage this burden, some control over the number and frequency of contacts between ER Project staff and the agency staff should be maintained.

To ensure the success of this approach, additional staff may be required by EPA Region 6, and NMED. The project requests that DOE-Albuquerque (DOE-AL) and DOE-Los Alamos Area Office (DOE-LAAO) make a number of the contemplated new personnel slots available or provide funding to support EPA and NMED in the resolution of special issues. The ER Project regulatory compliance coordinator will schedule meetings as needed and will use conference calls between meetings to discuss additional topics, as necessary.

4.2 Adopt and Implement Proven Industrial Approaches

The ER Project will adopt the "industrial" strategy in plan preparation, site investigation and remediation, and report preparation, based on successful experiences of the project's subcontractors in Region 6. For example, work plans submitted to Region 6 by environmental consultants for industrial clients are considerably simpler than the Laboratory's. Site investigations are sometimes simpler as well. With the support of its subcontractors, the ER Project will identify sites at Los Alamos believed to have parallels in industry and will negotiate and adopt industrial assessment and remediation approaches for those sites. Chapter 5, Assessment Strategy, and Section 6, Remedial Design and Corrective Action Strategy, also address this issue.

In the past, the ER Project has been criticized for overdoing sampling plans and investigations. In the future, the strategy is to propose to do less. When necessary, DOE and the ER Project will challenge the regulators' decisions, and unresolved issues will be raised to progressively higher levels of authority of those agencies. DOE must be prepared to support the project in this approach.

4.3 Obtain Regulator Concurrence for Assessment Phase Activities

Some cost-saving approaches proposed in Chapter 5, Assessment Strategy, and Chapter 6, Remedial Design and Corrective Action Strategy, will require regulatory concurrence at a programmatic level, as well as reviews at a site-specific level. Within the next 6 months, the project plans to obtain regulators' concurrence on the following issues:

- Defining a mechanism that enables the project to perform VCAs with a minimum of administrative requirements. This will include identifying as VCAs sites with obvious remedies that can be remediated without substantial study and design, avoiding final CMS/CMI requirements. The ER Project proposes to prepare generic VCA plans for groups of similar sites (e.g., septic tanks) when obvious savings and

risk reduction are attainable. In many cases, VCAs will allow accelerated remediation of sites, early removal of the sites from the RFI/CMS process, and expedited documentation of a final remedy.

- Submitting frequent, small RFI reports on small groups of sites instead of waiting until the entire RFI has been completed for a particular OU. An innovative approach is submitting batches of small RFI reports several times each year rather than waiting to provide individual reports after all field work is complete. As needed, all actions approved by EPA through the small RFI reports and other completed projects can be collected in permit modifications and submitted to the agency. This change is particularly suited to the ER Project's new approach, which focuses on individual sites instead of OUs.

- Establishing CAMUs to serve as staging or temporary storage areas for ER-generated wastes until treatment and disposal options have been identified and made available. Although EPA and NMED do not favor using CAMUs as a final disposal option for ER-generated waste, the project will continue to pursue this option. Using CAMUs is expected to reduce waste management costs, as discussed in Chapter 7, Waste Management Strategy.

- Revising and potentially expanding the criteria for NFAs, allowing minimal risk units to be eliminated from further consideration early in the process. One approach to be considered will be to emulate the preliminary assessment/site investigation or RCRA facility assessment level of assessment as an additional means for addressing potential NFA sites at a suitable level of effort.

- Obtaining agreement on land use scenarios based on the Laboratory's long-range site development plan and on the DOE requirement for the Laboratory to identify long-range land use plans by December 1995. Agreeing to land use scenarios affects several aspects of the project: discussions with the public on planned actions, risk assessments to identify sites requiring remediation, and estimates of waste volumes to be generated for the purpose of planning waste disposal.

- Confirming that the regulatory agencies are willing to consider PRS-specific amendments to approved work plans, when a review of the work plan against the approaches proposed in this action plan indicates that beneficial changes can be made. This will promote the efforts to eliminate unnecessary characterization and testing in assessment and remediation.

- Revising the ER Project schedule to ensure that all high-priority PRSs are funded as fully as possible so that significant progress can be made as rapidly as possible. A rationale will be developed for expediting activities at these sites versus the need to make progress in removing other, lower-priority sites from the project via NFA and VCA activities.

Most of these issues have been included as assumptions that reduce the project cost estimate and schedule in the proposed budget accompanying this action plan (Chapter 11, Budget). Because regulatory concurrence is not guaranteed, there is some risk associated with the assumptions. Nonetheless, it is the ER Project's plan to pursue agreement on these issues for the expected cost and efficiency benefits.

TABLE 4-1

Summary of Laboratory Actions to Improve Relationships with Regulators

Actions	Date
Develop an EPA-approved strategy for conducting VCAs.	1QFY95
Identify sites that are candidates for early investigation and remediation.	4QFY94
Create VCA plans to address remediation of 40 sites.	2QFY95
Be prepared to implement in the spring of 1995 as funding becomes available.	3QFY95
Implement a revised schedule that will expedite investigations of high-priority sites in a manner satisfactory to the regulators.	1QFY95
Increase communications with regulators and implement approaches and strategies of this action plan.	4QFY94
Revise work plans and RFI reports currently in process to partially implement strategies of this action plan.	As needed
Fully implement strategies of this action plan in new plans, reports, and field activities.	4QFY95

5.0 ASSESSMENT STRATEGY

Objectives

Accelerate RFI/CMS schedule:

- On a site-by-site basis, complete assessment phase in 4 years or less from start of work plan to completion of RFI report.
- Complete CMS through CMS report within 18 months of approval of RFI report.

Improve cost-effectiveness of ER data collection while maintaining appropriate data quality and defensibility.

Accelerate process for high-priority, high-risk sites.

Reduce assessment costs to 16% of total project cost by FY97.

Strategies

5.1 Implement industrial strategy at most sites.

5.2 Streamline the RFI process through an integrated, decision-focused approach.

5.3 Cooperate with agencies to accelerate and improve document reviews.

5.4 Combine action on high-priority sites with demonstrated quick results on nonproblematic sites.

5.5 Achieve consistency in approach across the ER Project.

This section describes the ER Project's approach to the assessment phase of the RCRA corrective action process. The strategy includes implementing the approach developed by the environmental engineering industry and aggressively applying other industry approaches that reflect a "time is money" policy. The strategy also reflects a new projectwide approach that funds activities associated with specific sites rather than with operable units.

5.1 Implement Industrial Strategy at Most Sites

The ER Project has reviewed approaches used by industry and presents in the Installation Work Plan many aspects of the environmental engineering industry's approach to RCRA corrective actions. This approach is also the cornerstone of DOE's streamlined approach for environmental restoration. In this approach, rather than attempting the impossible task of complete characterization, it is recognized that environmental decisions must often be made in the face of uncertainty. Probable conditions are identified, and important deviations from these probable conditions are specified. Contingency plans are developed to handle the deviations, and data are collected to reduce the uncertainties to acceptable levels so that corrective actions can move forward based on the probable conditions (Figure 5-1). This approach emphasizes

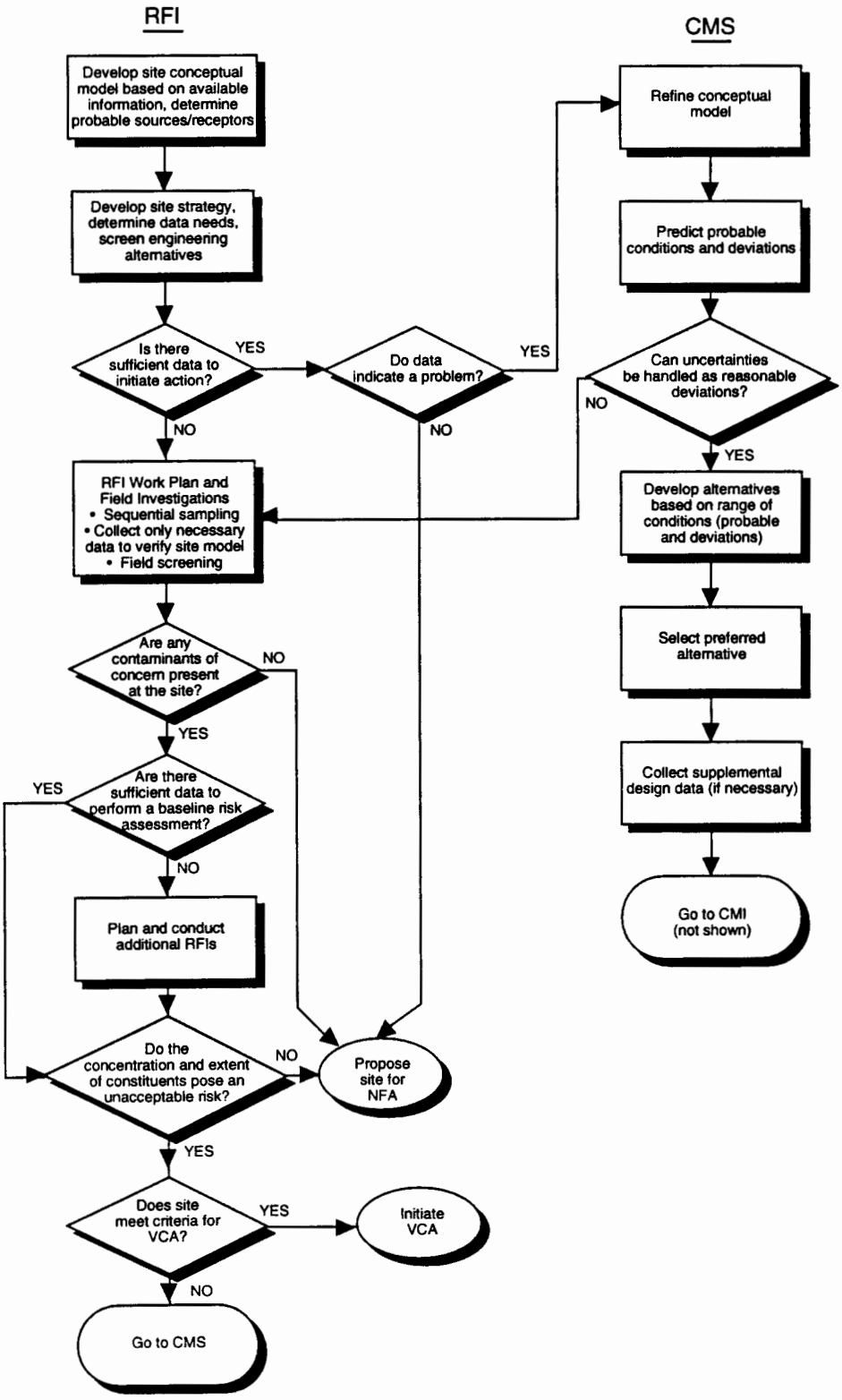


Figure 5-1. Generalized decision diagram.

- early identification of potential response actions (NFA, VCA, or CMS/CMI) based on existing information;
- a site characterization approach that will bring the site to closure at the earliest point via NFA, VCA, or CMS/CMI decisions; and
- integrating the phases of the RFI/CMS so that the data collected serve the needs of all phases and engineering analysis can begin as early as possible in the process.

5.2 Streamline the RFI Process Through an Integrated Decision-Focused Approach

The most important element of the new approach is the emphasis placed on planning each data collection effort to reduce decision uncertainties in moving the site to closure. The first step in this decision-oriented approach is developing the site conceptual model and technical approach, based on existing information. Depending on the nature of the site and the quality of existing information, it may be possible to propose a site for NFA based on the conceptual model without collecting additional data. Currently, about 40% of the PRSs have been proposed or approved for NFA, based on archival information, conceptual models, or the first round of data collection. Table 12-1 lists all of the PRSs currently expected to be designated NFA. This includes those that have been submitted to and approved by EPA (through RFI work plan submittals but not necessarily via a permit modification) and those that are expected to need only a few confirmatory samples or Phase I investigation.

The remaining sites fall into several categories:

- VCA is possible.
- CMS/CMI is expected.
- Existing site information is not adequate to make a definitive decision about the site, but potential outcomes include NFA, VCA, and Phase II investigation.

If a site is identified as a possible candidate for a VCA or CMS/CMI based on historical information, the Phase I investigation is designed to support this decision. For many sites, existing data are not adequate to make this decision, and the Phase I investigation is a screening assessment. For those sites that are likely NFAs, the Phase I Investigation is aimed at confirming or denying the existence of a source term sufficient to require further investigation. Phase I assessments generally use biased sampling to bound the source term and require few but broad-range laboratory samples. Additional coverage is obtained by using field screening instruments. For those sites that are not likely NFA candidates, the Phase I assessment also collects data to support evaluation of possible VCA approaches and early assessment of potential remedial engineering alternatives, should CMS/CMI become necessary. All sampling designs will make extensive use of field screening techniques (geophysics, remote sensing, field analytical instruments, etc.) to focus sampling and give adequate coverage while reducing the number of samples needed for laboratory analysis.

Those sites that cannot be proposed for NFA based on the Phase I assessment and that are not candidates for VCAs may require a baseline risk assessment to determine whether they present significant risks and require remedial action. Risk assessments will be focused on those constituents identified as contaminants of concern in the Phase I assessment. Current and future land use (Chapter 9) scenarios for each site will be evaluated to identify the most likely receptor populations, and realistic exposure scenarios relevant to those populations will be evaluated. For those sites requiring remediation, risk-based remediation goals will be developed based on these scenarios.

The ER Project will expedite work plan implementation by streamlining burdensome RFI activities. Examples include using generic outlines for health and safety and waste management plans,

dedicating reviewers, and mandating comment resolution sessions between authors and reviewers to produce one-time rewrites. The project will continue to take advantage of the mild Los Alamos winters to initiate work as soon as readiness reviews have been completed.

The ER Project is minimizing risk by determining at which sites the agencies are most likely to be concerned about an at-risk approach and by completing the work plan review process before starting those sites. Industry experience with EPA has shown that, in many cases, EPA encourages the at-risk approach to accelerate the assessment and remediation process.

In an effort to streamline sample handling, the project is considering many options, including shipping samples directly from the field to the analytical laboratories. To increase sample throughput capacity, it may be necessary to increase the number of laboratories used. The ER Project will evaluate alternatives to improve sample tracking and coordination, review of analytical results, data acceptance, and data management by streamlining currently centralized procedures or by encouraging each field unit to take direct responsibility for these functions.

5.3 Cooperate with Agencies to Accelerate and Improve Document Reviews

To accelerate the document review process, the ER Project will reduce the number of iterations of document revisions and comment resolution by meeting with the agency after its first review to clarify comments and discuss acceptable solutions. The project will yield to the agencies when appropriate; however, it will negotiate aggressively on items that significantly affect cost and schedule.

5.4 Combine Action on High-Priority Sites with Demonstrated Quick Results on Nonproblematic Sites

The project is taking a new approach that addresses sites on a case-by-case basis rather than on an operable unit basis. Effort will be focused on assessing and remediating high-priority, high-risk sites. The ER Project will ensure that assessment work at these sites is fully funded and will adopt the accelerated industrial approaches discussed in this plan. Although some sites present highly complex problems unique to the Laboratory or DOE facilities, it is believed that actions at even high-risk sites can be accelerated. Expediting the CMS/CMI process for those few sites that will proceed to that stage is discussed in Chapter 6.

Although most of the project's energy and funds will be expended at high-priority sites, it is important to DOE and many stakeholders (e.g., Congress, the public) that the project make rapid progress in cleaning highly visible, lower-risk sites. This is required to maintain credibility and to ensure continued funding. Therefore, the remainder of the annual assessment and remediation budget will be dedicated to cleaning up lower-risk sites, which have high administrative costs associated with them until they are removed from the project. These units will be expeditiously removed from the project through limited confirmation sampling and smaller VCAs, ultimately achieving the maximum number of early NFAs.

5.5 Achieve Consistency in Approach Across the ER Project

One of the past problems in the ER Project has been an inconsistency in approach among operable units. Through the revised organizational structure and this action plan, the ER Project will ensure that all its actions consistently apply to the agreed-upon strategies and that they will be used throughout the project.

5.6 DOE Actions

DOE and the Laboratory will agree on all assessment strategies so that both present a united front in negotiating with the regulators. The ER Project and DOE will need to hold joint meetings with the regulators, as proposed in Chapter 4, to improve communications.

TABLE 5-1

Summary of Actions to Improve Assessments

Action	Date
Obtain agency approval of the assessments strategy in this action plan and in the technical assumptions document.	1QFY95
Increase capacity of analytical laboratories and reduce average sample turnaround time.	3QFY95

6.0 REMEDIAL DESIGN AND CORRECTIVE ACTION STRATEGY

Objectives

Implement a cost-effective remediation strategy to include

- approach to MDAs,
- regulatory support of VCAs, and
- streamlining VCA process.

Implement a cost-effective design strategy to include

- who will do the design,
- use of private industry expertise, and
- savings in all design efforts.

Use commercial standard equipment and techniques.

Implement effective technology without delays in field effort.

Use value engineering in RFI/CMS/CMI.

Strategies

6.1 Take early remedial action and streamline VCAs.

6.2 Use an integrated approach to corrective action.

6.3 Streamline remedial designs.

6.4 Focus on use of effective standard commercial equipment and technology.

Corrective actions undertaken by the ER Project will proceed in the most direct and time- and cost-effective path to final site restoration or other disposition. The ER Project will also ensure that the corrective action process mitigates adverse impacts to human health and the environment.

Corrective actions and remedial designs will meet the requirements of the Laboratory's RCRA permit and EPA's corrective action guidance and will address site-specific conditions at the Laboratory. The ER Project will use the VCA approach to site remediation as conditions are discovered that either warrant early action or that can be remediated rapidly and cost effectively. Using this approach permits a site-specific, customized remediation to be planned, designed, and implemented without proceeding through the entire corrective action process or DOE's Title I, II, and III design and construction process. It is recognized that there is some risk involved that EPA, NMED, or DOE may not accept the VCA as the final remedy. However, for the categories of sites for which VCAs are appropri-

ate, the ER Project believes that the remedies are clear-cut and that the risk of not achieving regulatory approval is acceptably low.

For more complicated corrective actions, such as remediating the former MDAs, the ER Project can implement the conventional processes of risk assessment, CMS, and detailed design, taking full advantage of these processes to evaluate exposures, to compare alternatives, and to prepare detailed plans and specifications for the action. In these cases, DOE, EPA, and NMED will approve (as appropriate) the recommended action and concur that it constitutes a final remedy. It is also recognized that some sites may require interim actions before a VCA or final remediation. For these sites, the project will concentrate on removing the source of the contamination before investigating the final corrective measure.

6.1 Take Early Remedial Action and Streamline VCAs

EPA's RCRA guidance indicates that VCAs are preferred when there is a known unacceptable risk present at a site and when a potential solution is obvious and can be readily applied. The ER Project will closely review and update the list of candidate sites for VCAs based on this guidance. Units that meet the criteria should proceed at risk. The project will negotiate a VCA schedule with EPA, NMED and DOE and has set up internal criteria to prioritize and schedule VCAs. These criteria include, but are not limited to, priority according to the site-ranking system, cost, waste type, and location. For a site where no obvious remedy is available, the project may involve the regulators and request approval of the VCA plan before starting work. The public will also participate through the public involvement process described in Chapter 8, Public Involvement Strategy.

Based on current knowledge of the PRSs at the Laboratory, approximately 10% are expected to go through the VCA process. As more information becomes available from initial investigations at other PRSs, many may become candidates for VCAs. Table 12-2 lists the PRSs currently known, proposed, or likely (after Phase I investigation) to go through the VCA process. The dates of those actions are indicated in the table. These are preliminary estimates of dates that are subject to change when the FY95 baseline revisions are conducted and as the candidate sites are prioritized.

After identifying sites that will be remediated through the VCA process, the project will generate and provide DOE with an overall implementation schedule and specific VCA plans. These plans will be approved by DOE before field work is started, except in the case of emergencies. As soon as feasible, the VCA plans will be prepared, approved, and "put on the shelf," ready for implementation if additional funding should become available. As plans go to DOE, they will be sent to NMED and EPA Region 6 for information purposes. The regulatory strategy with respect to VCAs is discussed in Chapter 4, Regulatory Strategy.

6.2 Use an Integrated Approach to Corrective Action

There have been cases where site investigation (RFI) activities and selection of remedial action (CMS) activities have not been integrated, resulting in extra or wasted effort and a loss of technical or strategic continuity. To focus the process on selecting the final remedy, the current industry practice (and the approach encouraged in regulatory agency guidance documents) is to integrate the required components in a single process.

The ER Project will use such integration in planning the CMS for sites that are expected to progress through the CMS/CMI process. This integration will include early identification of potentially applicable corrective actions during the RFI planning stage in conjunction with early involvement of regulatory agencies. The data required to evaluate the feasibility of the potentially applicable technologies

will be incorporated as data requirements in the sampling plans for the RFI. In addition, the RFI data collection requirements will be reviewed to determine whether having a target corrective action allows a reduction in RFI data needs. Any bench-scale or pilot-scale studies required to provide performance and cost data for the CMS will be conducted during the RFI stage.

Currently, approximately 14% of the PRSs at the Laboratory are expected to go through a Phase II investigation and/or a baseline risk assessment. Some of these sites will be proposed for NFA, go through the VCA process, or continue through the CMS/CMI process. Without having obtained these data yet, it is not possible to predict which sites will require a CMS/CMI, although early predictions and basic knowledge of the Laboratory indicate that approximately 2% will require a CMS/CMI. That 2% is composed primarily of MDAs. About 240 PRSs are currently expected to require a Phase II investigation and/or a baseline risk assessment.

6.3 Streamline Remedial Designs

When a CMS has been completed for a site or group of sites and a remedy has been selected, the ER Project will initiate the detailed design of the remedial action. The value-engineering process will be used to develop remedial designs and to implement the preferred and most cost-effective remedial action. For example, a design component may specify a particular liner; however, a liner consisting of a different and more economic material may be chosen if it meets the same performance criteria (e.g., permeability and strength).

The product of this effort will be a set of plans and specifications to be used in constructing the remedy. It is expected that many of the designs will be for closure-in-place alternatives for former MDAs and that the covers will include high-performance engineered barriers as well as the natural vegetated cover systems being tested at Los Alamos. The designs could also be for vapor recovery and treatment systems, treatment systems to remove organics from soils, stabilization systems, or other mechanical remedial actions. To be able to take advantage of both civil and mechanical designs for treatment systems, the project will subcontract most of the remedial design and implementation to private engineering design firms who specialize in hazardous waste. Although ER Project staff will have input to the designs and will be responsible for their review, the design firms will have responsibility for completing the design.

The candidate engineering firms will be selected so that the retained companies have experience in designing projects similar to the selected remedy in both type and scale and also are experienced in presenting their designs to the regulatory agencies for review and gaining approval. The design firm will retain the responsibility for completing and delivering the work products to the ER Project according to project requirements and within schedule and budget. The design firm's experience of having previously gone through a similar process, often for industrial or commercial clients, will be valuable to the Laboratory in completing a design project and, ultimately, the remediation in a cost-effective manner.

Additional savings can be realized in the design process by formulating a design plan that provides for close coordination between the requirements of the regulatory agency and those of the DOE and that absolutely minimizes the review cycles often built into the design process. For example,

- EPA often suggests (in standard compliance language) that designs be submitted for review at the work plan stage and at the 30%, 60%, and 90% completion stages before being submitted for final approval.
- The DOE engineering process specifies a Title I and Title II process, each with multiple interim submittals and reviews.

To meet the intent of applicable DOE orders and regulatory requirements, the ER Project proposes a design review procedure based on the following:

- Conceptual Design and Work Plan. The ER Project and its engineering design consultant will prepare a concept for the remedial action, will develop a work plan describing how the design will be prepared, and will describe the structure of the agency submittals. The DOE will review the draft submittal, which, when finalized to DOE's satisfaction, will be submitted to the regulators. The plan will be reviewed and approved by the regulators.

- Fifty Percent Design. When the design is approximately 50% complete, a progress report will be submitted to the DOE and regulators. The ER Project will review and respond to their comments; however, progress on the design will not be interrupted while the comments are resolved.

- The ER Project will complete the design, incorporating suggestions from the 50% review, and will submit the design as the "90%" review package. Comments will be reviewed, and agreed-upon changes will be made to the design for the final package.

The ER Project will consider and use, when appropriate, a design/construct process to expedite remediation. Once the preliminary design is complete, the ER Project will determine, in cooperation with the engineering/construction firm, the cost of completing the remedial action, and the project will proceed. Before releasing the project for construction, the ER Project will request an independent value-engineering and constructability review study and will incorporate the findings of the study in the design and construction plans.

Streamlining the remedial design will also include the use of reference designs and specifications and applicable cost-estimating databases so that off-the-shelf designs for typical types of design and construction work can be used. Performance specifications in lieu of detailed design specifications will be used when possible. This option allows the design organization to focus on the required performance expected from the engineered system without specifying exactly how to achieve the performance. The performance specifications are taken by the constructing organization, and their experience in similar work is used to develop a detailed design. Often this process results in more efficient and less costly solutions because the constructing organizations have direct knowledge of what works and what is less expensive to build or operate. Finally, the use of computer-aided design systems compatible among DOE, the Laboratory, and subcontractors can facilitate the review and modification process.

6.4 Focus on Use of Effective Standard Commercial Equipment and Technology

The ER Project agrees that the cleanup effort should not be delayed pending development of new technology. The project will use its subcontractors' experience to identify and apply proven, cost-effective, off-the-shelf technologies for assessment and remediation. For new technologies developed either at Los Alamos or at other DOE facilities that may be applicable to Los Alamos sites, rapid permanent closure of sites using off-the-shelf technologies will take precedence over a delay in closure to assess new technology. When it is evident that significant cost savings can be obtained by using a new technology that is in final stages of development, the project will consider using the new technology. Subcontractors will evaluate any application of new technologies to determine whether, based on their experience, the new technologies will result in a cost-effective solution that does not impact the site closure schedule.

An example of the ER Project's use of commercial standard equipment is the application of the drilling rigs and contractors currently in place. The rigs are commercially available, and, when it was necessary to alter them to fit a specific need, the contractors, as well as Laboratory personnel experienced in this area, were consulted. For example, it was necessary to add a dust suppression system to the rigs to control potentially radioactive dust generated as a result of the drilling. The drill rig contractors and other Laboratory subcontractors and personnel jointly designed a system for retrofitting the drill rig. The state-of-the art design took minimal design efforts and used commercially available equipment. The ER Project will continue to use this type of approach in other design efforts.

As accumulated site investigation information begins to suggest a need for a particular, onsite treatment technology, the ER Project will prepare a specification and bid package for commercial treatment units. The selected vendor will locate equipment onsite and process excavated soils on an as-needed basis. The best contract vehicle will be developed, and cost-effective planning and scheduling will ensure a continuous supply of soils for treatment for the duration of the activity.

TABLE 6-1

Summary of Laboratory Actions to Improve Remedial Design and Corrective Action

Action	Date
Start preparation for request for proposal for remediation contracts.	1QFY95
Put in place specialty remediation contract(s).	3QFY95
Put in place contract(s) for design firms.	As needed
Begin designs of any anticipated technologies.	As needed
Review and update list of VCA candidate sites.	1QFY95
Negotiate a VCA schedule with DOE, EPA, NMED.	2QFY95
Generate VCA plans for priority sites.	2QFY95

7.0 WASTE MANAGEMENT STRATEGY

Objectives

Develop and implement a comprehensive, long-term waste management strategy.

Minimize waste disposal costs and liabilities.

Develop temporary waste storage capabilities.

Conduct waste treatment and disposal in compliance with regulatory requirements.

Minimize wastes generated; maximize reuse and recycling.

Strategies

7.1 Establish consistent guidelines and procedures for waste characterization and classification.

7.2 Use available onsite disposal capacity to the extent possible.

7.3 Develop a waste disposal approach for each type of waste.

7.4 Improve capacity of staging areas and temporary storage of waste materials.

7.5 Establish procedures for waste minimization, recycling, and reuse.

In the past, the ER Project assumed that the Laboratory's waste management organization would be able to handle ER wastes as a part of normal operations. Poor coordination with the Laboratory's Waste Management Group and poor understanding of their waste characterization needs, coupled with poor projections of waste volumes to be generated, have resulted in waste disposal problems and surprises.

It is clear that the Laboratory's waste management capabilities and waste disposal capacity are significant factors affecting the cost and schedule of the ER Project. Thus, the ER Project will aggressively pursue with the Waste Management Group an overall waste management strategy and procedures for the ER Project. Key issues in the overall waste management strategy involve planning, understanding requirements, and identifying contingency actions, should preferred approaches be unattainable for any reason. Key components in the waste management strategy include

- an understanding of roles and responsibilities between the ER Project and Waste Management Group;
- accurate and consistent waste volume estimates;
- clear waste characterization requirements;
- a full complement of waste storage, waste analysis, and waste treatment capabilities for all expected waste types;
- an aggressive and realistic approach to obtaining regulatory approvals of CAMUs and a mixed-waste disposal capacity; and

- effective actions to significantly reduce the waste volumes generated by ER activities (assessment, remediation, and decommissioning).

The risks to cost and schedule of failing to achieve necessary results in implementing a working waste management strategy are significant. Difficulties can be anticipated in negotiating certain proposals with the regulators, obtaining regulatory approvals, and in moving actions through some organizations within the Laboratory and at DOE. Thus, the actions identified in this chapter are critical and will require full buy-in and strong support from DOE.

The following subsections describe the overall approach and specific actions related to the ER Project's waste management strategy. Managing ER wastes in a cost-effective manner requires a strategy that combines onsite and offsite options for treatment, storage, disposal, and accelerated and simplified waste characterization procedures.

7.1 Establish Consistent Guidelines and Procedures for Waste Characterization and Classification

To improve waste management planning, the ER Project will make greater use of field screening techniques and composite sampling, improve coordination of sample management, and increase laboratory sample analysis capacity. A new administrative procedure (LANL-ER-AP-5.3) that provides guidance for the disposition of different types of RFI-generated wastes will be finalized and implemented. Use of the procedure will provide greater assurance that all wastes are properly handled in full compliance with regulations. This procedure reflects the RCRA provision for "in-boundary" waste storage within PRSs, which does not trigger land disposal restrictions or the "generated waste" time clock, thus reducing the number of 90-day storage areas required.

The ER Project has developed and is implementing guidance that defines the data and sampling requirements needed from a site investigation to characterize waste and obtain approval for and properly dispose of waste generated by the ER Project. Work plan amendments will be prepared, if necessary, to incorporate these requirements in approved work plans. The resulting comprehensive investigation and waste characterization sampling and analysis effort will result in schedule and cost savings because possible multiple sampling activities (investigation vs. waste characterization) can be avoided.

The project recognizes the importance both of minimizing the overall volume of ER wastes and properly differentiating between low-level radioactive waste (which is more expensive to dispose) and nonhazardous solid waste. Toward those ends, a defensible approach will be developed to properly define the radiation level at which a soil material is deemed to exceed background (Section 7.3.3, Low-Level Radioactive Wastes).

7.2 Use Available Onsite Disposal Capacity to the Extent Possible

When cost/benefit studies show that the costs of onsite disposal are equivalent to or lower than those for offsite disposal, the project will use the available onsite capacity to the extent possible to minimize the potential liabilities related to offsite disposal. If studies indicate that new onsite disposal facilities are more cost-effective in the long term than offsite disposal, the near-term policy will be to continue to use offsite disposal facilities or onsite temporary staging/storing facilities (CAMUs and temporary units) during construction of onsite facilities so as not to delay any ER Project assessment or remediation activities. Once completed, new onsite facilities will be used for disposal. To ensure availability of needed waste management capacity and capability, the ER Project will annually provide plans and projections of anticipated volumes by waste types to the Waste Management Group. In

addition, as field activities are conducted, information on the waste volumes generated will be captured and used to more accurately predict waste volumes at similar sites.

7.3 Develop a Waste Disposal Approach for Each Type of Waste

It is expected that investigation and remediation of ER Project sites will generate four types of wastes: hazardous, low-level mixed, low-level radioactive, and solid wastes. The ER Project's waste management strategy for each of the above categories is summarized in the following paragraphs (waste volumes are based on the FY94 baseline). The strategy will result in reduced waste management and disposal costs and, in some cases, decreased liability associated with offsite disposal.

7.3.1 Hazardous Wastes

The Laboratory has been successful in the past in arranging for offsite disposal of hazardous wastes (listed or characteristic) at permitted commercial facilities. The Laboratory plans to continue to do the same for near-term generation of hazardous wastes from the ER Project. The project is currently initiating a cost/benefit study of onsite vs. offsite disposal to determine the best approach for the future. The quantity of hazardous waste that will be generated by the ER Project is currently estimated to be 45,000 yd^3.

7.3.2 Low-Level Mixed Wastes

The ER Project is currently evaluating through cost/benefit analyses the merits of disposing of low-level mixed-waste onsite or offsite in the long term. These analyses include careful consideration of the use of CAMUs and temporary units. Preliminary findings from these studies indicate that the most cost-efficient long-term disposal method is to dispose of mixed waste in a new, onsite mixed-waste disposal facility under a RCRA Part B permit. The completed Title I engineering design would be modified to include treatment of hazardous wastes to meet land disposal restrictions before placing any waste in the fill. The quantity of low-level mixed wastes that will be generated by the ER Project is currently estimated to be 165,000 yd^3.

7.3.3 Low-level Radioactive Wastes

An estimated 430,000 yd^3 of excavated soils will be radioactive (above background) but may be contaminated by organics and metals at levels below those that qualify the waste as hazardous. Treatment of these wastes is not required before disposal, but additional disposal facilities will be required beyond those now planned for low-level radioactive wastes resulting from Laboratory operations. The project is working with waste management groups at the Laboratory to develop new, onsite, low-level-waste-disposal capacity specifically for ER Project wastes.

7.3.4 Solid Waste Soils

Some excavated soil will be nonradioactive and nonhazardous. The volume has not been explicitly estimated but is likely a portion of the volumes already estimated as mixed or low-level radioactive waste, not an additional volume of waste. These soils will be excavated because they have contamination (organics or metals) above levels determined to be acceptable or consistent with the future use of a particular area. Although the soils are contaminated, they need not be disposed either in a mixed-waste disposal facility or in a landfill for low-level radioactive waste, if economic alternatives are available. In the past, such materials were disposed in the Los Alamos County landfill or in onsite Laboratory disposal areas. Because the volumes of these wastes may be large, alternate disposal practices will be developed. In the short term, the ER Project will arrange for offsite disposal in land-

fills that are permitted to accept nonhazardous industrial residual wastes, such as the numerous industrial waste landfills in New Mexico and the Conservation Services, Inc., facility in Colorado. In the longer term, the project will pursue a least-cost strategy for disposal by determining the cost and availability of offsite industrial solid waste landfill capacity; by developing a concept design and concept-level cost estimate for an onsite, variable-volume, solid waste landfill; and by comparing the costs of the on- and offsite disposal on a net-present-value basis. If offsite disposal is cheaper, it will be used. If onsite disposal is cheaper, offsite disposal will be used on an interim (3-4-year) basis until an onsite landfill can be permitted and built.

7.4 Improve Capacity of Staging Areas and Temporary Storage Areas for Waste Materials

The ER Project has identified a need for storing additional wastes from site investigations, remediations, and VCA excavations while awaiting the characterization data needed to decide on the appropriate disposal option. Because some of the excavated soils will be hazardous or mixed waste and because the 90-day period allowed by RCRA may not be sufficient to make all of the shipping arrangements, additional storage space for hazardous wastes is necessary. The ER Project will pursue a modification of its RCRA permit to allow construction of additional greater-than-90 day storage and will also initiate measures to convert existing permitted storage areas from operational waste to remediation waste capacity. However, a nearer-term solution is to immediately begin the process of permitting additional storage areas as CAMUs. For storage only, a CAMU could be located at any convenient ER Project site and could be established with considerable flexibility in design and operational requirements. Because all wastes would be removed at the closure of the CAMU, it may be possible to locate the CAMU in an uncontaminated area. This concept will be explored with EPA Region 6.

EPA Region 6 procedures for approving a CAMU specify that facilities must provide to EPA an initial submittal containing specific information about the CAMU. The ER Project will submit such information to EPA on the sites listed below in the fourth quarter of FY94. These are relatively straightforward implementations of the CAMU concept and have a good potential for approval.

- Technical Area (TA) 15, E-F Firing Site. Proposed as an engineered disposal facility, with no treatment capability, for emplacement of contaminated materials from E-F, R-16, and others.
- TA-53 Surface Impoundments. Proposed for consolidating the contents of three impoundments in one for disposal and capping in place.
- TA-16 Drainage Pond Area. Proposed as a land-based unit for a burn site, decommissioned buildings, and drainage pond wastes containing high explosives and decommissioning wastes.

The ER Project recognizes the barriers in implementing these CAMU options. Figures 7-1 and 7-2 represent a conservative time line for implementing these options at TA-15 and TA-16, respectively. Each time line shows the stages of implementing these CAMUs and provides ample time to address each barrier that may arise. The other barrier to implementing the CAMU option would be the Laboratory's Sitewide Environmental Impact Statement (SWEIS). If a decision is made to address the CAMU(s) in the SWEIS, the ER Project would have to wait until after the SWEIS had been completed before beginning to implement the CAMU. It is recognized that this delay could preclude using the CAMU option, should the CAMU rule be rescinded. If the rule is rescinded, the ER Project will more actively pursue longer-term storage and offsite disposal options. EPA's procedure indicates that the agency will review the submitted information and make an initial determination within 30 days of submittal.

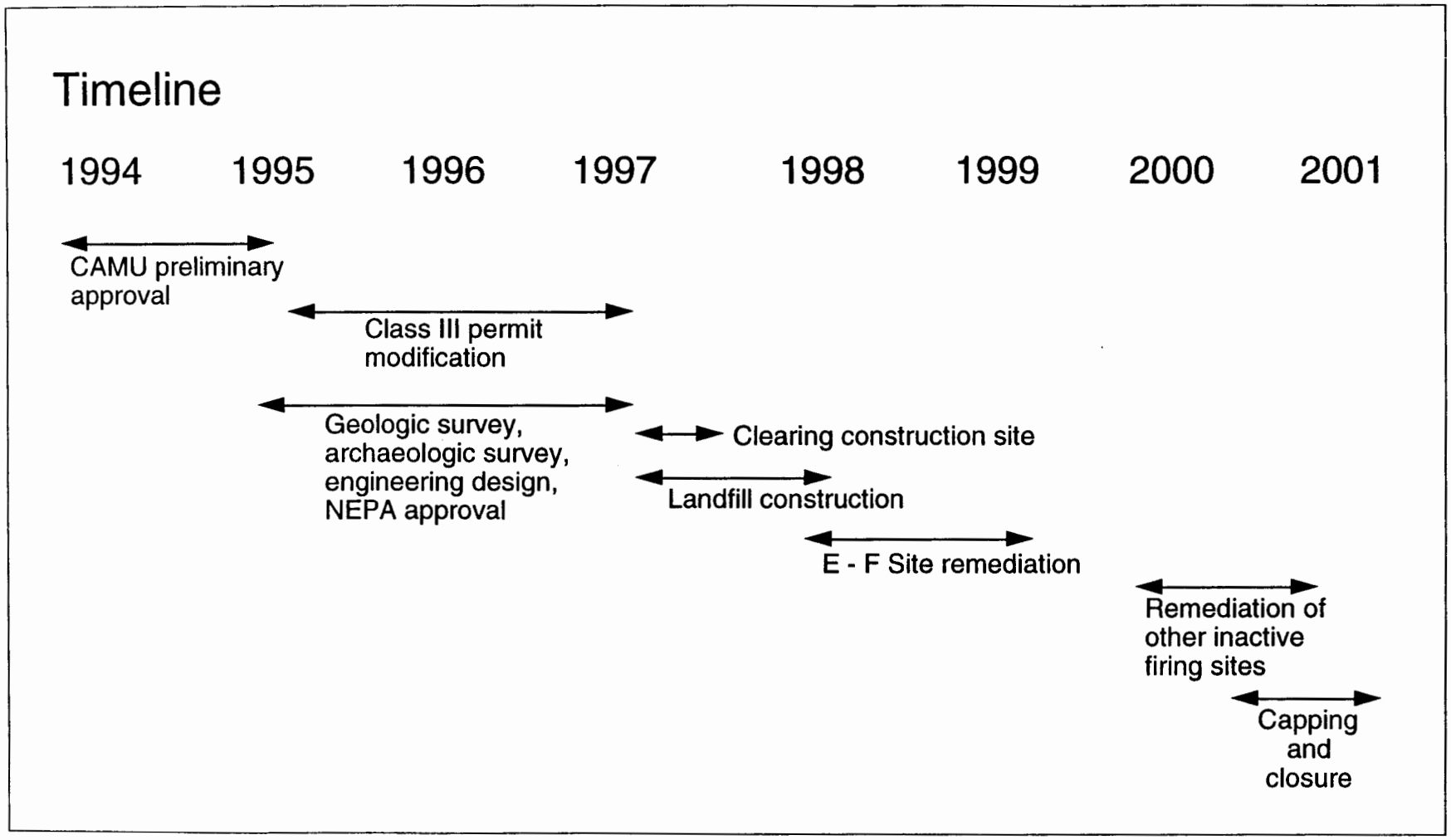


Figure 7-1. TA-15, E-F Firing Site CAMU proposal.

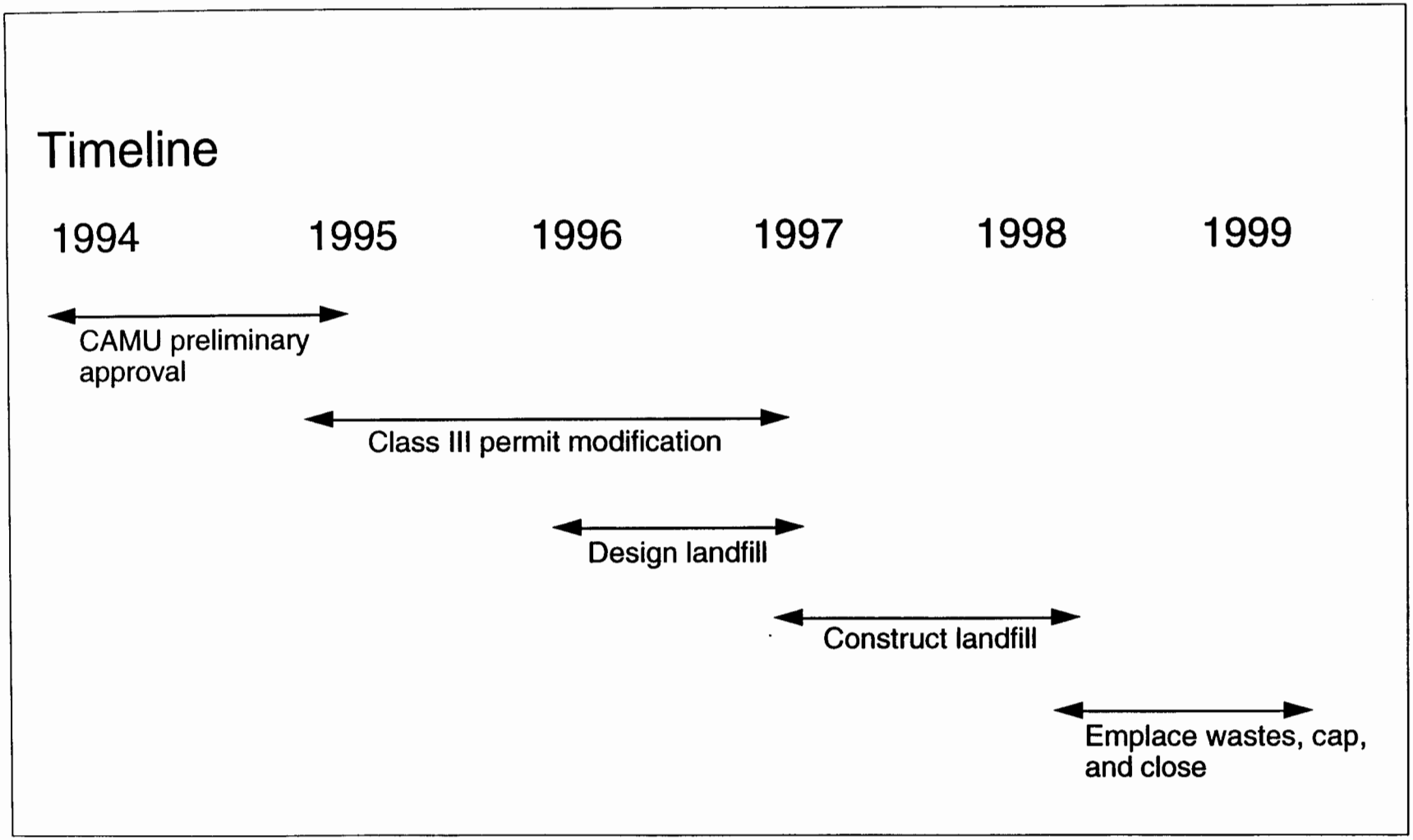


Figure 7-2. TA-16, GMX-3 High-Explosives Machining Area CAMU proposal.

7.5 Establish Procedures for Waste Minimization, Recycling, and Reuse

The ER Project will aggressively pursue recycling options for nonhazardous, nonradioactive soils. Options are being considered that include possible reuse of such soils as roadbeds, as construction backfill on selected Laboratory expansion projects, as daily cover for landfills, or in asphalt batch plant operations. Similar offsite uses will also be investigated.

In conjunction with the Laboratory's waste minimization and pollution prevention programs, the ER Project will develop a systematic approach to address waste minimization and pollution prevention both in the RFI/CMS processes and during decommissioning. Initially, these issues will be addressed in waste management plans developed for site investigations (RFI, VCA, etc.) in which the potential for waste segregation and/or recycling and reuse will be emphasized. How waste minimization and pollution prevention can be most effectively applied during VCAs (which tend to be dig-up-and-dispose approaches) will be specifically addressed. As the ER Project matures, it will expand the waste minimization and pollution prevention component of the waste management plan and develop a systematic process for incorporating these components in ER characterization, remediation, and decommissioning. This systematic process will yield checklists and decision trees for use before beginning field work. Additionally, the ER Project will develop performance measures to document successes. These measures will address waste disposal costs and liabilities avoided so that the ER Project can take credit for its waste minimization and pollution prevention measures.

TABLE 7-1

Summary of Laboratory Actions to Improve Waste Management

Action	Date
Develop and implement new waste management procedures that address waste generation, characterization, and management.	1QFY95
Develop and implement a memorandum of understanding that addresses the roles and responsibilities of the Waste Management Group and ER Project.	4QFY94
Analyze the costs and benefits of constructing and using an onsite mixed-waste disposal facility versus contracting to use an offsite disposal facility.	1QFY95
Submit CAMU information for EPA and NMED review.	4QFY94
Minimize total volumes of wastes derived from investigation and remediation that require disposal through a combination of waste minimization, recycling, and reuse.	2QFY96
Develop defensible approach to define radiation levels exceeding background	1QFY95
Provide annual projection of anticipated waste volumes to Waste Management Group.	1QFY95
When offsite disposal is the best alternative, identify facilities and secure contracts to handle ER-generated waste on an as-needed basis.	As needed

8.0 PUBLIC INVOLVEMENT STRATEGY

Objective

Integrate public participation in all ER activities: assessment, remediation, and decommissioning.

Build a proactive and effective public involvement program.

Incorporate public input in the ER decision-making process.

Strategies

8.1 Continue public involvement efforts that have been successful.

8.2 Build trust and credibility.

8.3 Clearly define the goals of the public involvement program.

8.4 Identify an action plan to design and implement the public involvement program.

8.5 Implement public involvement activities.

8.6 Pursue the initiative for public involvement in cleanup decisions.

8.7 Coordinate ER activities with other Laboratory and DOE public involvement efforts.

The impacts can be severe of failing to identify public concerns, values, and interests; of appearing not to act honestly in considering and incorporating those issues in remediation and waste disposal decisions; and of not expressing clearly the rationale and balancing of different viewpoints that go into each decision. As learned at other facilities as well as at the Laboratory, the impacts are not only to project cost and schedule but also to the public trust and credibility of DOE, the Laboratory, and the individuals investing their career in the ER Project.

In light of the perception that the ER Project's public outreach program has been ineffective and insincere, it is clear that a strong and well-focused public involvement strategy is needed. This chapter outlines the project's current direction. Some details are still to be resolved in cooperation with DOE and other organizations in the Laboratory that share common interests or responsibilities. The ER Project recognizes that building a trusting relationship with interested and affected parties is critical for effective public involvement. Included in the strategy outlined here are the most successful elements of past efforts, plus new, focused activities with clear and achievable goals. It is the project's intent to involve as broad a cross section of the northern New Mexico community as possible.

8.1 Continue Past Public Involvement Efforts That Have Been Successful

The ER Project has had an active public involvement program for the past three years. Components of this program include

- regularly scheduled public meetings;
- a quarterly newsletter (*Environmental Update)* distributed to a mailing list of 1,500;

- information sheets;
- site tours;
- briefings for homeowner associations, Los Alamos County Council, etc.;
- information repositories;
- public involvement training for staff;
- high school and community college outreach activities; and
- interviews to learn the concerns of interested and affected parties.

The lessons learned from these activities and feedback from DOE, NMED, EPA, and others will be used to strengthen the successful aspects of this program. The intent is to include all aspects of the ER Project: assessment, remediation, and decommissioning. It is also the intent to incorporate public input at all stages of the ER Project, including prioritizing sites for cleanup, selecting among acceptable remedial alternatives, and making waste disposal and future land use decisions.

8.2 Build Trust and Credibility

Overcoming existing distrust of DOE and the Laboratory as organizations will be a challenge for the ER Project. It will take time and considerable effort to build a trusting relationship with the community. There are several important elements in meeting this challenge:

- clearly defining and conveying the intended role of public participation in the ER Project,
- listening carefully and fully considering input received,
- clearly identifying the decision-making process and the rationale behind each decision, and
- communicating the basis for each decision in a way that those whose views were not supported can understand why the decision was made as it was.

Not every stakeholder or public position can be reflected in the decisions made. All who choose to participate must understand that they have input to the decision but do not make the decision. However, they must also come to believe that they will hear the truth about the decision process and will be able to see the logic in it. There is no set of easy steps to building trust and credibility, but stakeholders' understanding and support of the process lays the necessary foundation.

8.3 Clearly Define the Goals of the Public Involvement Program

In addition to a commitment to earning the trust of interested and affected parties, the public involvement program has specific goals. Although more specific goals can be developed for guiding implementation, the overall goals are

- identifying and understanding the many different values and concerns of the northern New Mexico community;
- seeking out the issues and concerns early enough to affect planning and decision making;
- seriously considering changes that can be made to address the issues and concerns; and

- educating interested individuals about environmental regulations, the cleanup process, and the environmental conditions following remediation.

8.4 Identify an Action Plan to Design and Implement the Public Involvement Program

If the ER Project public involvement program is to be more than a public information function, the involvement of technical staff, ER Project management, and potentially DOE and Laboratory management could become substantially greater. The additional involvement is the outcome of asking for input and then honestly and carefully considering how the ER Project can make changes to accommodate the new point of view or concern. In pursuing this public involvement strategy, the following plan of action will be used:

- identify the goals of the program;
- set ground rules identifying the level and type of participation expected of all participants (ER Project staff and management, other Laboratory organizations, as appropriate, Laboratory management, and DOE);
- negotiate the ground rules and adjust the goals until the level of participation needed agrees with that accepted by the participants identified above;
- identify and design specific activities to implement the program and move it toward its goals,
- implement the activities, monitoring and improving them as necessary; and
- evaluate the program to ensure participation is meaningful (i.e., it can make a difference).

At several points in this plan of action, plans, memos of agreement, and implementation actions can be identified as documenting completed actions for judging progress. Notable actions are summarized at the end of this chapter.

8.5 Implement Public Involvement Activities

Although specific activities will derive from the specific goals that are developed, some new activities beyond those already in use are

- hands-on educational opportunities such as walking tours for geology, history, and cleanup issues at a site;
- publicly accessible real-time atmospheric- and radiation-monitoring displays;
- community working groups on specific issues;
- vigorous media interactions to inform and educate; and
- information to Laboratory employees via the Internet bulletin board and the *Newsbulletin.*

A part of monitoring and improvement is gathering feedback on effective and ineffective stakeholder involvement activities. A current example is described in the following section.

8.6 Pursue the Initiative for Public Involvement in Cleanup Decisions

A good example of monitoring and improving the public involvement program is the initiative for public involvement in cleanup decisions. In the first phase of this initiative, the project interviewed 41 members of the northern New Mexico public representing a broad range of interested and affected parties. The interviews elicited information regarding meaningful public participation and explored issues and concerns as a first step in acquiring input early in the planning process. The results will be published and will help define the plan for the ER Project's public involvement program. The final plans will also include successful approaches identified in consultation with community relations at Hanford, Fernald, and other facilities.

8.7 Coordinate ER Activities with Other Laboratory and DOE Public Involvement Efforts

Many Laboratory organizations have similar needs and responsibilities for public involvement. The ER Project will coordinate its activities with these organizations, both directly and, ultimately, through the Laboratory's Stakeholder Involvement Office. Moreover, recent experience shows that members of the public do not compartmentalize their concerns according to Laboratory and DOE programs. To ensure that the broad range of public issues with DOE and the Laboratory is addressed and to avoid overwhelming the community with public outreach programs, the ER Project is coordinating its program with the Stakeholder Involvement Office. Because the ER Project wishes to cooperate in the Laboratory's overall initiative, certain commitments to DOE on the exact nature of the public involvement program and the timing of particular milestones are not entirely in the project's control.

TABLE 8-1

Summary of Laboratory Actions to Improve Public Involvement

Actions	Date
Continue and enhance past activities (newsletter, information sheets, information repositories, etc.)	Ongoing
Implement initiative for public involvement in cleanup decisions	1QFY95
Develop public involvement program plan	1QFY95
Publish results of interviews from public involvement initiative related to cleanup decisions	1QFY95
Implement the public involvement program plan	1QFY95

9.0 FUTURE LAND USE STRATEGY

Objectives

Implement a future land use strategy, based on the Laboratory's long-term site plan.

Coordinate cleanup activities with the needs of the Laboratory's long-term plan.

Move forward with ER Project activities, based on this land use strategy.

Integrate land use strategy with regulatory and public involvement strategies.

Strategies

9.1 Develop land use scenarios consistent with DOE and Laboratory long-term site planning.

9.2 Coordinate ER cleanup activities with Laboratory's long-term planning.

9.3 Pursue regulatory and public involvement aspects of land use planning.

The issues surrounding future land use assumptions have a direct bearing on the cost and schedule for the ER Project. The Laboratory's future land use plans must be defined and made clear to all parties. During the time regulatory agencies are considering whether these land use scenarios are acceptable, remediation plans may be delayed, or may have to be pursued at risk, or may be based on overly conservative assumptions. Any of these eventualities has the potential for affecting the project's cost and schedule.

A simple sequence of issues has created the current difficulty for the ER Project regarding future land use:

- Because land use assumptions affect the risk assessments that are involved in decisions on whether to remediate, or how much material to remove, remedial designs cannot be completed.
- Regulator acceptance of the land use proposed for a site under remediation requires a convincing rationale that the projected use is probable and is acceptable to the public and other stakeholders.
- Evaluating public or stakeholder perceptions with regard to land use is a complex task requiring considerable attention by the ER Project in conducting public involvement activities.

This cascade of issues affects the project's ability to reach remediation decisions and to proceed with cleanup. For the ER Project to move forward with the corrective action process, the land use issues must be resolved. It is imperative that the Laboratory achieve a strategy to obtain regulatory agreement on future land use at ER Project sites. To do so, the ER Project will work closely with the regulators, the public, the Laboratory's management and facilities planning groups, and other interested and affected parties.

9.1 Propose Land Use Scenarios Consistent with DOE's and the Laboratory's Long-Term Site Planning

A key component of the ER Project's future land use strategy is the recognition that the DOE and the Laboratory will control of most of the Laboratory site for the foreseeable future. It is important that the Laboratory assert this fact to regulatory agencies, the public, and other stakeholders to reduce their uncertainty about land use assumptions for Laboratory sites. Achieving consensus on expected future land use for Laboratory-controlled property must be a priority.

The Laboratory is an active DOE facility whose Site Development Plan for its 43-square-mile area covers the next 20 years. Figure 9-1 shows the Laboratory's plans for sites within its current boundaries. The Laboratory's mission requires the continued use of most of these lands for the foreseeable future. However, some areas are being considered for transfer to Los Alamos County, and other areas, principally buffer areas, may be reduced.

For PRSs requiring cleanup decisions, the ER Project will assume appropriate land use scenarios based on the Laboratory's Site Development Plan. The categories may include residential use for the townsite, continued Laboratory industrial use, and buffer zones. For each land use category, human exposure scenarios will be defined for risk assessment.

Human exposure scenarios and the related risk assessments can be combined into a few land use categories. For example, continued Laboratory industrial operations could include exposure scenarios for site workers, visitors, and intruders. The residential category could include other human exposure scenarios. Using these two land use categories, industrial and residential, and combining exposure scenarios under two land use categories reduces the uncertainties associated with other land use categories.

The benefits of regulatory acceptance of a land use strategy based on currently projected uses are substantial:

- Project delays resulting from unresolved land use issues can be avoided.
- The need for remediation to proceed at risk, relative to the cleanup criteria, can be avoided.
- Costs can be reduced through use of site-specific cleanup criteria (as opposed to conservative, across-the-board cleanup requirements).
- Cleanup activities can be prioritized based on plans for projected site development or release.

9.2 Coordinate ER Cleanup Activities with Laboratory's Long-Term Planning

ER Project activities will be coordinated to the extent possible with the Laboratory's site development plans. Issues regarding cleanup at future construction sites will be addressed with the Facilities Planning and Project Initiation Group. This coordination will allow the ER Project's remediation schedule to take into account other Laboratory needs.

The ER Project is actively participating in the Laboratory's long-term planning efforts by maintaining contact with appropriate organizations:

- Facilities Planning and Project Initiation Group,
- Director's Office of Strategic Planning,

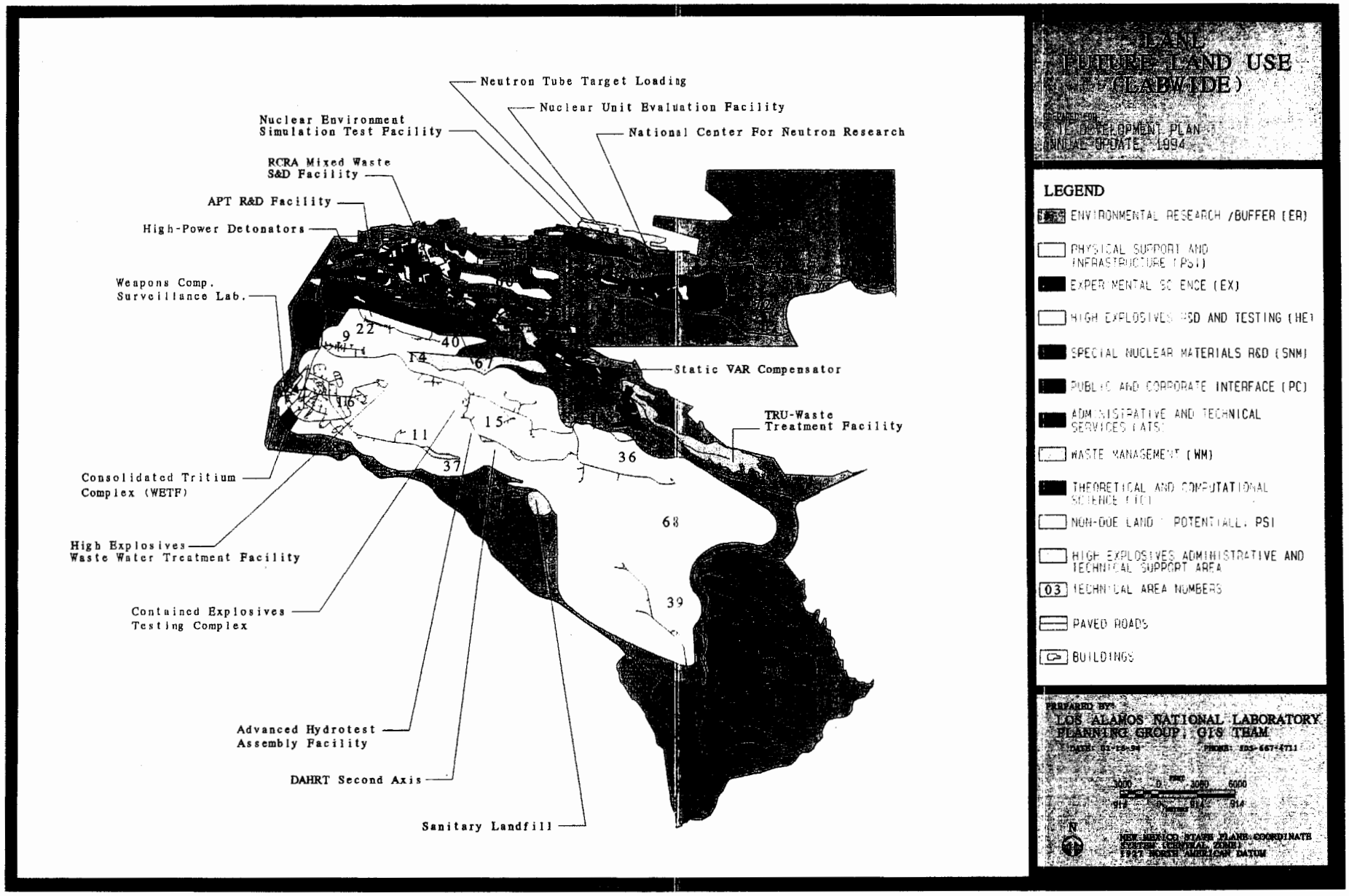


Figure 9-1. Laboratory plans for future land use.

- Laboratory and DOE sitewide environmental impact statement (EIS) planning group,
- Future Site Use Planning Working Group, and
- DOE's Land Transfer Project.

9.3 Pursue Regulatory and Public Involvement Aspects of Land Use Planning

In Chapter 4, Regulatory Strategy, future land use assumptions are cited as a key item on which the Laboratory, DOE, and the regulatory agencies must attain concurrence. The ER Project will approach the regulatory agencies for approval of land use assumptions for one or more high-profile sites at which the future use of the site is clear-cut. Agreement on a site-specific basis allows the restoration process to start and the subsequent risk assessment scenario and cleanup criteria issues to be addressed. A success on a site-specific basis would create a model for similar individual or categories of sites.

For sites where the future land use is not clear-cut, the cleanup decisions based on future land use assumptions will be discussed on a site-by-site basis with the regulators and the public. Agreement among interested parties will be made before initiating the remediation.

Central to regulators' acceptance of land use assumptions is the demonstration that public values and interests are incorporated in the process. This interest is related not only to land use but also to cleanup criteria and the nature of the remedial action. The project's public involvement strategy addresses these issues (Chapter 8, Public Involvement Strategy).

TABLE 9-1

Summary of Laboratory Actions to Improve Future Land Use Decision Making

Action	Date
Coordinate ER cleanup activities with the Laboratory's long-term planning groups.	4QFY94
Continue discussions with regulators to establish acceptable risk scenarios for cleanup decisions, including land use assumptions.	4QFY94
Identify land use alternatives based on Laboratory's Site Development Plan.	4QFY95

10.0 COOPERATIVE IMPLEMENTATION OF THE ENVIRONMENTAL RESTORATION PROJECT

Objectives

Establish a cooperative relationship between DOE and the ER Project.

Specify expectations for interactions with regulatory agencies.

Define roles and responsibilities.

Strategies

10.1 Clarify relationship of the Laboratory and DOE as copermittees.

10.2 Define roles and responsibilities of DOE and the Laboratory.

10.3 Simplify reporting requirements to DOE and EPA.

10.4 Create commercial advisory board.

10.5 DOE's requirements for success.

Mutual frustrations have developed between DOE, as the sponsor and funding organization for the ER Project (i.e., the client), and the Laboratory, as the "contractor" acting for DOE in implementing the ER Project. In simple terms, the DOE, as the client, does not feel that the Laboratory has always responded to its guidance or conducted the project in accord with its wishes. On the other hand, the Laboratory has felt overly constrained by DOE and unable to perform assigned tasks without being micromanaged. Clearly, much is to be gained by clarifying and resolving the respective roles and responsibilities.

In this regard, the Laboratory looks on this action plan, when agreed upon and mutually accepted, as specifying the expectations of both parties, setting out ways of measuring the Laboratory's performance in light of DOE's expectations and limiting to the degree possible the perception of micromanagement. The following sections address the relationship between DOE and the Laboratory; the remainder of this action plan is intended to fulfill the other objectives.

10.1 Clarify Relationship of the Laboratory and DOE as Copermittees

DOE and the Laboratory are copermittees under the RCRA permit. Before interactions with EPA or NMED occur, a mutually acceptable understanding needs to be reached on individual issues. When a course of action has been agreed upon, DOE and the Laboratory interact as equal partners with EPA or NMED. This action plan is based on the premise that the Laboratory and DOE will work as partners to achieve objectives mutually acceptable to themselves and to the regulatory agencies. It is particularly important that DOE and the Laboratory agree on this aspect of the action plan and on its overall objectives and implementation. DOE and the Laboratory will be open and direct in cooperatively defining a strategy and expect to negotiate with the regulatory agencies the best mutually acceptable agreement.

Key contacts for EPA, DOE, NMED, and Laboratory interactions are

- EPA, Region 6, Facility Manager, New Mexico Federal Facilities Section, RCRA Permits Branch, Barbara Driscoll;
- DOE-LAAO, ER Program Manager, Ted Taylor;
- Laboratory ER Project Manager, Jorg Jansen; and
- NMED, Program Manager of RCRA Permits, Barbara Hoditscheck.

10.2 Define Roles and Responsibilities of DOE and the Laboratory

Roles and responsibilities should be clearly defined to avoid conflict and confusion during the implementation of the project and must be satisfactory to both parties. All roles and interactions between DOE and the Laboratory are intended to promote the responsibilities of the parties and add value to the project.

10.2.1 The Laboratory's Roles and Responsibilities

The Laboratory will manage the project, which includes the following functions:

- forming an organization that
  - performs the work in accordance with the agreements in this plan,
  - provides technical expertise,
  - provides quality assurance,
  - ensures health and safety;
- engaging and managing subcontractors who
  - provide expertise to supplement the Laboratory's resources and
  - perform tasks that they can perform more cost effectively or for which they have special capabilities;
- planning and controlling
  - the schedule,
  - the budget, and
  - technical performance; and
- furnishing all necessary reports to satisfy DOE's and EPA's requirements.

10.2.2 DOE's Roles and Responsibilities

DOE will provide overall guidance to the project.

- Establish performance, cost, and schedule goals.
- Negotiate goals with the Laboratory.
- Provide budget authority.

DOE will oversee the project to

- ensure planned performance;
- evaluate progress through status reviews:
  - milestones,
  - cost and commitments, and
  - technical performance; and
- perform quality checks:
  - plans,
  - field work, and
  - reports.

DOE will address issues in which DOE is a major player, such as

- National Environmental Policy Act (NEPA),
- onsite disposal of low-level waste,
- national emissions standards for hazardous air pollutants,
- Federal Facilities Compliance Act, and
- radioactive materials management area.

10.2.3 Issues Needing Resolution

Several issues between DOE and the Laboratory need resolution:

- DOE and Laboratory personnel are concerned that too much paperwork is being generated that adds no value to the project. The current relationship between LAAO, AL, and HQ is not clearly defined and leads to confusion, delays, duplication, and strained relationships.
- DOE and the Laboratory need to explore jointly how best to position current and future DOE personnel to institute sound management principles.
- There is a clear need to define roles and responsibilities. The involvement of DOE personnel in the ER Project is welcomed if roles and responsibilities have been clearly defined. The task for the new DOE personnel would be to simplify information flow, to participate in or conduct quality control functions, to handle "fire drills," and to perform other tasks that would unburden the FPLs. DOE personnel would not participate in management, either directly or indirectly, as shadow management.

10.2.4 Change and Contingency Control Board

Proposed departures from an existing plan (i.e., baseline) in terms of schedule, cost, and performance will be brought before a change and contingency control board, as described in DOE-AL's Environmental Restoration Project Office guidance and in accordance with the provisions of DOE Order 4700.1.

Currently, the Laboratory has its own change control board, duplicating the effort of DOE's board and adding an additional step and more time to the change process. The Laboratory proposes that the two boards be consolidated by adding Laboratory representatives to DOE's board. Specifically, it is proposed that the project manager appoint two representatives from the ER Project and that DOE assign three representatives to the existing board.

10.2.5 Single Point of Contact

Interactions between DOE and the ER Project should occur at specified points of contact. Ted Taylor, ER Program Manager at DOE-LAAO, will serve as this contact for DOE. It is suggested that all DOE communications (i.e., from HQ and AL) be funneled through this one contact to ensure LAAO responsibility for DOE interactions. Jorg Jansen, ER Project Manager, will serve as contact for the Laboratory's ER Project, directing communications to appropriate managers and staff.

It is expected that the DOE-LAAO Program Manager and ER Project Manager will involve appropriate members of their organizations in discussions, meetings, negotiations, etc. The managers may also choose to delegate certain roles, designating members of their staff as points of contact for specific issues or functions.

10.3 Simplify Reporting Requirements to DOE and EPA

The ER Project will prepare the following activity reports for and submit them to DOE, EPA, and NMED, as appropriate:

- a weekly report, consisting of one page of highlights of the week's successes, failures, and concerns, submitted each Thursday at noon (for the prior week);
- a monthly Project Control System report, submitted at close of business on the 22nd of each month, consisting of approximately 14 pages that contain the following information:
  - management survey (1 page), including successes, failures, concerns;
  - one project cost report (1 page):
    - projected commitment cost curve,
    - actual commitment and cost curve, and
    - variances;
  - technical progress reports for each field unit (6 pages);
  - 6 field unit cost reports (6 pages):
    - projected commitment and cost curve,
    - actual commitment and cost curve, and
    - variances.
- a secondary monthly report Project-Tracking System report, submitted at the close of business the 24th of each month. If the secondary monthly report cannot be avoided because of requirements beyond the control of the DOE-LAAO and DOE-AL offices, the ER Project will implement changes to its software system to permit the project control system information to be easily reformatted for the Project-Tracking System report.

- quarterly report to DOE and EPA, submitted as required by the Hazardous and Solid Waste Amendments within two months following each quarter. These reports contain updated technical information, including any analytical data that have become available during the period of the report.

10.4 Create Commercial Advisory Board

The ER Project proposes that an independent technical advisory board be established to provide "commercial peer review." The board, which will be composed of members of industry and appropriate institutions and government agencies, will review action plans on a yearly basis. The reviews will address the ER Project's technical approach and whether that approach is keeping pace with industry and other federal facilities. Such boards are used successfully by the Laboratory to advise its divisions and have been used by DOE successfully during the laser fusion and laser isotope separation programs.

TABLE 10-1

Summary of Actions to Improve Cooperative Implementation of the ER Project

Actions	Date
Agree with DOE and regulators on interfaces, point of contact, and communication.	4QFY94
Agree on the details of the DOE's and Laboratory's role and responsibilities.	1QFY95
Set up change and contingency control board.	1QFY95
Agree on reporting mechanisms.	1QFY95
Create commercial advisory board.	2QFY95

10.5 DOE's Requirements for Success

This action plan identifies several assumptions requiring DOE actions. These DOE actions are listed in Table 10-2.

TABLE 10-2

Summary of Required DOE Actions

Actions

- DOE will establish a mechanism to provide funding for additional support to EPA and NMED for an urgently needed increase in manpower. DOE will push to achieve increased functional equivalency of RCRA and NEPA.
- DOE will need to review and concur with all assessment strategies and will need to present a united front with the Laboratory in negotiating with the regulators.
- DOE and the ER Project will hold joint meetings with the regulators, as proposed in Chapter 4, to improve communications and will work with ER Project staff to obtain concurrence from the regulators during the planning and review stages.
- DOE will need to review and concur with all waste management strategies and support the ER Project in securing regulator and public approval for offsite disposal and expansion of onsite storage and disposal capacity.
- DOE must commit to a proactive public involvement strategy. DOE must continue to participate in ER public involvement activities conducted by the Working Group for Public Involvement in Cleanup Decisions.
- DOE will need to approve assumptions the Laboratory makes regarding its future mission and future site and facility uses.
- DOE must participate in discussions with the regulators and stakeholders to establish credibility in land use plans, criteria for cleanup decisions, and acceptable risk scenarios for determining cleanup levels.

11.0 BUDGET

Objectives

Show realignment of activities under ADSs 2105, 2107, and 2110.

Demonstrate cost reductions from technical support (ADS 2105).

Demonstrate cost reductions from operable unit management (OU ADSs).

Demonstrate cost reductions with increased efficiencies in analytical support.

Quantify savings in FY95 and FY96 that will be redirected to cleaning up high-priority PRSs and/or accelerated NFA/VCA actions.

Strategies

11.1 Adopt DOE guidance for realigning ADS activities.

11.2 Adopt new estimating assumptions.

11.3 Implement an accelerated, more efficient ER Project beginning in FY95.

11.1 Adopt DOE Guidance for Realigning ADS Activities

The guidance for realigning activities under ADSs 2105, Technical (or Programmatic) Support; 2107, Assessment Management; and 2110, Analytical Chemistry, is to move programmatic support activities from ADS 2105 to ADS 2107 and ADS 2110 activities to 2105 and to close out ADS 2110. Table 11-1 summarizes the realignments and shows the cost reductions that will result, beginning in the FY95 transition period. The total technical support costs are to be 5%, or less, of the ER Project's total cost by FY96. The increases in ADS 2107 of $4.5M in FY95 and $4.1M in FY96 bring the total for ADS 2107 to $14.7M in FY95 and $14.8M in FY96, both well below the DOE's 20% target for reducing management costs. Out years will continue at about the 15% level. The numbers in Table 11-1 are current best estimates. The baseline revision will establish the final numbers.

After the various programmatic activities have been moved from ADS 2105 to ADS 2107, only core capability will remain in the ER Project Office. Transition for the present budget to the FY96 budget will be made in FY95. For example, FIMAD's core capability will consist of the minimum staff necessary to operate and maintain the function as it exists today. In this example, that number is approximately 7 full-time-equivalent employees or just under 50% of the FY94 FIMAD budget. (The FY94 cost includes staff, equipment, system development, and associated operating and enhancement costs.)

DOE's guidance includes moving 50% of the management costs from the OU ADSs to ADS 2107. Restructuring the ER Project will reduce OU management costs by 50% by moving some funds to ADS 2107. The approximately $3M in reduced OU management costs will be reprogrammed to support accelerated cleanup activities.

TABLE 11-1
Cost Reductions in Technical Support
(ADS 2105)

Activity	FY94 ($K)	FY95 Estimate ($K)	Moved to 2107 ($K)	Reduction Estimate ($K)
Tech Development				
Enviro. Engr. Pilot Study	360	200		160
Sensors	400	–		400
Vapor Monitor	300	–		300
LRAD	400	–		400
RPF	1177		850	327
FIMAD	3105		1500	1605
Subsurface Studies	2900	2000		900
Framework	1400	2000		- 600
Geologist	217	–		217
Hydrologist	219	–		219
Geochemist	224	–		224
Geophysicist	189	–		189
Decision Analysis/Stats	1263		500	763
Ecological Risk	725		250	475
Health and Safety	1009		250	759
Quality Assurance	522		400	122
Training	370		300	70
SOPs	219		150	69
IWP	27		27	–
DOE-HQ Support	301	–		301
Public Involvement	531		281	250
Total FY94:	15858			
ADS 2110	2727	850		1877
Total FY95:		5050	4508	9027

Summary ADS 2105 = $5,050 balance (FY95)
ADS 2107 Increased $4,508 (FY95)
ADS 2110 CLOSED OUT

TOTAL REDUCTION: $9,027

11.2 Adopt New Estimating Assumptions

A number of new assumptions have been made to realize the significant cost reductions to be achieved by FY96. The cost estimates resulting from these assumptions are preliminary and are based on the anticipated efficiencies described throughout this action plan. Final estimates will be a part of the FY95 baseline, along with the realignment of ADSs 2105, 2107, and 2110; however, because of the magnitude of these changes, full realization of increased efficiency is not expected until FY96.

The project's new assumptions for estimating the OU ADSs include those listed below:

- Only 25% of the sites will require Phase II investigations (for sites at which Phase I has been completed, Phase II will be reduced to 75% of the FY94 estimate). The

reduction of Phase II investigations by 75% is based on the project's field experiences over the past couple of years and the recognition that, with judicious use of field screening, judgmental sampling, and well-planned work, it is usually possible to completely characterize a site with one sampling event. Sites that have unexpected contaminants, much higher concentrations of contaminants, or much wider dispersion of contaminants than expected may require Phase II sampling.

- Future RFI reports will be downscaled so that
  - they require only 25% of the preparation and review time of the current RFI reports as estimated in FY94, and
  - several frequently submitted RFI reports will be prepared for each RFI report currently planned in the FY94 baseline.

  Expediting RFI reports is an innovative approach to accelerating and combining decision proposals on several individual PRSs or on a PRS aggregate basis as work is completed.

- NEPA activities will be minimal, consisting of minor updates of existing NEPA documents, as needed. The reduction in NEPA work is based on guidance from the project's NEPA staff that only updates of existing NEPA documentation will be needed through the RFI.

- Drilling footage will be reduced by 25% from the FY94 estimate. The 25% reduction in drilling footage is based on field results and a shift to more selective, judgmental sampling. A similar reduction is expected in the number of samples that will be sent to commercial labs, but that assumption is not yet reflected in the estimates.

- Bulk soil removal and onsite transport costs will be reduced by 25% from the FY94 estimate. Bulk soil removal and transport estimates, which have greater cost impact in the out years, are based on the assumption that Johnson Controls, Inc., will provide the service. Going to commercial contractors will decrease the base costs (generally per cubic yard) substantially; however, mobilization and standby time will be added, making a 25% reduction reasonable. This assumption, like all of the project's estimating assumptions, will be readjusted as the project gains experience.

- Data validation costs will be reduced by 75% from FY94 baseline estimates. The reduction in data validation cost assumes that the contract labs do quality work and validate that work before the data are sent back. The Sample Management Facility will no longer doublecheck the data before they are used; however, the project will more aggressively oversee the contract labs' quality control. This assumption also recognizes that validation is occurring as the data are being evaluated by the investigators preparing the RFI reports.

- Delays in regulator approvals will (generally) not delay work. This last assumption is not yet reflected in the cost projections for FY95 and FY96 but will be incorporated in the FY95 baseline. It assumes that, for most sites, the project will move from one phase of work to the next at risk without waiting on regulators to review and approve RFI documents. For sites at which the risk is deemed to be too great, a plan of action will be negotiated with the regulators before the work proceeds. This approach, using managed risk, is consistent with the more efficient approach used by the private sector and is expected to result in a significant acceleration of the ER Project.

Using all but the last assumption, the costs by ADS for work to be performed in FY95 (Table 11-2)

TABLE 11-2

Preliminary Estimates of OU Cost Reductions in FY95
(OU ADSs)

	FY94 Baseline ($K)	Estimated FY95 Revision ($K)	Estimated Cost Savings ($K)
ADS	**FY95 target**	**Action plan**	
1049	1,923	1,876	(47)
1071	5,920	4,826	(1,094)
1078	1,091	854	(237)
1079	3,836	3,510	(326)
1082	2,897	2,608	(289)
1085	434	400	(34)
1086	628	517	(111)
1093	1,421	1,110	(311)
1098	983	690	(293)
1100	4,853	4,612	(241)
1106	7,972	5,178	(2,794)
1111	2,859	2,233	(626)
1114	1,370	1,114	(256)
1122	1,371	656	(715)
1129	3,074	1,996	(1,078)
1130	1,828	1,663	(165)
1132	1,750	1,422	(328)
1136	120	92	(28)
1140	2,587	1,831	(756)
1144	1,794	1,448	(346)
1147	3,823	2,591	(1,232)
1148	4,556	3,633	(923)

TABLE 11-2

(continued)

1154	554	335	(219)
1157	816	611	(205)
SUBTOTAL	58,460	45,806	(12,654)
1127	130	130	0
1066	315	315	0
1067	4,087	4,087	0
2105	13,999	5,358	(8,641)
2107	10,656	14,794	+4,138
2110	3,005	0	(3,005)
Accelerated remediation*	0	20,162	0
SUBTOTAL	32,192	44,846	(7,508)
MGMT. RESERVE	88	88	0
CONTINGENCY	796	796	0
SUBTOTAL	884	884	0
TOTAL	**91,536**	**91,536**	**(20,162)**
D&D			
1051	1,309	1,309	0
1054	1,790	1,790	0
1055	2,533	2,533	0
2135	992	992	0
2136	997	997	0
SUBTOTAL	7,621	7,621	0
GRAND TOTAL	**99,157**	**99,157**	*** (20,162)**

* NOTE: The project intends to use the larger fraction of the savings, possibly 70%, for accelerated remediation. A small fraction, possibly 30%, may have to be used to make the transition from FY94 levels through FY95 into FY96.

TABLE 11-3

Preliminary Estimates of OU Cost Reductions in FY96 (OU ADSs)

	FY94 Baseline ($K)	Estimated FY96 Revision ($K)	Estimated Cost Savings ($K)
ADS	FY96 Target	Action Plan	
1049	4,710	4,487	(223)
1071	8,874	7,853	(1,021)
1078	335	102	(233)
1079	1,635	1,382	(253)
1082	3,231	2,988	(243)
1085	372	197	(175)
1086	750	255	(495)
1093	993	882	(111)
1098	920	549	(371)
1100	476	382	(94)
1106	5,538	3,740	(1,798)
1111	3,513	3,115	(398)
1114	3,674	3,603	(71)
1122	1,615	1,006	(609)
1129	3,337	2,334	(1,003)
1130	379	348	(31)
1132	1,407	922	(485)
1136	72	22	(50)
1140	1,375	346	(1,029)
1144	934	854	(80)
1147	1,646	1,262	(384)
1148	4,843	4,493	(350)

TABLE 11-3

(continued)

1154	248	106	(142)
1157	241	123	(118)
SUBTOTAL	51,118	41,351	(9,767)
1066	268	200	(68)
1067	2,463	1,800	(663)
2105	18,222	5,000	(13,222)
2107	11,491	14,000	+2,509
2110	4,276	0	(4,276)
Accelerated NFAs/VCAs	0	3,000	+3,000
SUBTOTAL	36,720	24,000	(12,720)
MGMT. RESERVE	521	329	(192)
CONTINGENCY	4,693	3,320	(1,373)
SUBTOTAL	5,214	3,649	(1,565)
TOTAL	**93,052**	**69,000**	**24,052**
D&D			
1051	1,483	1,483	0
1054	1,981	1,981	0
1055	3,572	3,572	0
2135	1,419	1,419	0
2136	2,760	2,760	0
SUBTOTAL	11,215	11,215	0
GRAND TOTAL	**104,267**	**80,215**	**24,052**

TABLE 11-4

Preliminary Budget Esimates for FY95 and FY96 [a, b]

	FY95 ($K)	FY96 ($K)
RFI Work Plan	3105	1099
RFI Field Work	28395	27544
RFI Report	1398	1232
CMS Report	1732	3440
Other—Assessment	8057	10240
SUBTOTAL—ASSESSMENT	42687	43555
CMS Design/Implementation	3558	1497
Other Remediation	446	0
Estimated Savings Available for Accelerated Cleanup and Other Adjustment	20162	3000
SUBTOTAL—REMEDIATION	24166	4497
Remedial Action Program Management	14794	14000
Technical Support	5358	5000
SUBTOTAL—PROJECT MANAGEMENT	20152	19000
TOTAL OTHER	4532	2000
D&D Assessment/Remediation	6312	9732
D&D Project Management	1309	1483
D&D Other	0	
SUBTOTAL D&D	7621	11,215
GRAND TOTAL	**99158**	**80267**

a. Consistent with DOE's "Baseline Dollars after April 1994 Baseline."
b. Management reserve and contingency are included in RFI field work.

and FY96 (Table 11-3) have been reestimated. These tables show the reductions that will be realized by OU, as well as the reductions in technical support (ADS 2105) and analytical chemistry (ADS 2110). Some of the reduced costs in ADS 2105 and ADS 2110 will be moved into the field unit ADSs to be directly applied to RFI work on an as-needed basis. As the project implements the transition through FY95, support functions will be further scrutinized and possibly reduced. Table 11-4 shows the same information in the format used in DOE's "LANL and Baseline Dollars after April 1994, Rebaseline."

11.3 Implement an Accelerated, More Efficient ER Project Beginning in FY95

During the course of preparing this action plan, the project developed a new database for all PRSs that shows their probable disposition (NFA, VCA, etc.) based on current knowledge of the sites. This database can sort all sites using various parameters such as their priority-based ranking, operable field unit, and RFI report submittal dates. Currently, this database is a visual picture of progress that could be expected if the annual funding dollars were unconstrained. It is recognized that unconstrained funding is not likely. The database will be updated with the FY95 rebaseline effort, as well as on at least a quarterly basis.

The costs for all SWMUs in the HSWA Module with a priority-based ranking of 51 or greater have been evaluated so that these units are given highest priority, along with the townsite PRSs, in the coming fiscal year(s). The cost "savings" of $20M and $24M, respectively, identified in the last column of Tables 11-1 and 11-2 will be used to support accelerating the high-priority sites, as well as other remedial actions. The practicality of an approach that focuses on the higher-risk sites depends on modifying the HSWA Module to be consistent with the approach. The FY95 baseline revision will reflect this approach.

TABLE 11-5

Summary of Laboratory Actions to Reduce Costs

Action	Date
Implement DOE guidance for realignment of ADS activities.	4QFY94
Reduce OU ADS budget as part of baseline revision.	90 days after action plan
Apply savings to accelerated cleanup.	2QFY95

12.0 PERFORMANCE MEASUREMENT SYSTEM

12.1 Milestone Definition

The proposed performance measurement system is based on milestone tracking. For each milestone, one or more deliverables and the time of delivery are defined. This action plan defines NFAs, VCAs, and remediations (CMS/CMI) as deliverables. It also defines the number of these deliverables per unit time, e.g., 10 VCAs in 6 months. To avoid confusion, the deliverables are described in detail below:

NFA Submittal of request for NFA to the regulatory agency or DOE. All investigations are completed.

VCA Submittal of final report to the regulatory agency or DOE after completing corrective action.

CMS Submittal of completed corrective measures study to the regulatory agency.

CMI Submittal of final report to the regulatory agency.

12.2 Milestone Tracking

The baseline deliverables are grouped in 6-month time slots for FY95 and FY96 and in 12-month time slots for the out years. As the project progresses and the date for the deliverable becomes clearer, the time slots will change from 12 months to 6 months.

Tables 12-1 and 12-2 list the currently projected NFAs and VCAs for each half-year or year of the project. Tables 12-3 and 12-4 provide performance objectives based on numbers of SWMUs and anticipated dates of regulatory deliverables. The CMI category considers all PRSs, not only HSWA SWMUs since there are only a total of 31. Table 12-5 lists the currently identified action of each SWMU per fiscal year. The following assumptions were made in the generating of these tables:

- Proposed actions are based on current knowledge of each individual PRS (or aggregate).
- Some dates are based on an unconstrained budget, where as others (Table 12-4) are based on the current baseline.
- RFI Report dates are those dates on which the report is submitted to the regulatory agency. [NOTE: These data have not been changed based on the latest (July 1994) guidance from EPA. The EPA guidance is to submit RFI reports, based on final decisions at individual PRSs (or aggregates), more often and across OUs.]
- Dates are preliminary and are likely to change with FY95 rebaselining and prioritization of PRSs and VCAs.

In addition to these tables, summarized in Table 12-6, a number of key administrative milestones are defined in Table 12-6. These milestones indicate progress toward goals in the areas of improved project management, subcontracting, Laboratory, DOE, regulator subcontractors, and public involvement. DOE and, when necessary, EPA must agree to these proposed milestones. After all parties have completed negotiations and agreed to the performance measurement system, the project will put it into action.

TABLE 12-1

NFAs Supporting Performance Objectives; Identify Number of PRSs

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY											
	PRIORITY	FY94	FY95		FY96		FY97	FY98	FY99	FY00	FY01-05
FIELD UNIT 1											
(1071, 1078,	HIGH	2	0	0	0	1	0	0	0	0	0
1136, 1154)	MED/LOW	59	30	6	0	10	20	8	11	0	0
	SUBTOTAL	61	30	6	0	11	20	8	11	0	0
FIELD UNIT 2											
(1079, 1114,	HIGH	0	0	0	0	0	0	1	0	0	0
1106)	MED/LOW	126	5	147	80	2	20	2	0	0	0
	SUBTOTAL	126	5	147	80	2	20	3	0	0	0
FIELD UNIT 3											
(1093, 1100,	HIGH	3	0	2	4	0	0	0	0	0	0
1130, 1132,	MED/LOW	102	1	15	8	51	8	0	0	0	0
1086)											
	SUBTOTAL	105	1	17	12	51	8	0	0	0	0
FIELD UNIT 4											
(1082, 1085,	HIGH	0	0	0	3	1	0	0	0	0	0
1122, 1140)	MED/LOW	120	10	76	45	46	53	71	0	0	0
	SUBTOTAL	120	10	76	48	47	53	71	0	0	0
FIELD UNIT 5											
(1129, 1049,	HIGH	0	0	0	0	0	0	1	0	0	8
1098)	MED/LOW	93	18	0	13	0	0	0	0	0	8
	SUBTOTAL	93	18	0	13	0	0	1	0	0	16
FIELD UNIT 6											
(1111, 1144,	HIGH	9	0	2	5	2	0	0	0	0	0
1147, 1148,	MED/LOW	97	6	14	8	6	18	0	0	0	0
1157)											
	SUBTOTAL	106	6	16	13	8	18	0	0	0	0
TOTAL		611	70	262	166	119	119	83	11	0	16

TABLE 12-2

VCAs Supporting Performance Objectives; Identify Number of PRSs

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY											
	PRIORITY	FY94	FY95		FY96		FY97	FY98	FY99	FY00	FY02
FIELD UNIT 1											
(1071, 1078,	HIGH	0	0	0	0	0	0	0	0	0	0
1136, 1154)	MED/LOW	0	4	5	0	1	1	0	6	0	0
	SUBTOTAL	0	4	5	0	1	1	0	6	0	0
FIELD UNIT 2											
(1079, 1114,	HIGH	0	1	0	0	0	0	3	1	0	0
1106)	MED/LOW	1	1	0	14	3	11	12	5	0	0
	SUBTOTAL	1	2	0	14	3	11	15	6	0	0
FIELD UNIT 3											
(1093, 1100,	HIGH	0	1	3	1	0	0	2	0	0	0
1130, 1132,	MED/LOW	0	0	12	6	1	2	6	0	0	0
1086)											
	SUBTOTAL	0	1	15	7	1	2	8	0	0	0
FIELD UNIT 4											
(1082, 1085,	HIGH	0	0	0	0	0	1	0	1	0	0
1122, 1140)	MED/LOW	0	0	0	0	6	19	4	14	0	0
	SUBTOTAL	0	0	0	0	6	20	4	15	0	0
FIELD UNIT 5											
(1129, 1049,	HIGH	0	0	0	1	4	0	0	0	0	2
1098)	MED/LOW	0	0	0	1	0	0	0	0	0	0
	SUBTOTAL	0	0	0	2	4	0	0	0	0	2
FIELD UNIT 6											
(1111, 1144,	HIGH	0	0	0	9	0	0	0	0	0	0
1147, 1148,	MED/LOW	0	0	13	9	3	7	0	0	0	0
1157)											
	SUBTOTAL	0	0	13	18	3	7	0	0	0	0
TOTAL		**1**	**7**	**33**	**41**	**18**	**41**	**27**	**27**	**0**	**2**

TABLE 12-3

Performance Objectives; Identify Number of SWMUs

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY								
	PRIORITY	No. of SWMUs	RFI Reports Submitted to Regulator	CMS Report Submitted to Regulator	Design	CMI Complete	Number of PRSs thru CMI*	Est. Total SWMUs NFA/VCA
FIELD UNIT 1								
(1071, 1078,	HIGH	2	0	0	0	0	0	2
1136, 1154)	MED/LOW	72	58	4	4	4	4	69
	SUBTOTAL	74	58	4	4	4	4	71
FIELD UNIT 2								
(1079, 1114,	HIGH	8	8	2	2	2	2	5
1106)	MED/LOW	237	139	3	3	3	3	185
	SUBTOTAL	245	147	5	5	5	5	190
FIELD UNIT 3								
(1093, 1100,	HIGH	19	17	3	3	3	3	13
1130, 1132,	MED/LOW	90	73	4	4	4	4	79
1086)								
	SUBTOTAL	109	90	7	7	7	7	92
FIELD UNIT 4								
(1082, 1085,	HIGH	19	18	1	1	1	1	5
1122, 1140)	MED/LOW	363	235	3	3	3	3	282
	SUBTOTAL	382	253	4	4	4	4	287
FIELD UNIT 5								
(1129, 1049,	HIGH	66	60	2	2	2	2	5
1098)	MED/LOW	49	24	1	1	1	1	47
	SUBTOTAL	115	84	3	3	3	3	52
FIELD UNIT 6								
(1111, 1144,	HIGH	45	35	6	6	6	6	12
1147, 1148,	MED/LOW	104	61	2	2	2	2	68
1157)								
	SUBTOTAL	149	96	8	8	8	8	80
TOTAL		1074	728	31	31	31	31	772

TABLE 12-4. PERFORMANCE OBJECTIVES DATES

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY								
	RFI Work Plan Submittal	RFI Work Plan 2nd Submittal	90% of RFI Reports Submitted to Regulator	CMS Report Submitted to Regulator	Design	CMI Complete	Number of PRSs thru CMI*	Est. Total SWMUs NFA/VCA
FIELD UNIT 1								
1071	May-92	N/A						35
1078	May-92	N/A						35
1136	May-94	N/A						1
1154	May-94	N/A						0
DATE/TOTAL			May-98	Mar-99	Jun-99	Oct-00	4	71
FIELD UNIT 2								
1079	May-92	N/A						33
1114	Jul-93	N/A						117
1106	May-91	N/A						40
DATE/TOTAL			May-98	Mar-99	Jun-99	Oct-01	5	190
FIELD UNIT 3								
1093	May-93	N/A						22
1100	May-94	N/A						19
1130	Jun-93	N/A						5
1132	Jun-93	N/A						12
1086	Jul-93	N/A						34
DATE/TOTAL			May-96	Mar-97	Jun-97	Oct-99	7	92
FIELD UNIT 4								
1082	Jul-93	Jul - 94, +1						179
1085	May-94	N/A						16
1122	May-92	N/A						41
1140	Aug-93	N/A						51
DATE/TOTAL			May-98	Mar-99	Jun-99	Oct-00	4	287

NOTE: Evaluation will be based on semiannual totals.
*CMI considers all PRSs, not only HSWA SWMUs.

TABLE 12-4. PERFORMANCE OBJECTIVES DATES

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY								
	RFI Work Plan Submittal	RFI Work Plan 2nd Submittal	90% of RFI Reports Submitted to Regulator	CMS Report Submitted to Regulator	Design	CMI Complete	Number of PRSs thru CMI*	Est. Total SWMUs NFA/VCA
FIELD UNIT 5								
1129	May-92	N/A						48
1049	May-95	Jan - 96, + 6						1
1098	Jun-93	N/A						3
DATE/TOTAL			May-96	Mar-97	Jun-97	Oct-98	3	52
FIELD UNIT 6								
1111	Aug-93	N/A						31
1144	May-92	N/A						11
1147	May-92	N/A						6
1148	May-92	N/A						5
1157	Jul-93	N/A						27
DATE/TOTAL			Jan-98	Nov-98	May-99	Oct-00	8	80
TOTALS							31	772

NOTE: Evaluation will be based on semiannual totals.
*CMI considers all PRSs, not only HSWA SWMUs.

TABLE 12-5

Milestone Performance Objectives; Identify Number of SWMUs

INSTALLATION: LOS ALAMOS NATIONAL LABORATORY										
REGULATORY DELIVERABLE*	FY95		FY96		FY97	FY98	FY99	FY00	FY01	TOTALS
WORK PLANS	2	1	1	0	0	1	1	1	1	8
FIELD INVESTIGATIONS	73	112	48	45	46	9	5	0	0	338
FIELD INVESTIGATION REPORTS	52	23	121	71	54	42	8	0	0	371
OTHER ACTIONS INVESTIGATIONS (COULD LEAD TO NFA, VCA, OR CMS/CMI)	59	18	24	34	16	4	0	0	0	155
OTHER ACTIONS REPORTS (COULD BE NFA, VCA, OR CMS/CMI)	51	5	41	25	37	15	2	0	0	176
KNOWN, PROPOSED, OR CURRENTLY EXPECTED VCA REMEDIATION INVESTIGATIONS	17	43	11	24	31	20	6	0	0	152
KNOWN, PROPOSED, OR CURRENTLY EXPECTED VCA REMEDIATION REPORTS	6	24	30	13	38	19	26	0	0	156

*Identify total commitments by the 1st and 2nd half of FY95 and FY96

The budget figures shown in Section 11.2 are based on the FY94 baseline and improvement based on the assumptions provided in Chapter 11. For each budget increase or decrease, the delivery dates will be changed.

12.3 Milestone Scoring

Each milestone has a well-defined performance and schedule goal. For evaluation purposes, a scoring system should be designed. The score should recognize the relative importance of the milestones and should clearly define the rating process against the performance and schedule. For example, if the schedule for a milestone from the beginning of the year is 9 months and the milestone is achieved after 8 months, the score could be 9/8 = 112%. If it is reached after 10 months, the score could be 9/10 = 90%. In the case of a certain number of deliverables per time slot, the ratio of the actual vs. the projected number could be used as the score. For example, projected number—10, actual number—9, score—90%. In addition, the score can be weighted as a function of milestone importance: total milestone score = schedule in number rating x weight rating.

The Laboratory and DOE must put considerable effort into refining the system to ensure that it is simple, easily understood, and does not lend itself to bureaucratic entanglement.

TABLE 12-6

Performance Measurement Milestones
Baseline Milestones

Action	Date
Complete	
• 1 VCA cleanup*	4QFY94
• 7 VCA cleanups*	2QFY95
• 33 VCA cleanups.*	4QFY95
Submit request for	
• 611 NFAs*	4QFY94
• 70 NFAs	2QFY95
• 262 NFAs.*	4QFY95
Create VCA plans to address the remediation of 40 sites	2QFY95
Administrative Milestones	
Make new project organization fully functional	1QFY95
Complete FY95 baseline revision	(90 days after action plan approval)
Agree on Laboratory and DOE roles and responsibilities	1QFY95
Obtain concurrence on action plan from regulators.	4QFY94
Place contract for first specialty subcontractor (contaminated earth moving).	3QFY95
Implement a revised schedule that will expedite investigations of high-priority sites in a manner satisfactory to the regulators.	1QFY95
Develop and implement new waste management procedures that address waste generation, characterization, and management.	2QFY95
Clearly define the interface between the Waste Management Group and ER Project.	4QFY94
Analyze the costs and benefits of constructing and using an onsite mixed-waste disposal facility versus contracting to use an offsite disposal facility.	1QFY95
Implement initiative for public involvement in cleanup decisions	1QFY94

*Numbers (PRSs) associated with VCAs and NFAs based on best available numbers as of August 1994. As project rebaselines, PRSs are reprioritized, and data are received from activities occurring during the FY94 field season the numbers are subject to change.

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 1 Introduction		
46. What is the Laboratory's senior management's commitment to supporting the major changes proposed in this action plan?	• Improve communications with DOE and regulatory agencies.	1.0
48. What is the Laboratory's view on liability?		
• What type of contract with DOE.		
• Boundaries of contract.		
• Vehicle for performance evaluation.		
Chapter 2 Improved ER Project Management		
4. Work logic objectives.	4. Work logic strategy	
	• Streamline management.	2.1
	• Institute command and control system.	2.3
	• Field units have full cost, schedule, and performance responsibility.	2.2
	• Improve communication with DOE and the regulators.	2.4 (also 5.1, 5.2)

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
20. How can commercial efficiencies be applied to the ER Project?	20. Examples of commercial efficiencies are	
	• Using of AT&T process flow control method.	2.3.3
	• Streamlining remedial design, and using value engineering.	
	• Using existing commercial technology and equipment.	(also 6.1, 6.2 6.3, 6.4, 5.1, 5.6)
	• Using specialized subcontractors.	(3.2)
32. Describe internal management structure.	32. Create streamlined management.	
• Internal communication flow.	• Tightly knit management group.	2.2, 2.3.1
• External communication flow:	• Project command and control system.	2.3
- DOE - regulators - public	• Vertical and horizontal communication channels.	2.3.1
	• Streamlined management.	2.1
	• Create field units that have full cost, schedule, and performance responsibility.	2.1.2
	External communication is defined between ER Project and	
	• DOE • regulators • public	2.4 (also 10.2, 10.3) 2.4 (also 4.0) (also 8.0)

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
44. How will the revision of indirect charges for FY96 impact the ER Project?	44. Indirect charges will be reduced.	
	• The Laboratory is considering a business unit.	2.3.4
	• G&As of service centers will be negotiated.	2.3.4
Chapter 3 Subcontracting Strategy		
9. Objective of using industry.	9. Strategy for using industry.	
• Clarify concept of an industrial consortium.	• Will not use industrial consortium.	
• Pass cost and schedule risk on to private industry.	• Cost and schedule risk will be passed onto private industry by	
• Hold private industry accountable.	- assessing many current contractors to become subcontractors to our two main contractors;	3.4
• Contract funding should be split 80/20 between private industry and Laboratory.	- move from cost-plus-fee contracts to fixed-fee or award/incentive fee contracts whenever possible;	3.3
• Industry experience should be used to clean up 80% of Laboratory sites.	• Based on present experiences and planned use of specialty contractors, a funding split of between 80 to 20 and 70 to 30 is expected.	3.1, 3.2
• Laboratory could clean up 20% of sites if complexity requires it.	• Create a commercial advisory board.	(10.4)
	• Use of effective standard commercial equipment and technology.	(6.4)
	• Show transition from present to future operations with minimum disruption of progress.	3.4

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
	• Improve contractor productivity by integrating into field units.	3.1
	• Improve and increase use of subcontractors.	3.2
	• Develop procurement strategy for future subcontractors.	3.3
	• Adopt proven industrial approach.	(6.4, 5.1)
	• Implement industry strategy at most sites.	(4.2)
10. Project management objective.	10. Develop management strategy for subcontractors.	3.5
• Show how project organization includes management of contractors.	• Create a streamlined central management function	2.1
16. Maximize work by contractors.	16. The use of outside contractors will increase.	
• Show how 50% of the work is done by outside contractors.	• FY94 contracts were 47% of total project cost.	3.1
	• They were about 55% of operable unit costs.	3.1
• Show how 80% of the work will be done by contractors.	• The use of contractors will be increased to 70%-80%.	3.1, 3.2
• Show how specific tasks will be assigned to industry.	• Assignment of tasks to industry is increasing to full-fledged task assignment for the remediation phase.	3.5
	• Plan is based on use of specialty contractors.	3.2

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
17. How will cost be reduced through use of outside contractors?	17. ER Project will make increasing use of specialty contractors.	3.2, 3.4
• Use industry with proven record in EPA Region 6.	• Employ contractors with previous Region 6 experience.	3.2
	• Move cost and schedule risk to contractors.	3.3, 3.4
	• Take uniform approach throughout ER Project.	3.2
	• Benefit from commercial peer review.	(10.4)
18. How will ER Project transfer cost and schedule risk to subcontractors?	18. The ER Project plan includes	3.4
	• procurement strategy for future subcontractors,	3.3
	• clear task definition, and	3.1
	• contractual vehicle selection in accordance with job definition.	3.4
19. Show how procurement times will be reduced.	19. Procurement times will be reduced because of	
	• dedicated procurement team.	3.3
	• standardized contract vehicles.	3.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
33. Describe detailed subcontracting plan.	33. ER Project has formulated subcontracting plan.	
• Value and percentage of subcontracts per fiscal year.	• Transition from present arrangement to future subcontracting.	3.4
• Management of subcontractors.	• Future subcontracting with specialty contractors.	3.3
	• Procurement of contracts.	3.3
	• Develop management strategy for subcontractors.	3.5
	• Develop procurement strategy for future subcontractors.	3.3
	• Direct handling recharge in FY96 and beyond.	3.3
45. How will procurement charges be handled in FY96 and beyond.	45.	
	• Develop procurement strategy for future subcontractors.	3.3
52. Ensure that Laboratory does not mark up subcontractor cost to make cost efficiencies disappear. (C.4)	52. Contract markups are well defined.	
	• 1.9% procurement mark up in FY95.	3.3
	• Elimination of service center markup by direct project office procurement.	3.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 4 Regulatory Strategy		
3. Regulatory objective	3. Regulatory strategy	
• Show success of new approaches to investigations and remediation through interactions with regulators. • Show precisely what approvals and agreements must be reached with regulators. • Show how regulators get involved early on.	• Involve regulators early as partners. - Discuss ideas and issues early. - Control frequency of early meetings. - Provide manpower support through DOE.	4.1
	• Adopt proven industrial approaches. - Align Los Alamos sites with proven industry practices. - Challenge regulators' decisions jointly with DOE.	4.2
	• Achieve agreements with regulators on assessment phase activities. - Streamline VCA process. - Submit frequent RFI reports. - Establish CAMUs. - Define criteria for NFAs. - Focus on high-priority sites.	4.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 5 Assessment Strategy		
6. Technical assessment objective.	6. Technical assessment strategy.	
• Explain the accelerated site assessment plan in detail.	• Implement industrial strategy at most sites.	5.1
• Show how Laboratory is not only relying on VCAs but is also accelerating the RFI/CMS process.	• Streamline the RFI process through an integrated, decision-focused approach.	5.2
• Show how Laboratory accelerates CMS/CMI at sites with a high probability of contaminant migration.	• Work with regulatory agencies to accelerate and improve document review process.	5.3
	• Balance high priority, high-risk sites with lower-priority sites.	5.5
	• Consistency in approach.	5.6
	• Achieve risk-based corrective action strategy.	5.4
11. Eliminate unnecessary characterization and testing.	11. How will ER Project effectively eliminate unnecessary characterization and testing.	
	• Streamline the RFI process while ensuring defensibility of decisions.	5.2
	• Achieve risk-based corrective action strategy.	5.4
	• Demonstrate results on high-priority sites.	5.5

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
13. Show how new technology is implemented without interference with the job.	13. The following new technology will be implemented:	
	• Implement industrial strategy at most sites.	5.1
	• Achieve consistency in approach across the ER Project.	5.6
	• Show transition from present to future operations with minimal disruption of project operations.	(3.4)
	The use of this technology enhances the schedule.	
	• Streamline the RFI process while ensuring defensibility of decisions.	5.2
	• Combine high-priority sites and demonstrate results.	5.5
21. Demonstrate how assessment per operable unit will be done within 4 years average time.	• Concentrate on individual PRSs, not OUs.	
	• Implement industrial strategy at most sites.	5.1
• Provide time for each OU.	• Streamline the RFI process.	5.2
• Complete CMS report within 18 months of RFI report approval.	• Cooperate with regulatory agencies to accelerate and improve document reviews.	5.3
• Discuss use of phased reports.	• Achieve a risk-based corrective action strategy.	5.4
• Sequence work so that higher-risk sites get higher priority.	• Combine high-priority sites and demonstrate results.	5.5
	• Achieve consistency in approach across the ER Project.	5.6

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
22. Show how ER Project accelerates NFA determinations.	22. NFA determination will be accelerated.	
• during work plan stage	• Cooperate with regulatory agencies to accelerate and improve document reviews.	5.3
• after field investigation.	• Streamline the RFI process defensibility of decisions.	5.2
	• Achieve risk-based corrective action strategy.	5.4
42. Clarify how the Laboratory intends to reduce assessment activities to four years or less (start of work plan to complete of report).	42.	
	• Concentrate on individual PRSs, not OUs.	5.1
	• Streamline the RFI process.	5.2
	• Cooperate with regulatory agencies to accelerate and improve document reviews.	5.3
	• Achieve risk-based corrective action strategy.	5.4
	• Achieve consistency in approach across the ER Project.	5.6
47. How will changes be made?	47.	
• More specifics on strategy.	• Streamline the RFI process while ensuring defensibility of decisions.	5.2
	• Achieve risk-based corrective action strategy.	5.4
	• Achieve consistency across the project.	5.6
	• Implement industrial strategy at most sites.	5.1

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 6 Remedial Design and Corrective Action Strategy		
23. Show how the ER Project maximizes VCAs and completes the RFI/CMS process soon enough.	23. VCAs and RFI/CMSs will be balanced.	
• Address strategy for accelerating CMS/CMI at high-risk sites.	• Take early remedial action and streamline VCAs.	6.1
	• Implement industrial strategy at most sites.	(5.1)
	• Streamline remedial designs.	6.3
	• Combine high-priority sites and demonstrate results.	(5.5)
	• Achieve a risk-based corrective action.	(5.4)
12. Describe use of commercial standard equipment and technology.	12. Commercial standard equipment and techniques will be used as follows:	6.4
	•	
	•	
7. Cost-effective design objective.	7. Cost-effective design strategy.	
• Who will design?	• Streamline remedial designs	6.3
• How will private industry expertise be used?	• Use of existing commercial technology and equipment	6.4
• How will Laboratory adhere to design savings?	• Employ an integrated approach to corrective action.	6.2
14. Show in detail how value engineering is integrated in the RFI/CMS/CMI process.	14. Value engineering is used in the following ways:	
	• Streamline remedial designs	6.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
8. Cost-effective remediation objective.	8. Cost-effective remediation strategy.	
• Explain how VCAs can be increased.	• Take early remedial action and streamline VCAs.	6.1
• How can VCAs be used for MDAs? (Regulator concern.)	• Streamline remedial designs.	6.3
• How can project get regulator support for VCAs?	• Employ an integrated approach to corrective action.	6.2
• How can VCA process be streamlined?	• Use of effective standard commercial equipment and technology.	6.4
Chapter 7 Waste Management Strategy		
5. Waste management objective.	5. Waste management strategy.	
• Provide details of waste treatment and disposal.	• Consistent guidelines for waste characterization and classification.	7.1
• Conduct treatment and disposal in full compliance with the law.	• Use available onsite disposal capacity to the extent possible.	7.2
• Provide more information on waste minimization. Present specific strategy.	• Develop a waste disposal approach for different types of wastes.	7.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 8 Public Involvement Strategy		
1. Public involvement objective.	1. Public Involvement	
• Incorporate information on existing public involvement activities.	• Continue successful past public involvement.	8.1
• Connect strategy to cost or schedule savings.	• Build a trusting relationship and credibility.	8.2
• Improve effectiveness and sincerity of public involvement program.	• Define goals of public involvement goals and objectives.	8.3
	• Involve a broad cross section of the public.	8.3
	• Develop an effective process for interactions with the pueblos.	8.3
	• Involve regulators in public involvement.	8.1
	• Coordinate ER public involvement activities with other Laboratory and DOE public involvement efforts.	8.7
31. Prepare action plan in enough detail so that regulators and public can be briefed on entire program.	31. ER Project has prepared action plan for regulator/public briefing.	
	• Public involvement in cleanup decisions.	8.5
	• Public briefings will be prepared when required.	8.5
	• Ensure that public involvement activities have clear goals and objectives.	8.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
Chapter 9 Future Land Use Strategy		
2. Future land use objective.	2. Future land use strategy.	
• Develop strategy in detail.	• Coordinate ER cleanup activities with Laboratory's long-term planning.	9.1
• Connect strategies to Laboratory's long-term planning.	• Negotiate land use scenarios for cleanup decisions.	9.2
• Connect strategy to regulatory requirements.		
• Clarify how waste volumes are significantly reduced by using a commercial rather than a recreational land use scenario.	• Develop land use scenarios consistent with DOE/ Laboratory long-term site planning.	9.1
• Address risk involved in failure of regulators/public to support the industrial land use assumption.	• Pursue regulatory and public involvement aspects of land use planning.	9.3
Chapter 10 Cooperative Implementation of the Environmental Restoration Project		
15. Provide for commercial peer reviews of the project.	15. Commercial peer reviews are planned:	
	• Red team review occurred in July 1994.	10.0
	• Reviews are part of performance management.	10.1
	• Create commercial advisory board.	10.4

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
• Discuss level at which DOE manages project.	• Clarify relationship of the Laboratory and DOE as copermittees.	10.1
	• Define roles and responsibilities of DOE and the Laboratory.	10.2
Chapter 11 Budget		
24. Reduce assessment costs to 16% of total project cost by FY96.	24. Assessment cost will be reduced by 16% in FY96 and beyond.	
• Show how savings in assessment cost are used for accelerated cleanup.	• Adopt DOE guidance for realizing ADS activities.	11.1
• The plan should not be based on the use of contingency funds.	• Implement an accelerated, more efficient ER Project in FY95.	11.3
	• Streamline the RFI process while ensuring defensibility of decisions.	5.2
	• Achieve consistency across the ER Project.	5.6
• Show how this is done with DOE and regulator approach.	• Early remedial actions and streamlined VCAs.	6.1
	• Integrated approach to corrective action.	6.2
	• Use effective standard commercial equipment and technology.	6.4
	• Achieve a risk-based corrective action strategy.	5.4

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
28. Demonstrate how Laboratory can reduce the FY96 budget by $27M.	28. ER Project will reduce FY96 budget by $27M.	
	• Adopt DOE guidance for realigning ADS activities.	11.1
• Reduce by $27M through efficiencies.	• Implement an accelerated more efficient ER Project.	11.3
• Apply $3M to accelerated cleanup.	• Achieve consistency in approach across the ER Project.	5.6
	• Implement industrial strategy at most sites.	5.1
	• Achieve risk-based corrective action strategy.	5.4
	• Combine high-priority sites and demonstrate results.	5.5
25. Reduce technical support ADS 2105 to 5% of total project cost.	25. Technical support cost will be reduced to 5% of total project cost by FY96.	
	• Adopt DOE guidance for realigning ADS activities.	11.1
• Move records management, QA/ self-assessment, IWP update, and programmatic funding to ADS 2107.	• Reduce technical support that does not directly benefit the field units.	2.5
	• Move administrative functions to ADS 2107.	2.5
26. Show how the cost for analytical chemistry is moved into ADS 2105.	26. ER Project will move ADS 2110 effort to ADS 2105.	
	• Adopt DOE guidance for realigning ADS activities.	11.1
• Move ADS 2110 activities into ADS 2105.	• Move ADS 2100 activities into ADS 2105	2.5
	• Cancel ADS 2110	2.5

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
27. Clarify how 50% of OU ADS management costs is moved into ADS 2107.	27. ER Project will move cost and ADS 2107 will not exceed 20% of total cost.	
• Project management cost (ADS 2107) will not exceed 20% of total project cost.	• Adopt DOE guidance for realigning ADS activities.	11.1
	• Create a streamlined central management function.	2.1
	• Create field units that have full cost, schedule, and performance responsibilities.	2.2
	• Strengthen the command and control system.	2.3
	• Reduce ADS 2107 and field unit management budgets.	2.5
30. Use FY96 five-year plan target-level funding for future years.	30. ER Project shows how costs for FY96 and beyond will remain at ~$80M.	11.0
36. Identify milestones and cost for VCAs for SWMUs by OU in Attachment II-C.	36. Milestones are identified in Tables 12-1 thru 12-6.	12.0
37. Identify cost for FY95, FY96, and at completion in Attachment II-D (Existing Baseline vs. Revised Baseline Supporting Performance Objectives).	37. Cost is identified in Attachment 11-D for	
	• Implement an accelerated, more efficient ER Project, beginning FY95.	11.3
• Identify changes in ADS funding.	• FY95.	
	• FY96.	
	• At completion.	
	• Changes in ADS funding are identified.	

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
39. ER Project will submit a change to the ER cost/schedule baseline within 90 days of approval of the action plan.	39. ER Project will revise the existing FY94 baseline within 90 days of plan approval.	11.0
41. Clarify how LANL reduces technical support cost to 5% of project cost without shifting some of the technical support costs to other ADSs.	41. Reduction in technical support by:	
• Which technical support activities will continue.	• Adopt DOE guidance for realigning ADS activities.	11.1
• Which activities will be reduced?	• Restructure ADS 2105.	2.5
• Which activities will be eliminated?	• Move RPF, FIMAD, QA, IWP update, Training, and SOPs to ADS 2107.	2.5
	• Remove from ADS 2105 and place in field units: - Environment, safety, and health support. - Risk analysis. - PPC.	
49. Mark up cost tables extracted from current baseline. (Attachment 2)	49. ER Project has marked up cost tables	
• Show cost reductions for FY95, FY96, and completion.	• Adopt DOE guidance for realigning ADS activities.	11.1
Offset cost reductions in assessment and management by cost increase in remediation.	• Implement an accelerated, more efficient ER Project beginning in FY95.	11.3

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
51. Provide detailed breakout of project management activities. (C.3)	51. All management activities are defined and identified by cost code.	
• Define and identify by cost category.	• Adopt DOE guidance for realigning ADS activities.	11.1
43. Clarify how the Laboratory reduces FY96 and out-year budgets by $27M and still meets the performance objective.	43. Create a streamlined central management function.	
	• Implement an accelerated, more efficient ER Project beginning in FY95.	11.3
	• Create field units that have full cost, schedule, and performance responsibility.	
	• Achieve consistency in approach across the ER Project.	5.6
	• Achieve a risk-based corrective action strategy.	5.4
	• Implement industrial strategy at most sites.	5.1
	• Streamline RFI process while ensuring defensibility of decisions.	5.2
Chapter 12 Performance Measurement		
29. Identify progress for the next 18 to 24 months.	29. Key milestones for the next 18 to 24 months are	
	• See Table 21-4	12.2

KEY STRATEGIES FOR MEETING DOE'S PERFORMANCE OBJECTIVES (continued)

DOE Performance Objective	ER Project Key Strategies	Text Reference
34. Identify milestones for performance objectives in Attachment II-A (Milestone Performance Objectives).	34. Milestones identified in Attachment II-A show	
	• See Table 21-4	12.2
35. Identify milestones and cost plans for NFAs for SWMUs by OU in Attachment II-B (NFAs Supporting Performance Objectives).	35. Milestones and cost (?) are identified in Attachment II-B.	
	• Milestones by SWMU (see Table 21-3).	12.2
38. Furnish summary chart (Attachment II-E) for close-out of SWMUs by fiscal year for	38. Close-out of SWMUs is shown in summary chart.	
	• See Tables 21-1 and 12-2.	12.2
• NFAs	• NFAs as function of time.	
• VCAs	• VCAs as function of time	
• Final cleanup	• Final cleanup as function of time.	
40. Performance against action plan and revised baseline will be measured every 6 months.	40. ER Project has proposed a performance measurement system.	
	• Key baseline milestones (see Table 12-6).	12.2
	• Other technical and administrative milestones.	
50. Demonstrate use of experience of private industry and other federal agencies throughout proposal. (A.5)		12.0

STATEMENT OF WORK FOR A WORK PACKAGE

WP#: __

GTA WORK PACKAGE

DATE ISSUED:	Revision No.:	Revision Date:

TITLE:

Work Package Manager:	Sector Leader:

Budget: '94	Start Date:	End Date:

OBJECTIVE: (Results expected)

DELIVERABLE PRODUCTS: (Designs, Hardware, Software, Test Reports, Computer Codes, etc.)

GTA WORK PACKAGE

DATE ISSUED:	Revision No:	Revision Date:

INPUTS (What is needed from others to implement WP):

	Date Needed	From Whom

GTA WORK PACKAGE

DATE ISSUED:	Revision No.:	Revision Date:

MILESTONES

No.	MILESTONE DESCRIPTION	FY 94				Date
		1Q	2Q	3Q	4Q	
		O N D	J F M	A M J	J A S	

GTA WORK PACKAGE

DATE ISSUED:	Revision No.:	Revision Date:

ESTIMATED RESOURCES REQUIRED

Labor

Name or Skill	SM GR	Group	FY 94 FTEs
		FY Totals	

GTA WORK PACKAGE

DATE ISSUED:	Revision No.:	Revision Date :

ESTIMATED RESOURCES REQUIRED

MATERIALS AND SERVICES

Major Procurement Descriptions (Itemize)		FY 94
Travel:____trips at approx:___ Stock Issues CCF Charges		
	M&S Sub-Total	
JCI, MEC Div, MST Div, IS Div, etc.	Job & Shop Orders	
	Other M&S	
	Total FY M&S	

GTA WORK PACKAGE **Supplemental Page**

DATE ISSUED:	Revision No.:	Revision Date :

September 22, 1993 4:08 PM

GTA WORK PACKAGE

DATE ISSUED: 9/21/93	Revision No.:	Revision Date:

TITLE: Hardware installation and Experimental support

Work Package Manager: J. Erickson		Sector Leader: O. Sander
Budget: $12M FY 94	Start Date: 10/1/93	End Date: 9/30/94

OBJECTIVE: (Results expected)

- Perform post 1C IMS characterization
- Taut-wire align DTL module #9 and document.
- Off-line high power condition DTL modules #6, #7, #8, #9 and 10.
- Finish moving the injector, IMS and RFQ to the south side of the beam tunnel and complete installation.
- Align the GTA 24 (Exp 2DP) system including injector, RFQ, IMS, DTL and in-line offset beamline including characterize DTL motion.
- Support re-write and approval of the SAR
- Achieve settlement of CCS charges
- Provide operations support for cryo and vacuum for off-line testing
- Provide hardware modifications as necessary to complete 2 DP installation
- Install inline, offset beamline and beamstop
- Provide RPSS modification and installation

For FY '95
- Recommission CCS
- Operations support for Exp 2DP

DELIVERABLE PRODUCTS: (Designs, Hardware, Software, Test Reports, Computer Codes, etc.)

1. DTLs #6, #7, #8, #9 and 10 aligned and high power off-line conditioned as itemized above.
2. Alignment report for DTL #9
3. IMS recharacterization test report

For FY '95
- GTA Exp 2DP alignment report

GTA WORK PACKAGE

DATE ISSUED: 9/21/93	Revision No:	Revision Date:

INPUTS (What is needed from others to implement WP):

	Date Needed	From Whom
• Assembled DTL module 9 for alignment (RU 26)	10/1/93	T. Ilg
• Tuned and final assembled DTL modules 6–10 for HP tuning (RU 26)	10/1/93-6/1/94	T. Ilg
• HPRF test station for FMIT conditioning	10/1/93-7/1/94	AT-5
• DTL tanks 1–10 beamline installed (RU 26)	7/1/94	T. Ilg
• 2 DP diagnostics beamline assembled and ready for installation (RU 32)	3/1/94	D. Gilpatrick
• Stand-alone vacuum control system	3/15/94	M. Stettler

GTA WORK PACKAGE

DATE ISSUED: 9/21/93	Revision No.:	Revision Date:

MILESTONES

No.	MILESTONE DESCRIPTION	FY 94												Date
		1Q			2Q			3Q			4Q			
		O	N	D	J	F	M	A	M	J	J	A	S	
1	DTL #10 high power conditioned (off-line)		X											11/15/93
2	DTL #7 high power conditioned (off-line)				X									1/15/94
3	DTL #8 high power conditioned (off-line)						X							3/15/94
4	DTL #9 high power conditioned (off-line)									X				6/15/94
5	DTL #8 and #9 alignment and (off-line) high power conditioning report delivered											X		8/15/94
6	Exp 2 DP hardware installed												X	9/15/94
7	Exp 2 DP operations support													FY '95
8	Alignment report for the GTA Exp 2DP delivered													FY '95
9	Injector moved and set up on south side					X								2/30/94
10	RFQ moved and set up on south side			X										12/15/93

GTA WORK PACKAGE

DATE ISSUED: 9/21/93	Revision No.:	Revision Date:

ESTIMATED RESOURCES REQUIRED

Labor

Name or Skill	SM GR	Group	FY 94 FTEs
J. Erickson (integration support)	ISM	AT-10	1.0
L. Dauelsberg (alignment and documentation)	GR	AT-10	0.8
H. Dilello (installation, mods, cryo/vac/opers supt)	GR	AT-10	0.35
C. Vigil (alignment, installation, opers support)	GR/Cont	AT-10	0.5
C. Conner (installation, modifications/opers supt)	GR	AT-10	0.5
G. Bolme (HP conditioning and opers support)	SM	AT-10	0.5
C. Blossom (wiring & RPSS racks mods and opers support)	GR	AT-10	0.0
H. Borton (wiring & RPSS racks mods + opers support)	GR	AT-10	0.0
W. Bowman (installation and modifications supt)	GR	AT-10	0.0
B. Everett (installation/opers/modification supt)	GR	AT-10	.15
G. Lind (modification and RPSS design drafting	GR	AT-10	0.0
J. Moeller (cryo)	ISM	AT-10	0.25
M. Smith (RPSS rack mods)	GR	AT-10	0.25
		FY Totals	4.3

Note: Overtime to support major system installation activities (such as RPSS mods) and off-line testing support will be requested as needed from the GTA program office work package

GTA WORK PACKAGE

DATE ISSUED: 9/21/93	Revision No.:	Revision Date :

ESTIMATED RESOURCES REQUIRED

MATERIALS AND SERVICES

Major Procurement Descriptions (Itemize)	FY 94
Balzer turbopump upgrades (8 pumps x4K)	32K
Other vacuum equipment, etc. maintenance (as required from experience)	0
Vacuum installation hardware (lines, valves, etc.)	4.5
750 W refrigerator maintenance (19 + 365)	4
RPSS/safety system modification/installation materials (IPSS to RPSS upgrade)	20
Miscellaneous equipment maintenance	2
LN_2 for off-line testing	18
LN_2 for Exp 2DP running and revalidation (FY '95)	0
LH_2 for Exp 2 DP running and revalidation (8 weeks of 24 hr/day operation) [FY '95]	0
GTA safety related items (contingency for undesignated items))	0
Overtime coverage of operations technicians (held in program office)	0
40 kW CCS operator training (FY '95)	0
New cryo manifolds (spools from CVI)	13
Alignment mounts and supports (on and around new floor) and software upgrade	12
Travel: 3 trips at approx: 1	3
Stock Issues	35
CCF Charges	
M&S Sub-Total	143.5
JCI, MEC Div, MST Div, IS Div, etc. — Job & Shop Orders	35
Other M&S	15
Total FY M&S	193.5K

ACRONYMS

ADS	Activity data sheet
AL	Albuquerque Area Office
BAFO	Best and final offer
BUS	Business Systems Division (Laboratory)
CAMU	Corrective action management unit
CMI	Corrective measures implementation
CMS	Corrective measures study
DOE	Department of Energy
DoD	Department of Defense
EEO	Equal employment opportunity
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ER	Environmental Restoration (Project)
FIMAD	Facility for Information Management, Analysis, and Display
FOCI	Foreign ownership, control, and interest
FPL	Field project leader
FY	Fiscal year
HSWA	Hazardous and Solid Waste Amendments
HQ	Headquarters
IWP	Installation Work Plan
LAAO	Los Alamos Area Office
LANL	Los Alamos National Laboratory
MDA	Material disposal area
MIS	Management Information System
NEPA	National Environmental Policy Act
NFA	No further action
NMED	New Mexico Environment Department
OCI	Organizational conflicts of interest
OIG	Office of Inspector General
OU	Operable unit
PPC	Project Planning and Control
PRS	Potential release site
QA	Quality assurance
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RPF	Records-Processing Facility
SOP	Standard operating procedure
SWEIS	Sitewide environmental impact statement
SWMU	Solid waste management unit
TA	Technical area
VCA	Voluntary corrective action