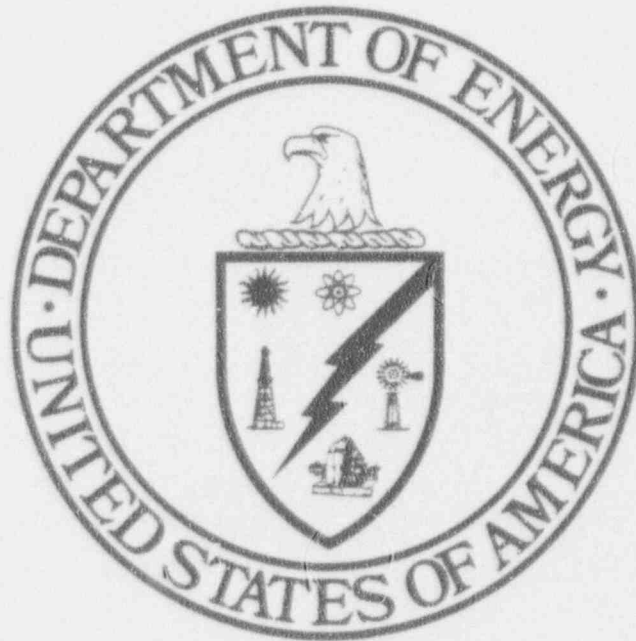


Environmental Management Audit

Uranium Mill Tailings Remedial Action Project (UMTRA)



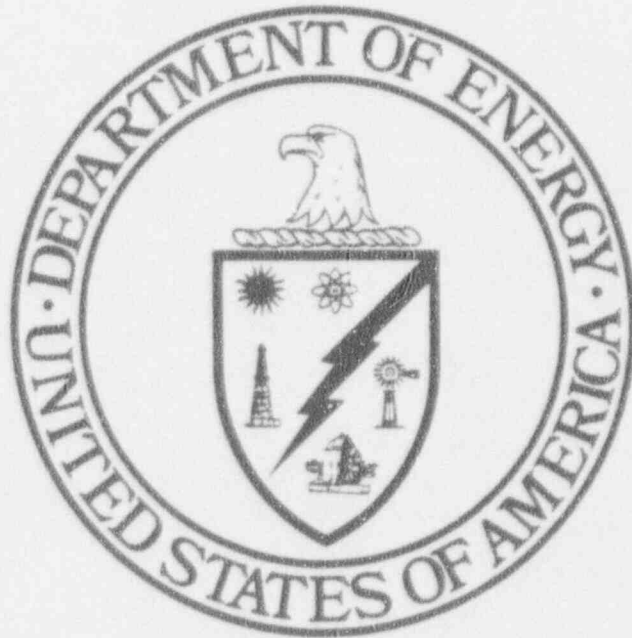
U.S. Department of Energy
Office of Environmental Audit
Washington, DC 20585

January 1993

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Environmental Management Audit

Uranium Mill Tailings Remedial Action Project (UMTRA)



U.S. Department of Energy
Office of Environmental Audit
Washington, DC 20585

January 1993

PREFACE

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U.S. DEPARTMENT OF ENERGY
ENVIRONMENTAL MANAGEMENT AUDIT
URANIUM MILL TAILINGS REMEDIAL ACTION (UMTRA) PROJECT

The Secretary of Energy announced a 10-point Initiative to strengthen environmental protection within the U.S. Department of Energy (DOE) on June 27, 1989. As a key part of this initiative, the Secretary emphasized and strengthened independent internal oversight as a management reform in Secretary of Energy Notice (SEN)-11-89. This independent internal oversight monitors the effectiveness of DOE management in complying with operational, environmental, safety, health, and security standards established by law, regulation, and DOE policy.

The Office of Environment, Safety and Health (EH) has established, as part of the internal oversight responsibilities within DOE, a program within the Office of Environmental Audit (EH-24), to conduct environmental audits at DOE's operating facilities.

This document contains the results of the Environmental Management Audit of the Uranium Mill Tailings Remedial Action (UMTRA) Project. This Environmental Management Audit was conducted by the DOE's Office of Environmental Audit from October 26 through November 6, 1992. The audit's objective is to advise the Secretary as to the adequacy of UMTRA's environmental programs, and management organization in ensuring environmental protection and compliance with Federal, state, and DOE environmental requirements.

This Environmental Management Audit's scope was comprehensive and covered all areas of environmental management with the exception of environmental programs pertaining to the implementation of the requirements of the National Environmental Policy Act (NEPA), which is the responsibility of the DOE Headquarters Office of NEPA Oversight.

November 1992
Washington, D.C.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report documents the results of the Environmental Management Audit performed at the Uranium Mill Tailings Remedial Action (UMTRA) Project. During this audit interviews were conducted with personnel from the Assistant Secretary for Environmental Restoration and Waste Management (EM), the Albuquerque Field Office, the UMTRA Project Office, the Grand Junction Project Office, and the UMTRA Technical Assistance and Remedial Action Contractors.

The onsite portion of the audit was conducted from October 26 through November 6, 1992, by the U.S. Department of Energy's (DOE's) Office of Environmental Audit (EH-24) located within the Office of the Assistant Secretary for Environment, Safety and Health (EH-1).

EH-24 carries out independent assessments of DOE facilities and activities as part of the Assistant Secretary's Environment, Safety, and Health (ES&H) Oversight Audit Program. That program is designed to evaluate the status of DOE facilities/activities regarding compliance with laws, regulations, DOE Orders, formal written procedures, compliance agreements, and best management practices (BMPs). This internal oversight function plays an important role in improving the compliance status of DOE operations. The audit stresses the fact that it is the responsibility of line management to conduct operations in an environmentally sound manner. As an environmental management audit, this audit differed from a comprehensive baseline environmental audit, such as the audit conducted by EH-24 at UMTRA Project locations in June 1991, by focusing specifically on environmental management issues.

The scope of the UMTRA Environmental Management Audit was comprehensive and included all areas of environmental management.

The results of previous audits and self-assessments were considered during preparation of this report. Although this audit was designed to be thorough and to consider a representative sample of UMTRA activities, programs, and personnel, it was not intended to be exhaustive in scope. Instead, it was meant to provide UMTRA and DOE Headquarters, including the Secretary, with an indication of the status of UMTRA management's effectiveness in achieving its mission in an environmentally responsible manner.

The audit team identified several strengths in the UMTRA Project. These include:

- The UMTRA Project is moving toward comprehensive environmental commitment with a staff dedicated to improving environmental programs;
- The environmental protection programs of the UMTRA Project are generally in good condition and they substantially meet the requirements of DOE 5400.1; and
- UMTRA Project organizations have made significant progress in developing and implementing DOE Orders and requirements since the UMTRA Environmental Audit (1991).

The overall conclusion of the audit team is that the UMTRA Project, as a whole, has made good progress in developing and implementing environment protection programs. Environmental commitment is reflected throughout the entire project, as shown by the issuance of written environmental policy statements by all key project organizations. The contractors have been more successful than the project offices in fully developing, formalizing, and implementing programs and procedures due primarily to a lack of sufficient staff resources in the project offices.

The UMTRA Project does conduct environmental oversight activities, however these activities have not been fully developed and formalized. In addition, procedures to involve the Project Office in a wider range of oversight activities have not been developed.

Although there has been improvements since the UMTRA Environmental Audit (1991), the complex organizational structure still creates some confusion in regard to the roles and responsibilities involving the Uranium Mill Tailings Remedial Action Project Office, Albuquerque, New Mexico (UMTRA PO) and the Grand Junction Project Office (GJPO) for UMTRA Project activities.

The "Key Findings" are a groups of related findings which provide an overall understanding of the nature and scope of UMTRA environmental issues. These "Key Findings" are summarized as follows:

- **Program Evaluation and Oversight:** Program Evaluation and oversight of the UMTRA Project is not sufficient to ensure accurate monitoring of issues and organizational effectiveness including lack of formalized self-assessment programs, deficiencies in performance indicators and trending programs, inadequate ES&H appraisal programs, and the lack of an effective system to ensure that analytical laboratories participate in required quality assessment programs.
- **Organizational Arrangement:** The existing organizational arrangement and reporting mechanisms between the GJPO and UMTRA PO has created confusion.
- **Resources and Training:** Staffing level at UMTRA is not sufficient to ensure that environmental performance goals are attained and training systems for the UMTRA Project have not been adequately developed.

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

This report documents the results of the Environmental Management Audit of the Uranium Mill Tailings Remedial Action (UMTRA) Project located in Albuquerque, New Mexico. The audit was conducted from October 26 through November 6, 1992 by the Office of Environmental Audit (EH-24).

Secretary of Energy Notice (SEN)-6E-92, "Departmental Organizational and Management Arrangements," assigns the Office of Environment, Safety and Health (EH) responsibility for conducting independent internal oversight audits to ensure compliance with laws related to environmental protection. SEN-20-90, "Interaction with Internal and External Oversight Organizations," emphasizes the need for and value of audits by authorized oversight organizations such as EH, to ensure that DOE activities are undertaken in an "environmentally sound manner." EH-24, within EH, is charged with conducting internal independent oversight of DOE line organizations through a comprehensive environmental auditing program. The Environmental Audit Program is designed to evaluate and improve the environmental compliance status of DOE facilities, and to reflect the responsibility of line management for conducting operations in an environmentally safe and sound manner. SEN-29-91, "Performance Indicators and Trending Program for Department of Energy Operations," establishes the performance indicators and trending program to be in place by DOE operations beginning June 1991. This program sets out to establish a uniform system of Performance Indicators for trending and analyzing operational data to help assess and support progress in improving performance, as well as strengthening line management control of operations relating to environment, safety, and health (ES&H) activities.

1.1 PURPOSE

The purpose of the Environmental Management Audit of the UMTRA Project is to provide the Secretary of Energy, through the Assistant Secretary for Environment, Safety and Health, with concise information pertaining to the following areas:

- Adequacy of environmental management programs and organizations;
- Adherence to best management (and accepted industry) practices (BMPs) pertaining to environmental management programs;
- Compliance with DOE Orders, SENs, and DOE environmental policies (as identified in Table 1-1) which address environmental management programs;
- DOE vulnerabilities and liabilities associated with environmental management practices;
- Root causes of compliance findings (CFs) and BMP findings (BMPFs); and
- Noteworthy environmental management practices.

TABLE 1-1

**LIST OF ENVIRONMENTAL MANAGEMENT
REGULATIONS/REQUIREMENTS/GUIDELINES**

Regulations/ Requirements/ Guidelines	Sections/Title	Authority
Executive Order 11514 and 11991	Protection and Enhancement of Environmental Quality	Office of President
Executive Order 12088	Federal Compliance with Pollution Control Standards	Office of President
Public Law 94-52	National Environmental Policy Act	CEQ
Public Law 95-604	The Uranium Mill Tailings Radiation Control Act	EPA
Public Law 99-499	Superfund Amendments and Reauthorization Act (SARA) Title III, Emergency Planning and Community Right-to-Know Act (EPCRA)	EPA
SEN-6E-92	Departmental Organizational and Management Arrangements	DOE
SEN-11-89	Setting the New DOE Course	DOE
SEN-15-90	National Environmental Policy Act	DOE
SEN-20-90	Interaction with Internal and External Oversight Organizations	DOE
SEN-29-91	Performance Indicators and Trending Program for Department of Energy Operations	DOE
DOE 1000.3B	Internal Control Systems Manual	DOE
DOE 1280.1	Memorandums of Understanding	DOE
DOE 2300.1A	Audit Resolution and Followup	DOE
DOE 2321.1A	Auditing of Programs and Operations	DOE
DOE 3410.1B	Training	DOE
DOE 4700.1	Project Management Systems	DOE
DOE 5000.3A	Occurrence Reporting and Processing of Operations Information	DOE
DOE 5400.1	General Environmental Protection Programs	DOE
DOE 5400.2A	Environmental Compliance Issue Coordination	DOE
DOE 5400.3	Hazardous and Radioactive Mixed Waste Program	DOE

TABLE 1-1

LIST OF ENVIRONMENTAL MANAGEMENT
REGULATIONS/REQUIREMENTS/GUIDELINES

Regulations/ Requirements/ Guidelines	Sections/Title	Authority
DOE 5400.4	Comprehensive Environmental Response, Compensation, and Liability Act Requirements	DOE
DOE 5440.1C	National Environmental Policy Act Compliance Program	DOE
DOE 5480.1B	Environment, Safety and Health Appraisal Program	DOE
DOE 5480.19	Conduct of Operations Requirements for DOE Facilities	DOE
DOE 5480.4	Environmental Protection, Safety and Health Protection Standards	DOE
DOE 5482.1B	Environment, Safety and Health Appraisal Program	DOE
DOE 5484.1	Environmental Protection, Safety and Health Protection Information Reporting Requirements	DOE
DOE 5500.2A	Emergency Notification Reporting and Response Levels	DOE
DOE 5700.6C	Quality Assurance	DOE
DOE 6430.1A	General Design Criteria	DOE
DOE Memorandum, July 31, 1990	Guidance on Environment, Safety, and Health (ES&H) Self-Assessment	DOE
15 U.S.C. 2601 et seq.	Toxic Substances and Control Act	EPA
42 U.S.C. 6901 et seq.	Resource Conservation and Recovery Act	EPA
42 U.S.C. 7401 et seq.	The Clean Air Act	EPA
40 CFR 61 Subpart H	National Emission Standards for Radon Emissions from the Disposal of Uranium Mill Tailings Emissions of Radionuclides other than Radon from DOE Facilities	EPA
40 CFR 61 Subpart T	National Emission Standards for Radon Emissions from the Disposal of Uranium Mill Tailings	EPA
40 CFR 112	Oil Pollution Control	EPA

TABLE 1-1

LIST OF ENVIRONMENTAL MANAGEMENT
REGULATIONS/REQUIREMENTS/GUIDELINES

Regulations/ Requirements/ Guidelines	Sections/Title	Authority
40 CFR 192	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	EPA
40 CFR 261	Identification and Listing of Hazardous Waste	EPA
40 CFR 268	Land Disposal Restriction Program	EPA
40 CFR 302	Designation, Reportable Quantities, and Notification	EPA
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution, and Use Prohibitions	EPA
29 CFR 1910.12	Occupational Safety and Health Standards	OSHA
AL 3410.1B	Employee Development and Training	AL
AL 5200	Manpower Management*	AL
AL WMOSD-01-01	AL ES&H and Maintenance Performance Indicator Program	AL

UMTRA-PO, GJPO, contract personnel, and regulatory officials. A list of site documents reviewed and interviews performed are provided in Appendices D and E, respectively. Using these sources of information, the audit team developed findings as discussed in Sections 2.0 and 3.0 of this report.

Deficiencies identified by the audit team are categorized as either CFs or BMPFs. CFs are conditions that, in the judgment of the audit team, may not satisfy environmental regulations, DOE Orders, SENs, Consent Agreements with regulatory agencies, environmental permit conditions, and internal DOE or contractor environmental policies and procedures. BMPFs are derived from regulatory agency guidance, accepted industry practice or technical standards, draft DOE Orders, DOE guidance, or professional judgment.

The findings detailed in Section 3.0 are organized into the following eight categories: Organization Structure; Environmental Commitment; Environmental Protection Programs; Formality of Environmental Programs; Internal and External Communications; Staff Resources, Training, and Development; Program Evaluation, Reporting, and Corrective Action; and Environmental Planning and Risk Management. Each finding is organized into three sections: the performance objective, the finding statement, and a discussion of the facts and observations supporting the finding. The performance objectives specify the particular compliance or BMP standards against which the finding is being evaluated. The findings are not arranged in order of relative significance.

It is the intent of this Environmental Management Audit to go beyond the findings and to identify the apparent causal factors of observed environmental deficiencies. If one or more of these apparent causal factors are identified as contributing to a specific finding, it will be included in the supporting discussion. The apparent causal factors are then used to assist in the determination of corrective actions required to rectify identified findings. A listing and definition of apparent causal factors used by the audit team can be found in Appendix F.

1.4 BACKGROUND AND PROJECT DESCRIPTION

The Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604 (hereinafter referred to as UMTRCA or the Act), authorizes the DOE to undertake remedial actions at 24 designated inactive uranium milling sites and associated vicinity properties. As a result, the UMTRA Project was formed and placed under the direction of the DOE Field Office, Albuquerque (AL). The Act directs that "every reasonable effort be made to provide for stabilization, disposal and control of the tailings in a safe and environmentally sound manner to ensure public health, safety and welfare."

The 24 designated inactive uranium mill tailings sites are located in 11 states and on Indian lands. Figure 1-1 depicts the locations of these sites. Although the 24 UMTRA sites are geographically separate, they are considered a single installation for purposes of administration and ES&H program implementation. In addition, there are over 5000 vicinity properties being remediated in conjunction with the 24 designated sites. The Act, as amended, authorizes UMTRA through fiscal year (FY) 1996. Legislation has been proposed that will extend authorization through FY 1998.

The information gathered during this audit and embodied in this report will assist DOE in determining patterns and trends in environmental compliance and BMP deficiencies, as well as causal factors and probable root causes contributing to the observed deficiencies. Line management is expected to fully utilize this information to develop corrective actions, to make appropriate modifications to internal self-assessment programs to prevent recurrence, and to supplement their formalized lessons learned programs to ensure broad applications to other operations, programs, and facilities.

1.2 SCOPE

The scope of the Environmental Management Audit was comprehensive, addressing all areas of environmental management, with the exception of environmental programs pertaining to the National Environmental Policy Act (NEPA). Environmental management issues were considered at the UMTRA Project Office (PO) in Albuquerque, New Mexico, and the Grand Junction Project Office (GJPO). Additional consideration was given to reporting and oversight relationships with the Assistant Secretary for Environmental Restoration and Waste Management (EM), the responsible DOE Headquarters Program Office. Since the focus of this audit is specifically related to environmental management rather than individual physical structures and facilities, site inspections of ongoing operations and operating facilities were not conducted.

1.3 APPROACH

The Environmental Management Audit followed accepted audit techniques and was guided by implementation of procedures and programs cited in the DOE Environmental Audit Program Guidance (January 1992) and the draft Protocols for Conducting Environmental Management Audits (December 1991) (see Appendix G). The audit was conducted by a team of professionals managed by a DOE Headquarters Audit Team Leader, and Deputy Team Leader from ERI-24, a Special Assistant from Arthur D. Little, Inc. (ADL), and a Group Coordinator and five management systems specialists from Argonne National Laboratory (ANL). The names, areas of responsibility, affiliations, and biographical sketches of the team members are provided in Appendix A. The audit included three phases: planning, onsite activities, and reporting.

During the planning phase, a memorandum was sent to the UMTRA-PO announcing the audit and requesting information about the UMTRA Project and environmental programs in general. Included in this memorandum was a request that the UMTRA-PO formally notify appropriate Federal, state, and local regulatory agencies of the audit and solicit their participation. A pre-audit site visit was conducted from August 4, through August 6, 1992, by the DOE Team Leader and Deputy Team Leader, the Group Coordinator, and a management system specialist from ANL. The site's response to the information request memorandum combined with the pre-audit site visit formed the basis for the Audit Plan (see Appendix B), including a preliminary onsite agenda. Once onsite, the audit team modified the preliminary agenda as more information was obtained and additional areas of interest were identified. Appendix C provides the final schedule of onsite activities.

Onsite assessment activities were conducted from October 26 through November 6, 1992 and included interviews in Albuquerque, New Mexico, with the UMTRA Project personnel (including contractors) and document reviews (including previous audit and self-assessment reports). The audit team conducted daily debriefs that were open to the

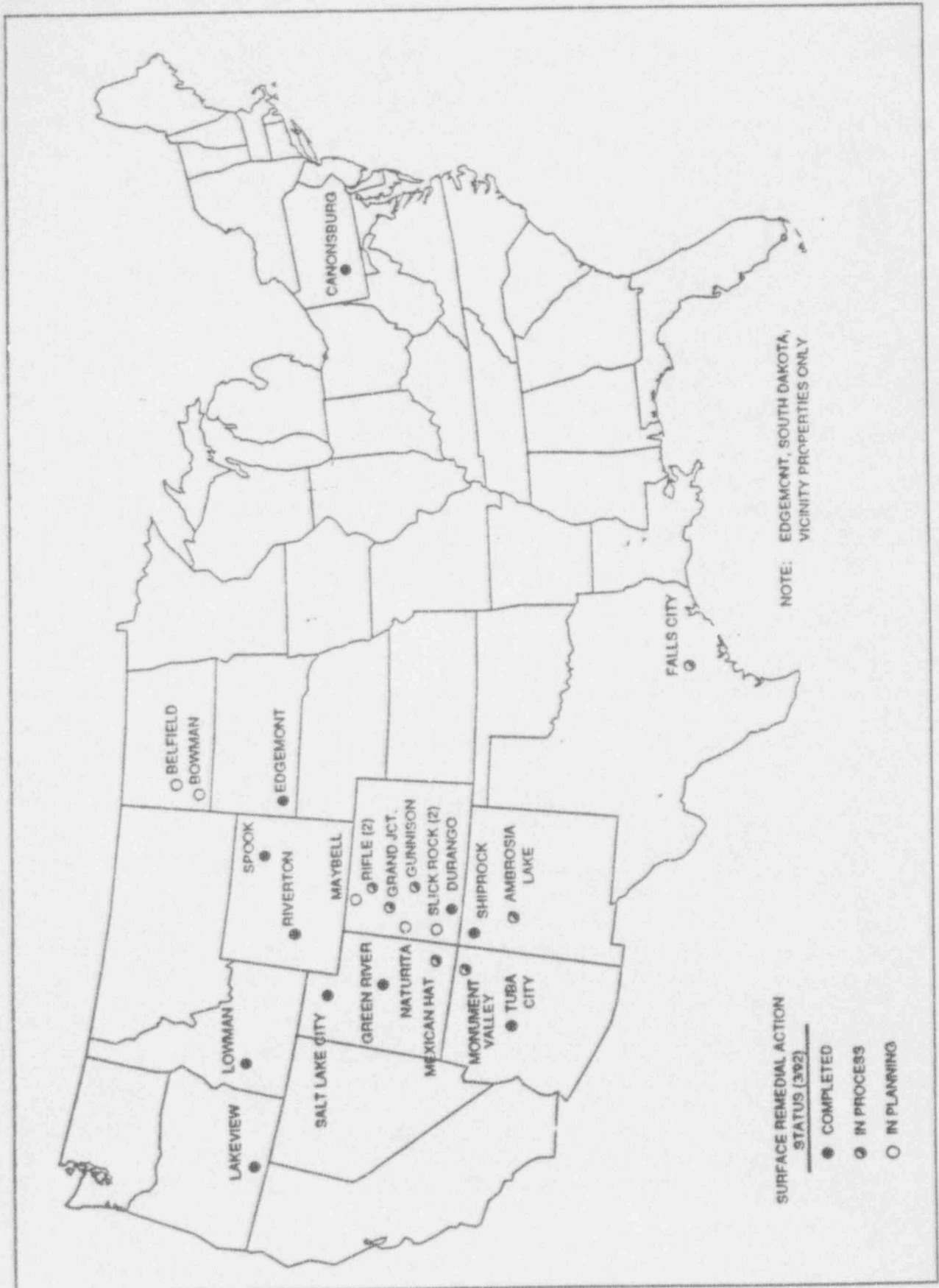


FIGURE 1-1. UMTRA PROJECT SITE LOCATIONS

When the UMTRA-PO determines the remedial action is complete and the Nuclear Regulatory Commission (NRC) has approved the general license for Long-Term Surveillance and Maintenance (LTSM), management of sites will be transferred to the GJPO. During the Pre-Licensing Custodial Care (PLCC) period, UMTRA will maintain a presence on some sites (those sites where tailings have been stabilized in place or stabilized elsewhere on the mill site), to meet its obligations under Phase II requirements of UMTRCA regarding groundwater restoration. PLCC activities, although carried by GJPO, are still under the direction of UMTRA. The LTSM Program will be responsible for a variety of DOE waste sites of which UMTRA will form some portion. GJPO will be responsible for all long-term custodial care activities per the NRC license conditions. The LTSM Program will be managed independent of UMTRA.

Remediation of the 24 inactive uranium mill tailings sites and associated vicinity properties is administered and budgeted through the UMTRA-PO. The GJPO, with support from Chem-Nuclear Geotech (CNG), has responsibility for vicinity properties at Grand Junction, Colorado and Edgemont, South Dakota. GJPO is also under the direction of AL. The remainder of the vicinity property remediation, as well as 23 designated inactive uranium mill tailings sites, is performed by Morrison Knudsen-Ferguson (MK-F), the UMTRA-PO Remedial Action Contractor (RAC). UMTRA-PO is also supported by a Technical Assistance Contractor (TAC), led by Jacobs Engineering Group (JEG). These relationships and roles are detailed in Section 1.5.

The purpose of the remedial actions is to stabilize and control the uranium mill tailings and other residual radioactive materials (RRM) in a safe and environmentally sound manner in order to minimize radiation health hazards to the public. Pursuant to the Act, the remedial actions undertaken by the DOE are to be accomplished:

- With the full participation of the affected states and Indian tribes;
- In accordance with standards issued by the U.S. Environmental Protection Agency (EPA) for the UMTRA Project; and
- With the concurrence of the NRC.

The UMTRA Project is an environmental remediation program designed to minimize or eliminate environmental and public health hazards. The UMTRA Project's overall goal is to cleanup and control tailings from inactive uranium mills in a safe and environmentally sound manner to eliminate current and potential environmental and public health hazards associated with these tailings. These hazards include exposure to radium, radon, thorium, uranium, and other contaminants associated with the processing of uranium mill tailings. Specifically, the Project's objectives are to:

- Reduce or eliminate public health and environmental risks from radioactive, hazardous, and toxic constituents in uranium mill tailings and tailings-contaminated materials by meeting relevant EPA, state, and NRC standards;
- Ensure that environmental protection is adequately addressed in the selection and implementation of remedial actions, and that provisions of NEPA are satisfied;

- Perform remedial actions at the designated inactive uranium milling sites and vicinity properties (VPs) in a safe and environmentally sound manner and in accordance with all applicable Federal, tribal, state, and local ES&H requirements; and
- Establish a long-term care program (LTCP) for tailings disposal sites and have each site included under the general NRC license.

1.5 ENVIRONMENTAL MANAGEMENT PROGRAMS AND ORGANIZATIONS

The DOE Assistant Secretary for Environmental Restoration and Waste Management has full responsibility and authority for the management, planning, and conduct of UMTRA Project activities. The DOE's Office of Environmental Restoration and Waste Management's Office of Southwestern Area Programs, Off-Sites Division, has been assigned Headquarters' responsibilities for the program. The Division Director serves as the Program Manager.

AL has been assigned the responsibility and authority for the field management of the project. Under the current AL organization and structure, responsibility for line management authority, accountability, management, and contract administration for the Project within AL has been assigned to the Assistant Manager for Energy and Special Programs.

The DOE's day-to-day responsibility for planning, coordinating, and conducting remedial actions at the uranium mill tailings sites and associated vicinity properties has been assigned to the UMTRA-PO by the Assistant Manager for Energy and Special Programs. Matrix support is available to the UMTRA Project Manager, as required, from the AL organization. This support includes legal, procurement, budget, finance, quality assurance, property management, health and safety, environmental protection, safeguards and security, and public affairs.

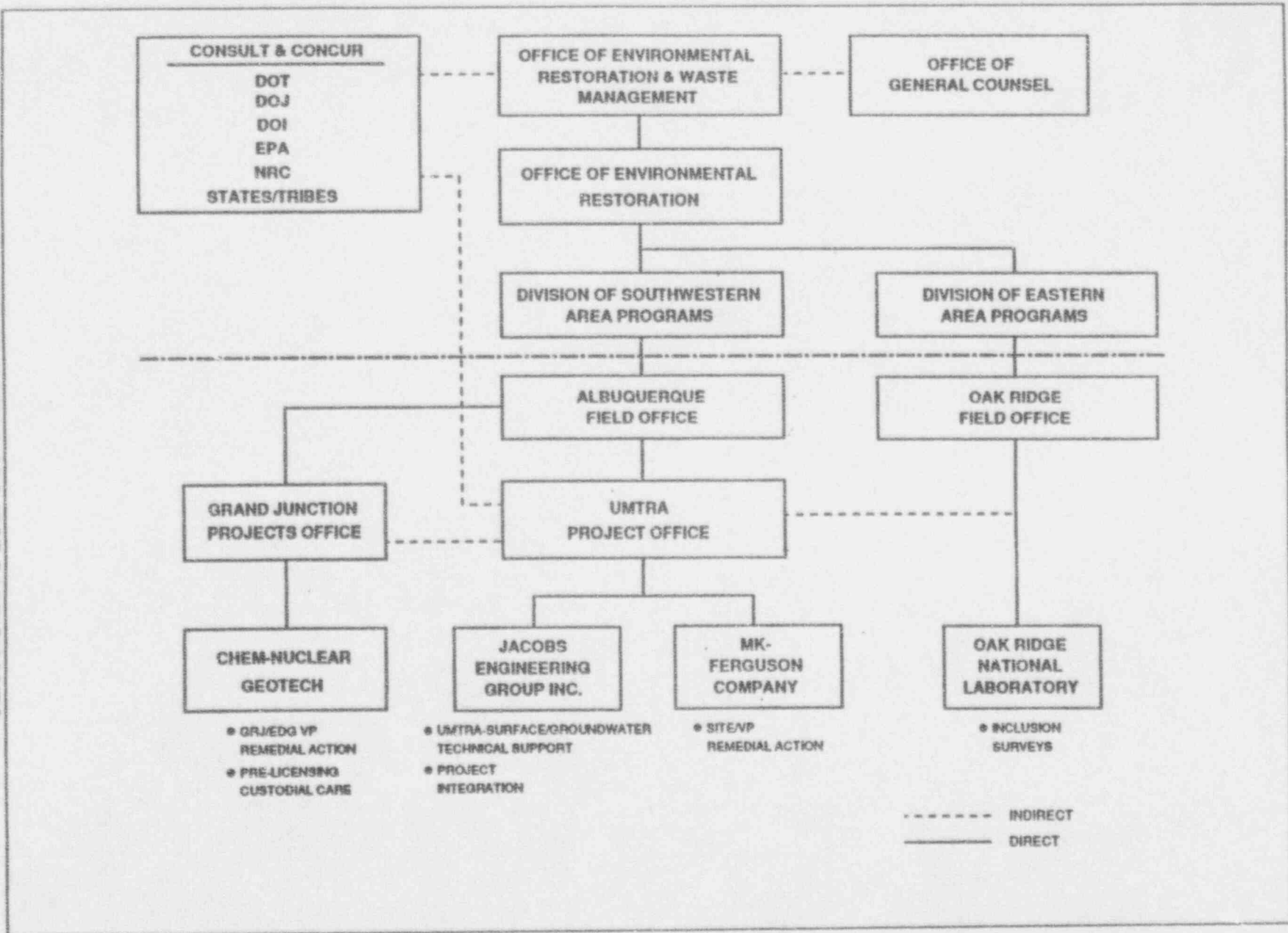
The policy and guidance for carrying out the mission of the UMTRA Project at all sites and vicinity properties are provided by the UMTRA-PO. However, some of the vicinity property aspects of the UMTRA mission are carried out by GJPO and Oak Ridge National Laboratory (ORNL). Figure 1-2 shows the overall organizational relationship of the UMTRA Project participants.

The UMTRA-PO organization is shown in Figure 1-3. The operation is based on a minimally staffed office, with AL matrix support. The UMTRA-PO has responsibility to make key project decisions and to manage the contractors who perform remedial actions. The UMTRA-PO is accountable to AL and DOE Headquarters management for the successful accomplishment of the Project.

The UMTRA-PO Manager and Deputy Manager are supported by two groups: a Technical Support Group, and an Engineering and Construction Group. ES&H compliance rests with the project site managers in the Engineering and Construction Group.

The Engineering and Construction Group is responsible for budget, finance, administration, state cooperative agreements, the project 5-year plan, managing remedial action planning, and execution at all UMTRA Project sites, including construction oversight, design review,

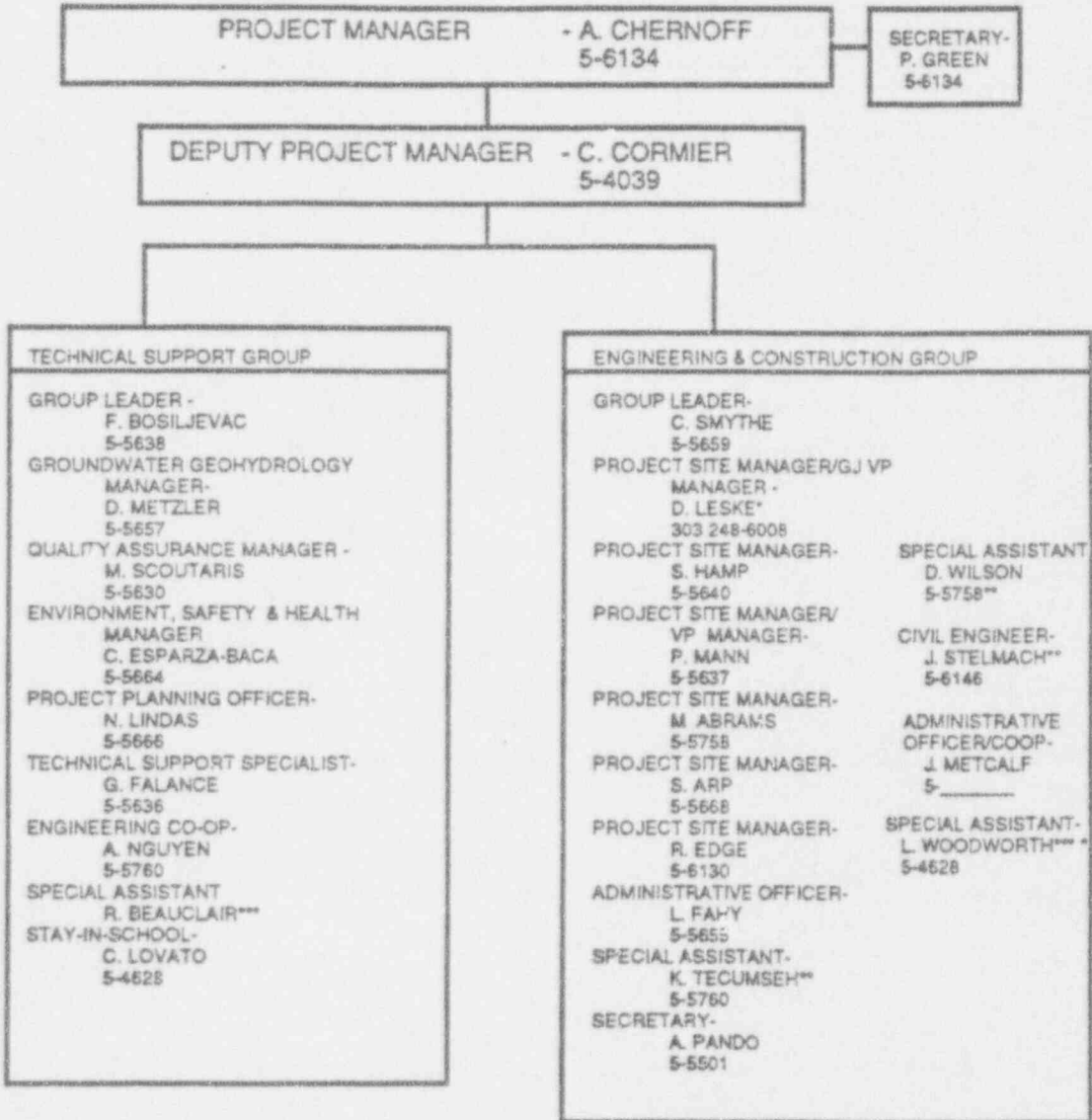
FIGURE 1-2. UMTRA PROJECT PARTICIPANTS



URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE

ALBUQUERQUE, NEW MEXICO

9/29/92



* LOCATED AT GRAND JUNCTION PROJECTS OFFICE
 ** DETAILED TO UMTRA
 *** DETAILED TO UMTRA FROM HQS
 **** Permanently Assigned to UMTRA

FIGURE 1-3. URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT OFFICE

cost control, interface with the NRC and the participating states and tribes, and site/vicinity property management. The Engineering and Construction Group and the site managers are considered the line organization, and are therefore accountable for compliance with ES&H regulations.

The Technical Support Group is responsible for managing technical support functions, including hydrology and geohydrology, ES&H oversight, scheduling, quality assurance, NEPA documentation, and real and personal property management. The AL Office of Environment, Safety, and Health has an independent oversight role that involves defining requirements and auditing for compliance.

The UMTRA-PO is assisted by the TAC and RAC for the 23 inactive uranium mill tailings sites and associated vicinity properties, a Grand Junction vicinity property Inclusion Survey Contractor, and a Grand Junction and Edgemont vicinity property RAC. The Grand Junction RAC, currently CNG, is managed by the GJPO. The UMTRA RAC, MK-F, is managed by the UMTRA-PO.

The resources and expertise required to accomplish the responsibilities of the TAC are provided by JEG, and its subcontractors Roy F. Weston, Inc. (RFW); Geraghty & Miller, Inc.; and Sergent, Hauskins & Beckwith as shown in Figure 1-4. The TAC is responsible for development, implementation, and operation of Project-level programs for ES&H, quality assurance, public participation and information, documentation control, and cost and schedule control.

The TAC also provides technical support. These activities include: characterizing sites; monitoring radon offsite; monitoring technology development; coordinating the NEPA review process and preparation of appropriate NEPA compliance documentation; developing remedial action concepts, conceptual designs, remedial action selection reports, and remedial action plans; conducting groundwater protection strategies; reviewing final designs and providing technical assistance during construction; recommending certification of remedial action and coordinating site licensing; and conducting interim surveillance and monitoring at disposal sites.

MK-F is contractually responsible as the RAC for 23 UMTRA Project sites. The organization for the RAC is shown in Figure 1-5. The RAC is supported by Chem-Waste Management Federal Environmental Services, Inc., which provides technical support for management of the Health Physics and Radiation Protection Program.

MK-F performs overall construction management services in the areas of design, engineering, construction, cost control, procurement, quality assurance, subcontract administration, and ES&H. The RAC manages these activities in strict cooperation and coordination with DOE, and ensures that end results meets specified and required environmental protection goals.

The GJPO has been assigned to carry out UMTRA Project actions for Vicinity Properties located at Grand Junction, Colorado and Edgemont, South Dakota. The GJPO also reports to the AL Assistant Manager for Energy and Special Programs. Figure 1-6 shows the GJPO Organization, including the personnel assigned to UMTRA Project actions.

UMTRA PROJECT TECHNICAL ASSISTANCE CONTRACTOR

REV 10/92

Jacobs Engineering Group, Inc.
 Roy F. Weston, Inc.
 Geraghty & Miller, Inc.
 Sergent, Hauskins & Beckwith

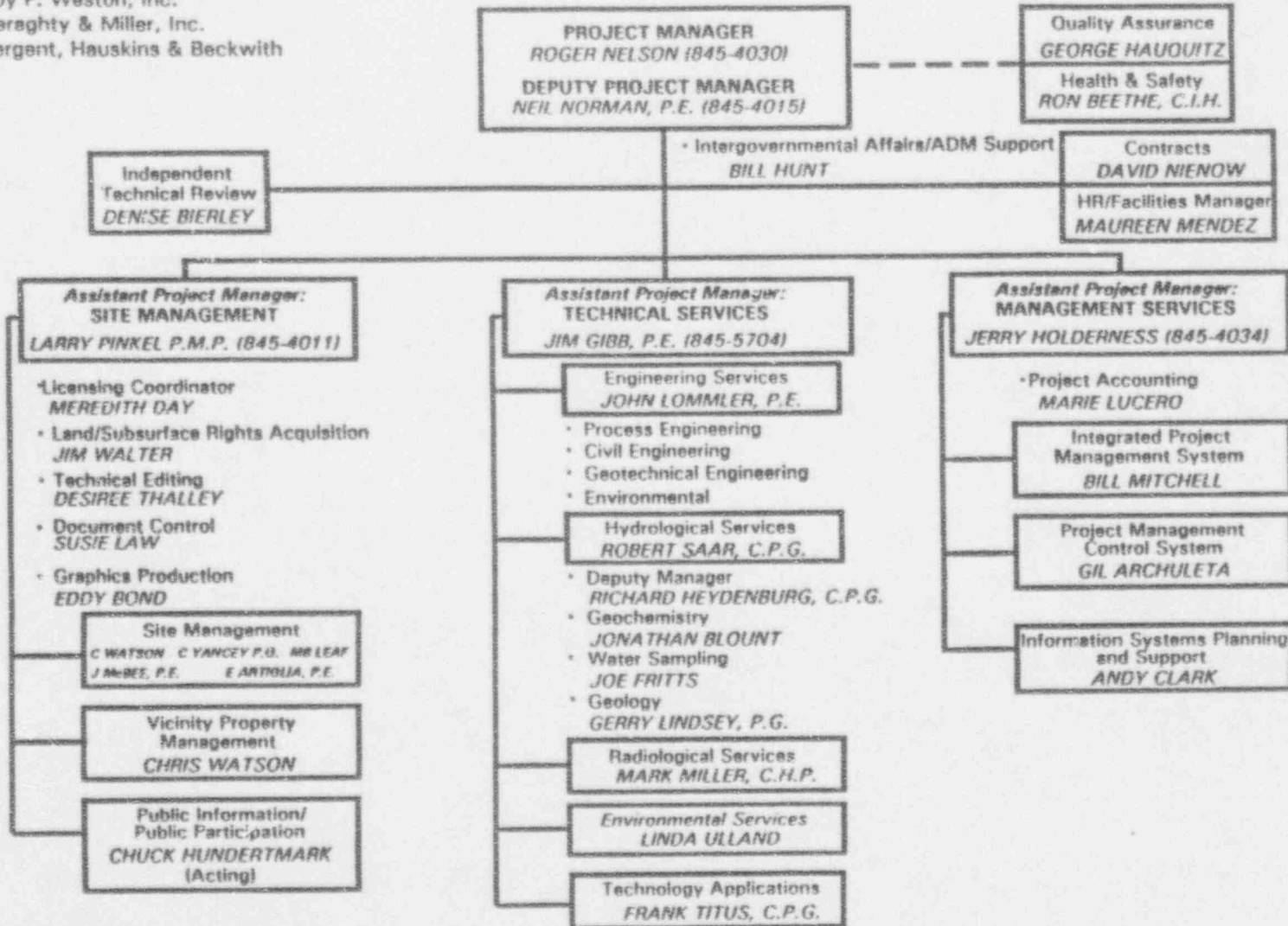
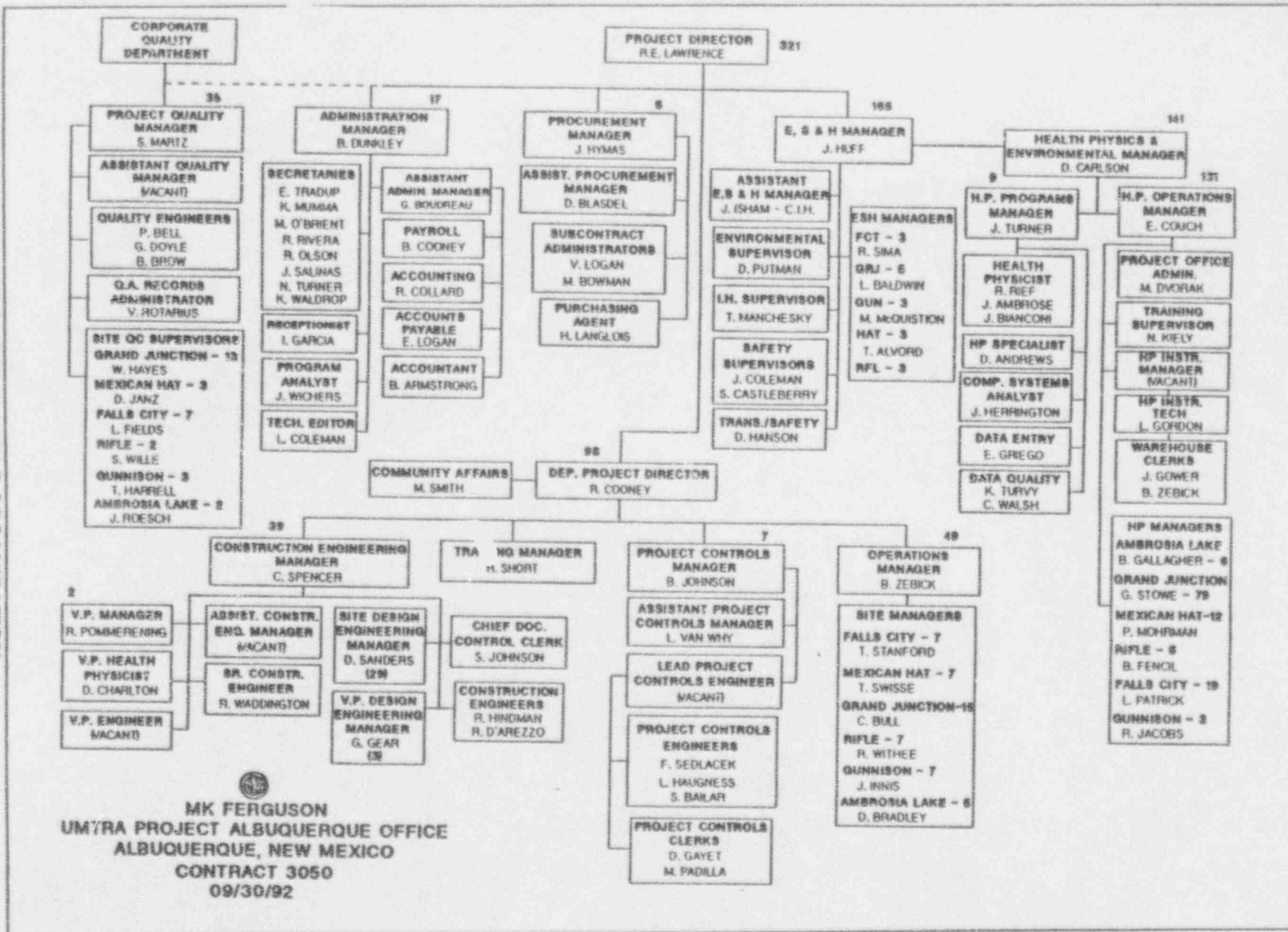



FIGURE 1-4. UMTRA PROJECT TECHNICAL ASSISTANCE CONTRACTOR

FIGURE 1-5. MK-F ORGANIZATION




MK FERGUSON
 UM/RA PROJECT ALBUQUERQUE OFFICE
 ALBUQUERQUE, NEW MEXICO
 CONTRACT 3050
 09/30/92

Interim GJPO Organization

(Effective 8/10/92)

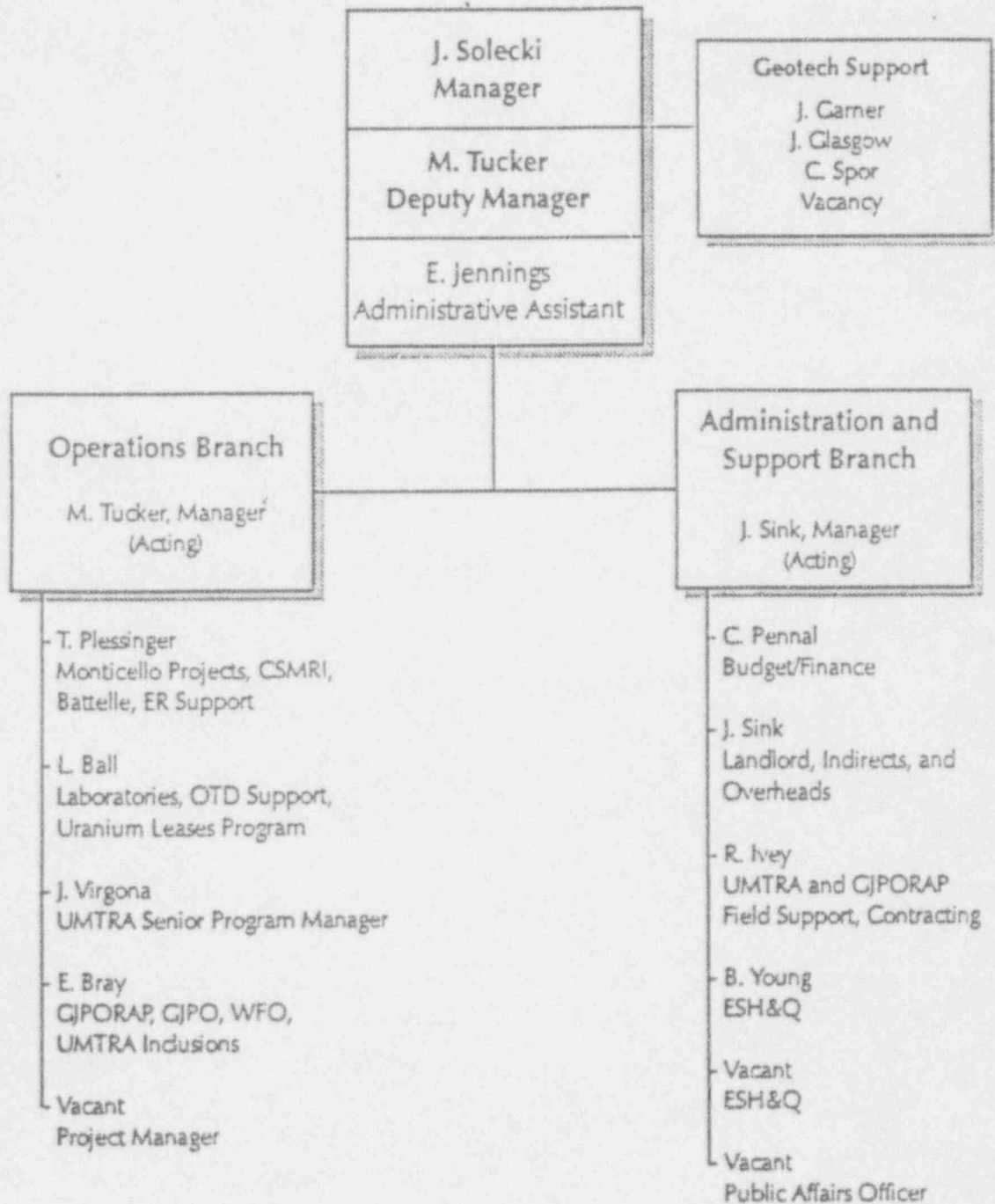
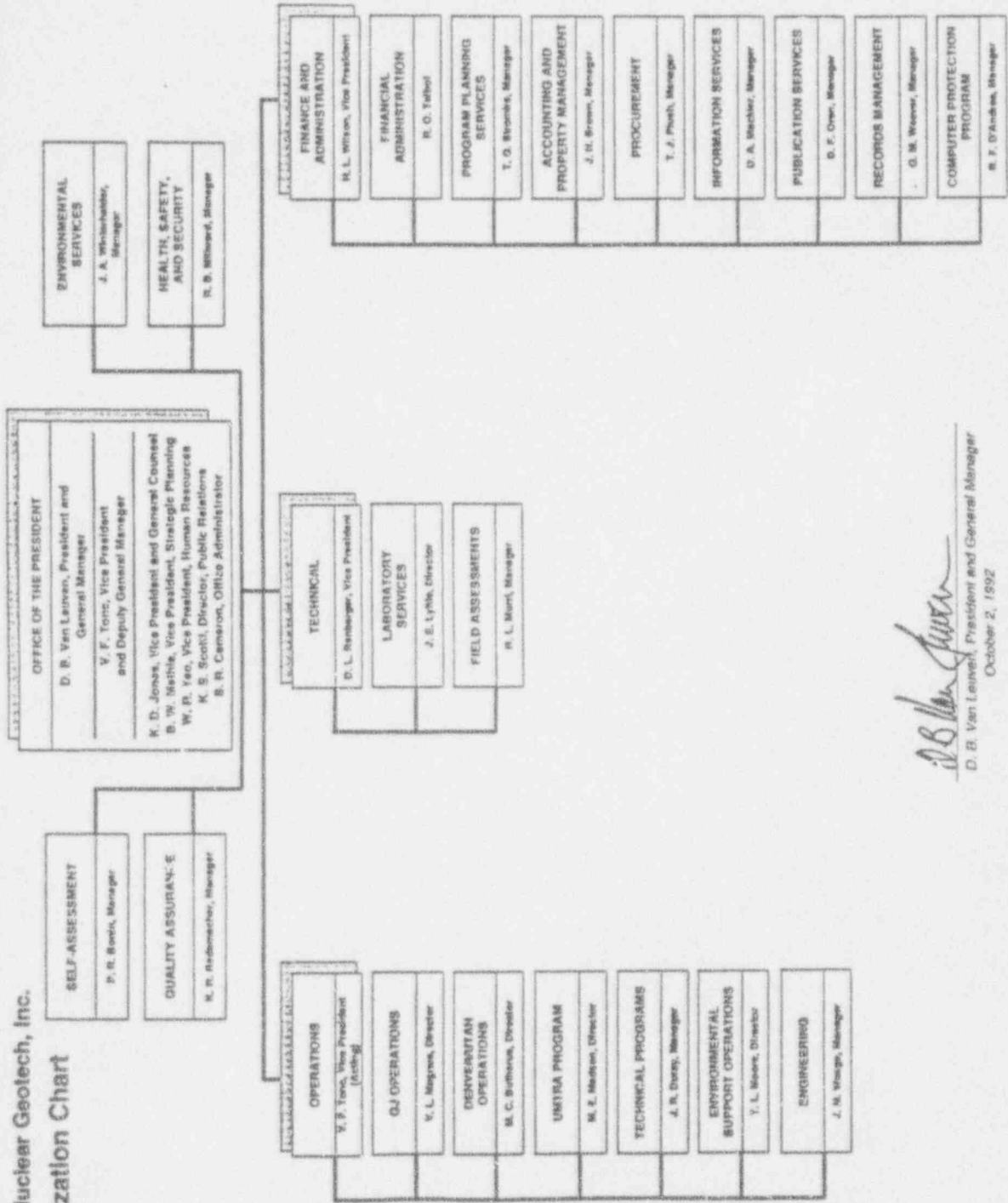


FIGURE 1-6. GJPO ORGANIZATION

CNG is contractually responsible as the RAC for the Grand Junction and Edgemont vicinity properties. The CNG organization, as shown in Figure 1-7, performs construction management actions including design, engineering, construction, cost control, procurement, quality assurance, subcontract administration, and ES&H for the vicinity properties. These actions are performed in strict cooperation with GJPO to ensure environmental protection goals are met.

Chem-Nuclear Geotech, Inc. Organization Chart



D. B. Van Leuven
D. B. Van Leuven, President and General Manager
October 2, 1992

FIGURE 1.7. CNG ORGANIZATION

SECTION 2.0

SUMMARY OF ENVIRONMENTAL AUDIT RESULTS

2.0 SUMMARY OF ENVIRONMENTAL AUDIT RESULTS

This section of the report summarizes the results and conclusions of the Office of Environmental Audit's (EH-24) Environmental Management Audit of the UMTRA Project which occurred from October 26 through November 6, 1992. This environmental management audit is a followup to a comprehensive environmental baseline audit that was completed at UMTRA Project locations in June 1991 by EH-24.

During the audit, 18 findings were identified. Eleven of the findings are considered to represent situations where conditions or practices do not meet the requirements of DOE Orders and directives and, thus, are termed "compliance findings." Seven findings reflect a lack of adherence to "best management practices" (BMPs). The number of findings by environmental management discipline are depicted in Figure 2-1 and finding titles are shown in Table 2-1.

The overall conclusion of the audit team is that the UMTRA Project, as a whole, has made good progress in developing and implementing environment protection programs. An environmental commitment is reflected throughout the entire project, as shown by the issuance of written environmental policy statements by all key project organizations. Overall, the contractors have been more successful than the project offices in fully developing, formalizing, and implementing programs and procedures, due primarily to a lack of sufficient staff resources in the project offices.

The UMTRA Project does conduct environmental oversight activities; however, these activities have not been fully developed and formalized. In addition, procedures to involve the project offices in a wider range of oversight activities have not been developed.

Although there has been improvements since the UMTRA Environmental Audit (1991), the complex organizational structure still creates some confusion in regard to the roles and responsibilities involving UMTRA PO and GJPO for UMTRA Project activities.

Table 2-1 provides a tabulation for the awareness of findings by both UMTRA PO and UMTRA GJPO. There were 17 findings that applied to both UMTRA PO and UMTRA GJPO, and 1 finding that applied only to UMTRA PO. Twelve of the 18 findings (67 percent) had been either fully (5) or partially (7) identified in the 1992 UMTRA PO Self-Assessment. Twelve out of the 17 findings (70 percent) had been either fully (8) or partially (4) identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The UMTRA Environmental Audit (1991), identified 48 findings. As of October 1992, 19 of these findings had been completed. An additional four findings were determined to require no action, as determined in the Final Action Plan developed by UMTRA PO and approved by DOE Headquarters' Office of Environment, Safety and Health. There were 5 findings which had been combined with the remaining 20 findings still not resolved. Thus, 25 of the initial 48 findings, or 52 percent, remain unresolved. However, a review of these remaining findings indicates significant progress has been made in completing the required corrective actions. The majority of these findings require action by UMTRA PO to resolve key issues in order to complete the corrective actions identified in the finding. In providing the status on resolving these key issues, UMTRA PO stated "inadequate DOE staff to complete activity" as the reason why six findings were behind schedule.

FIGURE 2-1. TOTAL FINDINGS BY DISCIPLINE

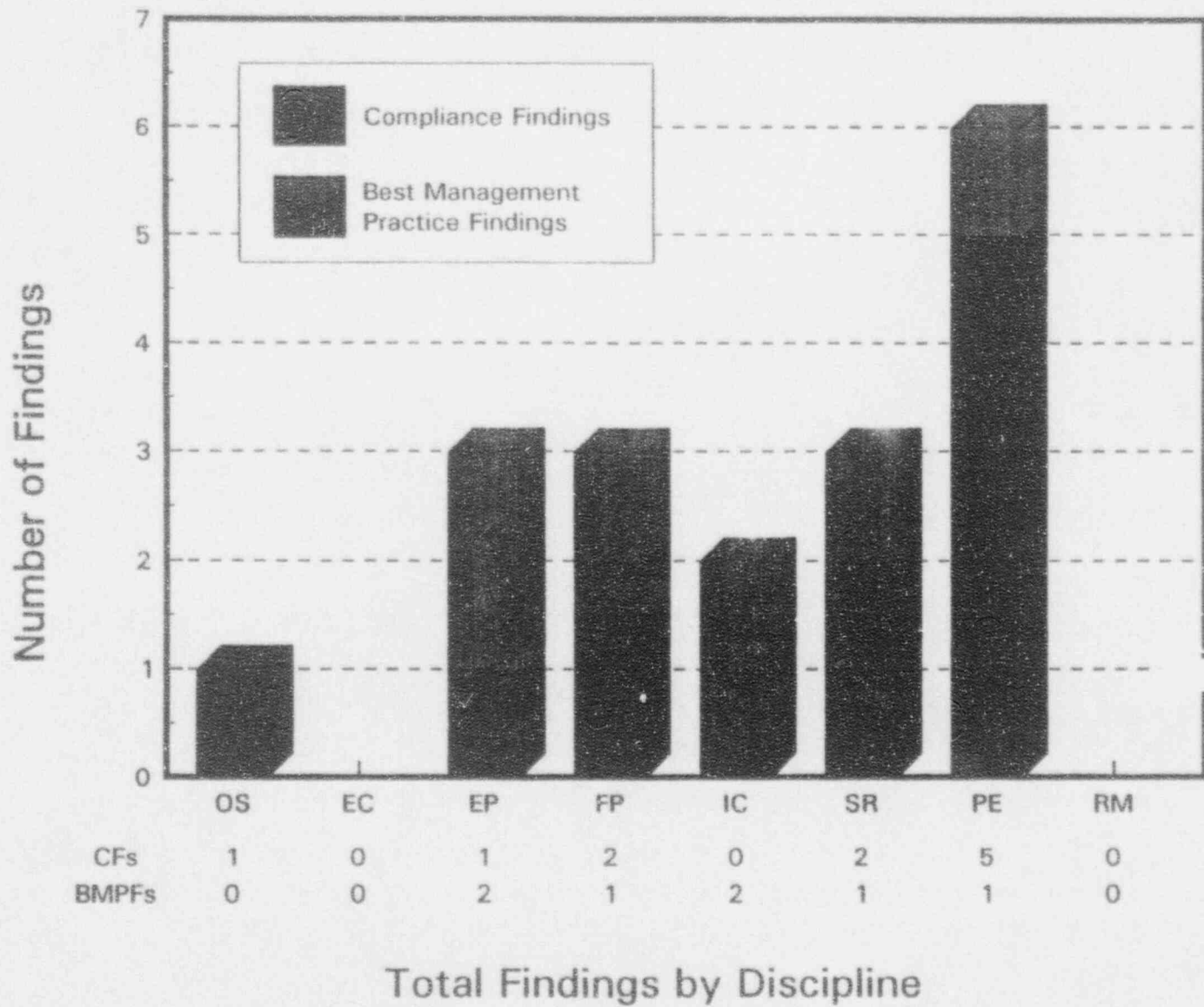


TABLE 2-1

AWARENESS OF FINDINGS

Finding Number	Title	1992 Self-Assessment, UMTRA Project Office			UMTRA-GJPO Environmental Management, Self-Assessment October 23, 1992		
		Fully Identified	Partially Identified	Not Identified	Fully Identified	Partially Identified	Not Identified
Organizational Structure (OS)							
OS/CF-1	Complex Organizational Arrangement on the UMTRA Project			✓			✓
Environmental Commitment (EC)							
	No findings were identified						
Environmental Protection Programs (EP)							
EP/CF-1	Environmental Protection Plans			✓			✓
EP/BMPF-1	Structure of Environmental Protection Plans			✓	✓		
EP/BMPF-2	Contract Change Order Procedure			✓			✓
Formality of Environmental Programs (FP)							
FP/CF-1	Document Control	✓			✓		
FP/CF-2	Conduct of Operations		✓		✓		
FP/BMPF-1	Regulatory Tracking, Translation, and Distribution	✓				✓	
Internal and External Communication (IC)							
IC/BMPF-1	Data Sharing and Communication with Colorado Dept. of Health			✓			
IC/BMPF-2	Vertical and Horizontal Internal Communications		✓				✓

TABLE 2-1
AWARENESS OF FINDINGS

Finding Number	Title	1992 Self-Assessment, UMTRA Project Office			UMTRA-GJPO Environmental Management, Self-Assessment October 23, 1992		
		Fully Identified	Partially Identified	Not Identified	Fully Identified	Partially Identified	Not Identified
Staff Resources, Training, and Development (SR)							
SR/CF-1	Training Systems		✓			✓	
SR/CF-2	Number of DOE Staff	✓			✓		
SR/BMPF-1	Position Descriptions		✓			✓	
Program Evaluation, Reporting, and Corrective Action (PE)							
PE/CF-1	Interlaboratory Quality Assurance Program			✓			N/A
PE/CF-2	Self-Assessment Programs	✓			✓		
PE/CF-3	Environmental Program Performance Assessment	✓			✓		
PE/CF-4	AL Environmental Appraisal Program		✓		✓		
PE/CF-5	UMTRA Project Environmental Appraisal Program		✓		✓		
PE/BMPF-1	Environmental Oversight		✓		✓		
Environmental Planning and Risk Management (RM)							
	No findings were identified						

2.1 FINDINGS SUMMARY

The following paragraphs briefly describe the compliance and best management practice findings in each of the disciplines included in the UMTRA Environmental Management Audit.

Organizational Structure (OS):

There was one compliance finding (OS/CF-1) in this portion of the audit. This finding relates to the complex organizational arrangement on the UMTRA Project. The UMTRA Environmental Audit (1991) identified the overly complex organizational arrangement involving the split reporting structure of the Grand Junction Projects Office reporting to the DOE Field Office, Idaho (ID), while the UMTRA Project Office reported to the DOE Field Office, Albuquerque (AL). This arrangement was changed by reassigning GJPO to AL. However, no guidance or formal definition of roles and responsibilities have been developed since this reassignment, causing some confusion among staff and contractors at GJPO and UMTRA PO. A Programmatic Agreement has been drafted by GJPO but has not been signed. The draft agreement, as written, may not clarify the confusion.

Environmental Commitment (EC):

There were no findings in this portion of the audit.

Environmental Protection Programs (EP):

There was one compliance finding and two best management practice findings in this portion of the audit.

The compliance finding (EP/CF-1) documents the fact that UMTRA PO has not finalized the Environmental Monitoring Plan by the schedule established in DOE 5400.1, "General Environmental Protection Programs." The finding also notes that UMTRA PO has not determined the potential applicability of notice and concurrence procedures for variances and exemptions detailed in DOE 5400.1.

The first best management practice finding (EP/BMPF-1) concerns the structure of environmental protection programs. The programs are project-wide in their scope and do not specify site-specific requirements, making it the responsibility of the contractors to correctly identify and incorporate site-specific requirements into their action plans and implementing procedures. The finding also notes that a draft revision to the GJPO Environmental Protection Implementation Plan (EPIP) does, however, introduce appropriate site specificity.

The second best management practice finding (EP/BMPF-2) identifies deficiencies in a draft contract change order procedure intended to ensure timely incorporation of new requirements contained in regulations and DOE Orders into contractor scopes of work. These draft procedures are not sensitive to compliance deadlines that may be associated with new regulations or administrative orders. The finding also notes that supplemental procedures that would provide the Contracting Officer with timely notice of new requirements were not formally installed.

Formality of Environmental Programs (FP):

There were two compliance findings and one best management practice finding in this portion of the audit.

The first compliance finding (FP/CF-1) addresses the implementation of effective document control systems for the UMTRA Project. Although systems are in place, reviews have identified documents in the system that are not the currently approved version and an instance where a document should have been in the system, and was not there.

The second compliance finding (FP/CF-2) documents that conduct of operations programs have not been fully developed and formally implemented. The majority of the UMTRA PO and some of the GJPO staff have been trained on conduct of operations. The three primary contractors' programs have been developed and implemented, but not approved as required by DOE Order.

The best management practice finding (FP/BMPF-1) identifies that UMTRA PO and GJPO have not fully developed systems for tracking and distributing DOE Orders and environmental regulations, and for translating DOE Orders and environmental regulations into internal policies, standards, and procedures.

Internal and External Communications (IC):

There were two best management practice findings in this portion of the audit.

The first best management practice finding (IC/BMPF-1) concerns data sharing and communication with the Colorado Department of Health (CDH). The UMTRA Environmental Audit (1991) identified the need for a data sharing policy with CDH. Since that time, a draft policy has been developed by UMTRA PO and DOE, but not signed. CDH is pleased with the progress on the data sharing policy and with improved communication between UMTRA PO and CDH. Much of the positive communication with CDH is based on interpersonal relationships between UMTRA PO site managers and CDH personnel.

The second best management practice finding (IC/BMPF-2) concerns vertical and horizontal internal communication in regard to UMTRA PO, Remedial Action Contractor (RAC), Technical Assistance Contractor (TAC), GJPO, and Vicinity Properties Remedial Action Contractor. There has been noticeable improvement in internal communication since the last environmental audit. Parallel organizational structures among the UMTRA PO, TAC, and RAC mean most staff have counterparts in the other organizations. However, communication across these organizations has been identified as a problem. Communication from UMTRA PO to remote site managers has also been identified as a problem. Confused organizational arrangements with GJPO also confuse communication channels in that staff are not sure which chain should be followed and used for reporting and receipt of guidance.

Staff Resources, Training, and Development (SR):

Two compliance findings and one best management practice finding were identified in this portion of the audit.

The first compliance finding (SR/CF-1) addresses the area of training systems. Training policies, systematic needs assessments, tracking systems, and evaluations are not sufficiently developed or implemented, although training is widely available, and supported by management. The RAC has recently hired a training coordinator to implement training activities.

The second compliance finding (SR/CF-2) relates to the numbers of DOE staff. Staff resources for UMTRA PO and GJPO are insufficient to perform such tasks as oversight at the field level, responding to requests, reviewing and implementing new regulatory requirements, attending training sessions, and overseeing contractors.

The best management practice finding (SR/BMPF-1) addresses position descriptions. Position descriptions for the Grand Junction Vicinity Properties contractor do not contain environmentally related duties; position descriptions for GJPO are not current.

Program Evaluation, Reporting, and Corrective Action (PE):

There were five compliance findings and one best management practice finding in this portion of the audit.

The first compliance finding (PE/CF-1) addresses the implementation of an effective system to ensure that laboratories providing radiological analysis data for the Project's environmental protection programs are participating in the DOE Environmental Measurements Laboratory Quality Assessment Program.

The second compliance finding (PE/CF-2) documents that the UMTRA PO and GJPO have not fully developed and implemented formal self-assessment programs. Although there are no formal self-assessment programs which include all the components identified in DOE guidance, both Project Offices have conducted Environmental Management Self-Assessments.

The third compliance finding (PE/CF-3) documents that formal systems have not been developed and implemented by all UMTRA Project organizations in the areas of lessons learned; root cause analysis; performance indicators; and tracking, trending, and communicating performance for the Projects's environmental programs. These systems are in various stages of development at both the Project Office and contractor level.

The fourth compliance finding (PE/CF-4) documents that AL has not conducted management appraisals of UMTRA PO's environmental activities and functional appraisals of contractors' environmental activities. A meeting between AL and UMTRA PO staff is scheduled in November 1992 regarding ES&H management issues, particularly in the area of industrial safety, and a functional appraisal to be conducted in September 1993.

The fifth compliance finding (PE/CF-5) documents that UMTRA PO and GJPO have not fully developed formal internal appraisal systems as part of their ES&H Appraisal Programs. Although formal programs have not been fully developed, UMTRA PO schedules and conducts assessments of project environmental activities and GJPO conducts reviews of environmental activities using management by walkdown.

The best management practice finding (PE/BMPF-1) addresses the absence of a fully developed oversight role for the UMTRA PO environmental function. While the environmental function in UMTRA PO is involved in a wide range of review and oversight activities, there are several areas where environmental review and oversight are not formally or routinely performed.

Environmental Planning and Risk Management (RM):

There were no findings in this portion of the audit.

2.2 KEY FINDINGS

Program Evaluation and Oversight

Program evaluation and oversight of the UMTRA Project is not sufficient to ensure accurate monitoring of issues and organizational effectiveness. Components of this key finding include: lack of formalized self-assessment programs, deficiencies in performance indicators and trending programs, inadequate ES&H appraisal programs, and the lack of an effective system to ensure that analytical laboratories participate in required quality assessment programs.

- **Self-Assessment Programs:** A formalized self-assessment program has not been fully developed by the UMTRA Project, as required by the Secretary's self-assessment guidance of July 1990 (see Finding PE/CF-2). UMTRA PO did start the task of developing a self-assessment program and have developed a draft program plan and an implementing program document. This is undergoing internal review and has undergone an informal review by AL. However, this is a draft document and has not been approved. Although there are no formal self-assessment programs, both project offices have conducted Environmental Management Self-Assessments.
- **Performance Indicators and Trending Program:** Formal systems have not been fully developed and implemented by all UMTRA Project organizations in the areas of lessons learned; root cause analysis; performance indicators; and tracking, trending, and communicating performance for the Project's environmental program (see Finding PE/CF-3). The performance indicators are not trended or analyzed, therefore, management is not provided with an early identification of potential ES&H problems and/or deteriorating ES&H conditions. AL's ES&H and Maintenance Performance Indicator Program requires the UMTRA PO RAC to develop and implement a Performance Indicator program for the UMTRA Project.
- **ES&H Appraisal Program:** DOE 5482.1B, "Environment, Safety and Health Appraisal Program," requires that AL should develop an ES&H Appraisal Program and conduct management and functional appraisals of UMTRA PO and GJPO and functional appraisals of contractor environmental activities. To date, management and functional appraisals of the project offices and functional appraisals of contractors have not been conducted (see Finding PE/CF-4). To date, AL has not conducted any management appraisal of UMTRA PO or functional appraisal of its contractors. Furthermore,

UMTRA PO and GJPO do not have a fully developed internal appraisal systems as part of their ES&H Appraisal Program, also as required by DOE 5482.1B (see Finding PE/CF-5).

- **Analytical Laboratory Support:** The UMTRA Project has not implemented an effective system to ensure that laboratories providing radiological analysis data for the Project's environmental protection programs are participating in the DOE Environmental Measurements Laboratory Quality Assessment Program (EML QAP) as required by DOE 5400.1 (see Finding PE/CF-1). To date, the UMTRA PO has not issued a project policy regarding analytical laboratory support for the Project's radiological environmental monitoring programs. As a result, the prime radioanalytical laboratory contracted by the RAC did not participate in the Spring 1992 EML QAP distribution.

Organizational Arrangement

The existing organizational arrangement and reporting mechanisms between the GJPO and UMTRA PO has created confusion (see Finding OS/CF-1). The UMTRA Environmental Audit (1991) identified that the organizational split of the UMTRA Project between UMTRA PO (under AL) and GJPO (operated through Idaho) "creates confusion, blurred lines of authority, inconsistencies in application of standards, and occasional conflict among participants." In April 1992, GJPO was reassigned to AL. UMTRA PO also reports to AL Office of Energy and Special Programs (OESP). UMTRA PO has been able to coordinate more effectively GJPO activities since this transfer. While this has been viewed positively from a programmatic perspective, some confusion regarding lines of authority remains and there is a potential for program inconsistencies as well as programmatic overlap in the future.

Another area where confusion regarding roles and responsibilities exists, is in the area of surveillance and maintenance of completed remedial disposal cells. In January 1991, UMTRA PO and GJPO entered into two Memoranda of Agreement (MOAs) for Pre-Licensing Custodial Care (PLCC) and Long-Term Surveillance and Maintenance (LTSM). These MOAs detailed the respective roles and responsibilities of UMTRA PO and GJPO with respect to surveillance and monitoring activities during the PLCC and LTSM periods. These roles and responsibilities have not been well defined.

Some potential for future confusion may also exist. Chem Nuclear-Geotech (CNG) personnel responsible for implementing the LTSM have indicated that once GJPO begins its surveillance and maintenance activities, it would be within GJPO's authority to modify surveillance mechanisms and techniques in response to state-of-the-art evolution. Further, they indicated that all such changes would probably be done in coordination with UMTRA PO for sites where groundwater restoration activities are ongoing. In their current form, the MOAs do not provide specific direction and control on how technical consistency between GJPO's surveillance activities and UMTRA PO's groundwater characterization/restoration activities will be preserved.

A programmatic agreement between UMTRA PO and the GJPO to cover all these areas has been drafted, but not executed. The draft agreement, as written, may not clarify the confusion.

Resources and Training

- **Resources:** Secretary Watkins' 10-Point Initiative indicates that ES&H represents the number one priority for DOE facilities and for a successful program, necessary human resources must be available for each program area. However, staffing level at UMTRA PO is not sufficient to ensure that environmental performance goals are attained (see Finding SR/CF-2). Inadequate UMTRA PO staff resources was identified as a finding in the UMTRA Environmental Audit (1991). Six findings from that Environmental Audit have not been corrected due in part to inadequate DOE staff. Since that time UMTRA PO have identified the need for eight additional staff members to address its workload, and has been provided with only one person. UMTRA PO has tried to delegate responsibilities to the TAC to ease their work load, but they cannot delegate their ES&H oversight responsibilities. UMTRA PO currently has 19 full-time staff to oversee all activities including ES&H actions by the RAC, with over 300 employees and approximately 400 subcontractor employees, and the TAC, with over 120 employees. GJPO staff include two full-time equivalents (FTEs) for the UMTRA Project. They are involved in managing the Grand Junction Vicinity Properties remediation, monitoring program status, interacting with regulators, and overseeing the GJPO RAC and the subcontractors. The GJPO RAC has about 180 employees involved with the UMTRA Project, who are involved in managing subcontracts, assessing remediation needs and developing designs, inspecting construction activities, and conducting negotiations with vicinity property owners.
- **Training:** Under SEN-6E-92, "Departmental Organizational and Management Arrangements," all employees should be provided with opportunities to improve their knowledge, skills, and abilities, and have the opportunities for advancement in accordance with specifically defined and approved training needs. However, the training systems for the UMTRA Project have not been adequately developed. Although training is recognized as an important component of the UMTRA Project, training procedures, needs, tracking systems, and evaluations are not adequately developed and implemented. The UMTRA Project does not have formal training policies or plans. Furthermore, since there are no formalized training systems, no requirements exist for determining training needs for various positions (e.g., Site Managers, engineering staff), or determining how training materials and courses are developed. This has the potential to affect the environmental performance of field staff, line managers, and oversight personnel, and therefore may affect the environmental compliance and capabilities of the Project.

2.3 CAUSAL FACTORS SUMMARY

In an effort to understand why a finding occurred, a systematic approach was initiated to perform a "probable root cause" analysis. This is a two-step process which first identifies the likely underlying reasons the audit team believes contributed to each specific finding. This is completed by asking a series of "why" questions to determine the apparent

'cause(s) for the findings. These "causal factors" and related rationale(s) are identified and appear in the discussion section of the appropriate finding.

The next step is for the Program Secretarial Official to identify the "root cause(s)" for the findings. Root causes are the most basic, fundamental cause which, if corrected, will prevent recurrence of the issues of concern.

The apparent causal factors considered by the audit team are defined in Appendix F of this report. The team identified eight causal factors it believes contributed to occurrence of the findings. Of these, five apparent causal factors are considered to be relevant, with the greatest frequency (see Figure 2-2 and Table 2-2) and are discussed below:

Policy Implementation - appeared as a causal factor in 67 percent of the findings. A failure to implement existing DOE and AL policy was often associated with "Resources," and was frequently identified as a causal factor in the areas of: Formality of Environmental Programs; Staff Resources, Training, and Development; and Program Evaluation and Reporting.

Resources - appeared as a causal factor in 39 percent of the findings. A lack of staff resources was frequently identified as a causal factor in the audit findings in the area of Program Evaluation and Reporting. Resources was often associated with a lack of "Policy Implementation."

Procedures - appeared as a causal factor in 33 percent of the findings. A failure to establish formal procedures was frequently found in the areas of: Environmental Protection Programs, and Program Evaluation and Reporting.

Policy - appeared as a causal factor in 16 percent of the findings. A failure to establish DOE policy was associated with the failure to establish programs and requirements in the areas of: Environmental Protection Programs, Formality of Environmental Programs, and Internal and External Communication.

Training - appeared as a causal factor in 11 percent of the findings. A need to provide training was associated in the areas of: Formality of Environmental Programs, and Internal and External Communication.

Apparent causal factors which appeared in 10 percent or less of the findings were Change, Risk, and Supervision.

The following section presents the 11 compliance and 7 best management practice findings, by discipline, identified during this audit. It also discusses in greater detail the causal factors that appeared to contribute to the findings.

TABLE 2-2. SUMMARY APPARENT CAUSAL FACTORS

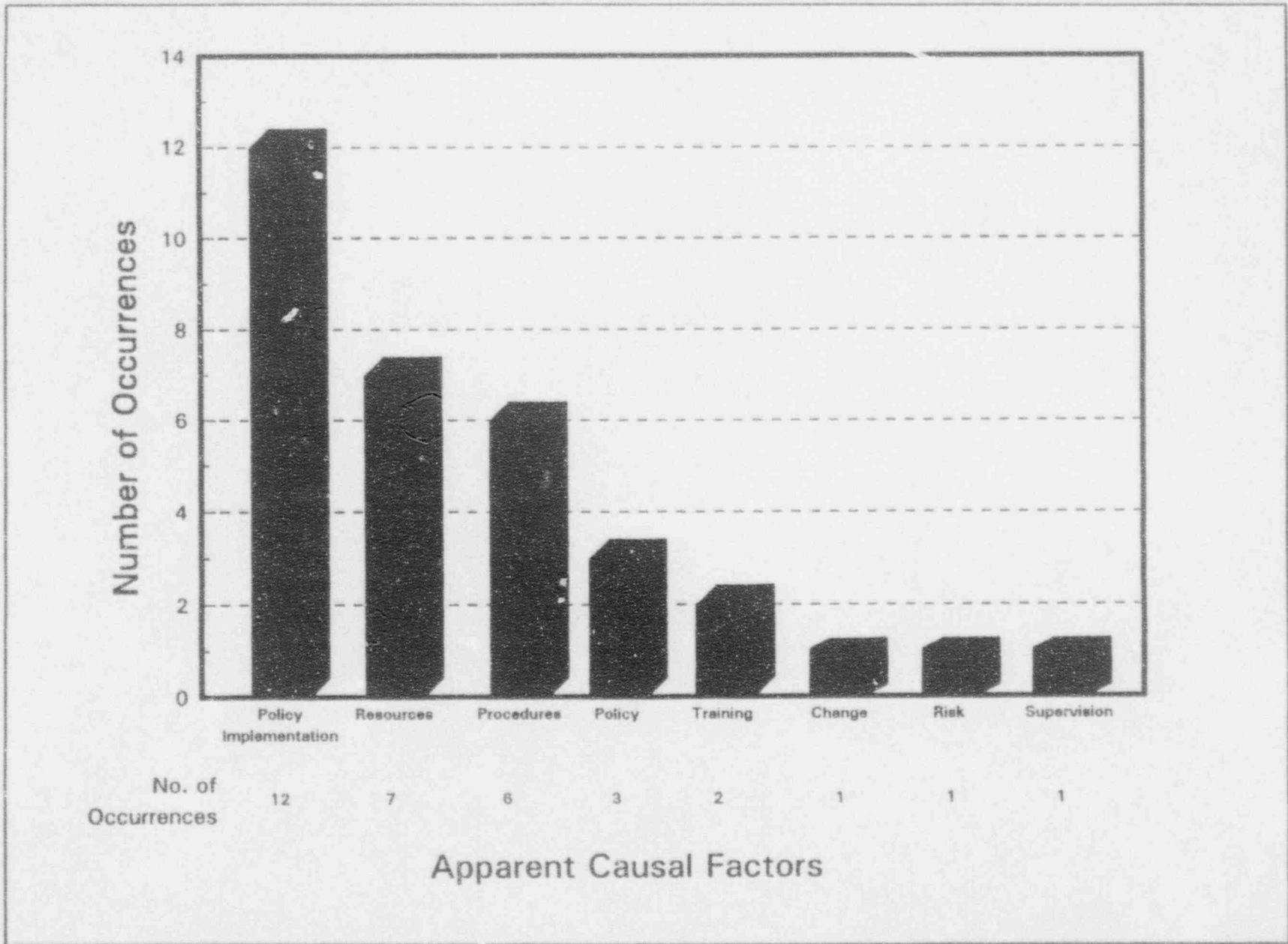


TABLE 2-2

SUMMARY OF AUDIT FINDINGS AND APPARENT CAUSAL FACTORS

Finding Number	Apparent Causal Factors													
	Policy	Policy Implementation	Procedures	Personnel	Resources	Training	Change	Risk	Appraisals/Audits/Reviews	Design	Human Factors	Barriers and Controls	Supervision	QA/QC
Staff Resources, Training, and Development (SR)														
SR/CF-1		✓			✓									
SR/CF-2		✓						✓						
SR/BMPF-1		✓												
Program Evaluation, Reporting, and Corrective Actions (PE)														
PE/CF-1		✓												
PE/CF-2		✓	✓		✓									
PE/CF-3		✓			✓									
PE/CF-4		✓	✓											
PE/CF-5		✓			✓									
PE/BMPF-1		✓			✓									
Environmental Planning and Risk Management (RM)														
No findings were identified														
Totals	3	12	6	0	7	2	1	1	0	0	0	0	1	0

TABLE 2-2

SUMMARY OF AUDIT FINDINGS AND APPARENT CAUSAL FACTORS

Finding Number	Apparent Causal Factors													
	Policy	Policy Implementation	Procedures	Personnel	Resources	Training	Change	Risk	Appraisals/Audits/Reviews	Design	Human Factors	Barriers and Controls	Supervision	QA/QC
Organizational Structure (OS)														
OS/CF-1							✓							
Environmental Commitment (EC)														
No findings were identified														
Environmental Protection Programs (EP)														
EP/CF-1			✓		✓									
EP/BMPF-1		✓	✓											
EP/BMPF-2	✓		✓											
Formality of Environmental Programs (FP)														
FP/CF-1			✓			✓								
FP/CF-2		✓												
FP/BMPF-1	✓	✓			✓									
Internal and External Communication (IC)														
IC/BMPF-1	✓													
IC/BMPF-2						✓							✓	

2-14

SECTION 3.0

ENVIRONMENTAL OVERVIEWS AND AUDIT FINDINGS

3.0 ENVIRONMENTAL OVERVIEWS AND AUDIT FINDINGS

The audit findings are presented in the following pages and are not necessarily in order of importance. They are grouped by area of investigation, as listed in the draft Protocols for Environmental Management Audits (see Appendix G), and are preceded by an overview. The overview describes the approach taken by the technical specialist in conducting that portion of the audit; UMTRA programs and activities related to the area of investigation; an overall characterization of the strengths and weaknesses of UMTRA programs and activities; and a brief summary of the findings. Each finding is organized into three sections: the performance objective, the finding statement, and a discussion. The performance objectives specify the particular compliance or best management practice standards against which the finding is being evaluated. The discussion details the facts and observations supporting the finding. The discussion also describes the extent to which the UMTRA Project has already identified the deficiency and provides a summary of the causal factors for the deficiency.

Within each finding, references to other findings, interviews, and documents are presented parenthetically. An example of a referenced finding is: "(see Finding OS/CF-1)," in which "OS" stands for "Organizational Structure," "CF" represents compliance finding, and "1" is the finding number. Other abbreviations used to identify findings are as follows:

OS	Organizational Structure;
EC	Environmental Commitment;
EP	Environmental Protection Programs;
FP	Formality of Environmental Programs;
IC	Internal and External Communication;
SR	Staff Resources, Training, and Development;
PE	Program Evaluation, Reporting, and Corrective Action; and
RM	Environmental Planning and Risk Management.

These abbreviations are used rather than the more conventional annotation for environmental management findings (i.e., EM/CF-1) so that the reader can more easily determine the specific area of investigation from which the finding was derived.

Several of the technical specialists on the audit team covered more than one of the areas listed above. As such, interviews and document reviews quite often were completed with multiple areas of responsibility in mind. In order to reduce unnecessary duplication when referencing interviews and documents, they are identified as follows. An example of a referenced interview is (I-OS-1) where "I" signifies an interview, "OS" represents Organizational Structure, and "1" is the specifically assigned sequential number of an individual audit team member. Similarly, documents referenced for this Environmental Management Audit are numbered starting with "D." The list of documents reviewed and interviews conducted are presented in Appendices D and E, respectively. Additionally, apparent causal factors are discussed for each finding and are defined in Appendix F.

3.1 ORGANIZATIONAL STRUCTURE

3.1.1 Overview

The organizational structure portion of this audit was conducted to assess the appropriateness of the organizational structure for protecting the environment. Organizational structure was defined as a system with major components consisting of Office of Southwestern Area Programs - Off-Sites Remediation Division (EM-451) at Headquarters (HQ); DOE Field Office, Albuquerque (AL); UMTRA PO; GJPO; the Remedial Action Contractor (RAC); the Technical Assistance Contractor (TAC); and the GJPO UMTRA RAC for the vicinity properties (VP RAC). Reporting relationships, roles and responsibilities, decision-making authority, and organizational placement of the ES&H groups and functional relationships were examined as part of the organizational structure.

The general approach to this portion of the audit included review of program documents (including the UMTRA Environmental Audit (1991) (D-OS-14)), organizational charts and memoranda of agreement, and interviews with representatives of HQ, AL, UMTRA PO, GJPO, the RAC, and the TAC. In addition, Secretary of Energy Notices (SENs), DOE Orders, and AL directives were reviewed in relation to organizational structure.

Interviews were conducted with 35 people from the organizations listed above. These interviews were conducted to identify lines of authority, roles and responsibilities, and working relationships of the environmental management organization with the larger DOE organization.

The Office of Environmental Restoration and Waste Management (EM) has responsibility for the UMTRA Program. The program is administratively under the Office of Environmental Restoration (EM-40) at HQ, which is divided into offices representing geographical regions for oversight. EM-451 oversees UMTRA from HQ. The UMTRA PO has been established under AL Office of Energy and Special Programs (OESP) to administer the program. Supporting the UMTRA PO in Albuquerque is the TAC. The UMTRA RAC is responsible for final design for construction of remedial actions for UMTRA PO. A portion of the UMTRA project (Grand Junction Vicinity Properties portion of the program) has been handled separately by GJPO in accordance with a Memorandum of Agreement (MOU) between AL and DOE Field Office, Idaho (ID) dated 1985 (D-OS-31). Until April of 1992, the GJPO was under ID. The GJPO was reassigned to AL and reports to the AL OESP (this is the same office to which the UMTRA Project Manager reports). The previous environmental audit identified one organizational structure compliance finding related to the overly complex organizational arrangements on the UMTRA Project. While the reassignment of the GJPO to AL has helped clarify some working relationships, confusion still exists.

The UMTRA project is basically a decentralized project run by the UMTRA PO. UMTRA has a history of successful remediation and HQ does not get involved in the day-to-day details of technical management. The organizational structure of the UMTRA PO, RAC, and TAC are parallel. Therefore, DOE positions generally have a counterpart in the other organizations. Responsibility and authority for ES&H have been passed down in the project to UMTRA PO Site Managers, who are the line managers responsible for all matters affecting their sites. This change was implemented with the new UMTRA PO Project Manager. This makes the UMTRA PO Site Managers the "critical link" in the system.

Similar line management responsibility and authority for Environment, Safety and Health (ES&H) have been passed down by the GJPO Manager to the Grand Junction Vicinity Properties Project Manager.

In response to the UMTRA Environmental Audit (1991) (D-OS-14), the RAC elevated its ES&H Department and created the position of ES&H manager for each of its active sites. These site-based ES&H managers report to the ES&H Manager at the RAC and do not report directly to the RAC Site Manager (an arrangement to maximize the autonomy of the ES&H person on site). While the ES&H Manager in the RAC reports directly to the Project Director, they also report to the corporate ES&H manager.

Within each of the organizations, a matrix support system is used to provide technical support to site managers (including ES&H). While this approach provides some consistency across the sites and a wide range of support, the UMTRA PO ES&H Manager has no staff and is spread thinly across many projects. The UMTRA PO is currently investigating ways to shift responsibilities to the TAC. The matrix ES&H support from AL is minimal because of limited resources. AL indicated they may be able to provide an additional 2 weeks of support a year to UMTRA PO if necessary. One complicating problem for UMTRA PO is that they must operate with guidance from both EM and Defense Programs on some of the same issues (self-assessment for example).

Continued confusion between GJPO and UMTRA PO in regards to responsibilities and authorities still exists and will be exacerbated by development of Pre-Licensing Custodial Care (PLCC) and Long-Term Surveillance and Maintenance (LTSM) programs, even though there have been significant improvements in the UMTRA organization since the last audit. The reassignment of GJPO, the delegation of responsibility to UMTRA Site Managers, the reorganization of the RAC (in regard to ES&H), and the development of a RAC ES&H manager position at each active site are all notable improvements.

There was one compliance finding in the organizational structure portion of this audit which relates to complex organizational structure.

3.1.2 Compliance Finding

FINDING OS/CF-1: Complex Organizational Arrangement on the UMTRA Project

Performance Objective: DOE 5400.1, "General Environmental Protection Policy," specifies that the Program Secretarial Official shall "Provide clear and explicit delegations of authority and responsibilities for implementing DOE environmental protection programs."

Secretary of Energy Notice (SEN)-6E-92, "Departmental Organizational and Management Arrangements," requires that "DOE Field Offices continue to be responsible for the execution of projects at their sites and have appropriately realigned their organizations to implement the Five-Year Plan."

DOE Field Office, Albuquerque (AL) 5200, "Manpower Management," indicates that it is the responsibility of AL Officials to "Recommend to the Director, Organization and Personnel Division, organizational arrangements and position structure so that optimum utilization of personnel can be attained."

Finding: The existing organizational arrangement and reporting mechanisms between the GJPO and UMTRA PO has created confusion and does not provide clear and explicit delegations of authority and responsibilities as required by DOE 5400.1.

Discussion: In the UMTRA Environmental Audit (1991) (D-OS-14), compliance finding EM-4 identified that the organizational split of the UMTRA Project between UMTRA PO (under AL) and GJPO (operated through Idaho) "creates confusion, blurred lines of authority, inconsistencies in application of standards, and occasional conflict among the participants." In April 1992, GJPO was reassigned to AL, reporting to the Office of Energy and Special Programs (AL OESP). UMTRA PO also reports to AL OESP. UMTRA PO has been unable to coordinate more effectively GJPO activities since this transfer (I-OS-9 and I-OS-12). While this has been viewed positively from a programmatic perspective, some confusion regarding lines of authority remains and there is a potential for program inconsistencies as well as programmatic overlap in the future (I-OS-20).

GJPO has one full-time person assigned as a Vicinity Property (VP) Site Manager, and approximately one other matrixed full-time equivalent (FTE) providing program support (I-OS-10). The Grand Junction Vicinity Property Remedial Action Contractor (Chem-Nuclear Geotech) is contractually directed through GJPO. There are two people assigned responsibilities for UMTRA-related work in Grand Junction: the Grand Junction VP Site Manager (GJPO), overseeing the Grand Junction vicinity property activities, and the Grand Junction Site Manager from UMTRA PO, but located in Grand Junction. There is confusion among staff at UMTRA PO, GJPO, and the contractors as to the correct chains of command for direction (I-OS-10). While some think that UMTRA PO management directly controls UMTRA activities at GJPO (I-OS-9), others believe the direction should come from the ALOESP, through the GJPO management (I-OS-12). The 1985 UMTRA Project Programmatic Agreement Between Albuquerque and Idaho Operations Offices (D-OS-31) indicates that AL has responsibility for UMTRA. Historically, these responsibilities have been managed by the UMTRA PO, however, formal correspondence reflecting this role could not be found. The agreement does not specify the role of the UMTRA PO with regard to GJPO personnel. No formal direction to GJPO

on UMTRA has been provided regarding the reassignment. While some oversight exists from UMTRA PO, there is no formal oversight arrangement at present (I-EP-3). A programmatic agreement between UMTRA PO and the GJPO has been drafted, but not executed (D-OS-22). The draft agreement, as written, does not specifically delineate the roles, responsibilities, and working relationships of UMTRA personnel working in Grand Junction for GJPO and UMTRA PO.

Another example where confusion regarding roles and responsibilities exists is in the area of surveillance and maintenance of completed remedial disposal cells. In January 1991, UMTRA PO and GJPO entered into two Memoranda of Agreement (MOAs) for Pre-Licensing Custodial Care (PLCC) and Long-Term Surveillance and Maintenance (LTSM) (D-OS-27 and D-OS-28). These MOAs detailed the respective roles and responsibilities of UMTRA PO and GJPO with respect to surveillance and monitoring activities during the PLCC and LTSM periods. PLCC is defined as the period of time between completion of the disposal cell and issuance of a final license by the Nuclear Regulatory Commission (NRC). The LTSM period begins upon the issuance of a final site license. However, in practice, LTSM responsibility is transferred to GJPO at the beginning of the next fiscal year after a final license is issued, provided that a GJPO budget category for LTSM has been established. In November 1991, GJPO submitted a request for additional funds to the Change Control Board (CCB). The request itemized expenditures associated with site inspections, followup inspections, and maintenance, all of which are the responsibility of GJPO under the terms of the MOAs. The request also itemized program management costs for activities such as planning, cost/schedule control, training, quality assurance (QA), health and safety, engineering support, and technical and regulatory support in an amount totaling over \$300,000. However, the CCB believed that all these activities are clearly detailed in the MOAs as being the responsibility of the UMTRA PO and that UMTRA PO had already substantially addressed these items in an implementation guidance for surveillance and maintenance (D-OS-5). GJPO feels these costs would cover such activities as preparation of Activity Data Sheets, 5-year plans, and program changes over time to accommodate new requirements contained in DOE Orders and environmental regulations (I-EP-30). GJPO feels these program support activities that may not be sufficiently addressed in the 1991 MOAs. It also appears that GJPO and UMTRA PO are pursuing independent courses of action to resolve this confusion regarding uncertain assignments of responsibilities. GJPO would like to see such program support functions for PLCC activities covered by a PLCC budget already established at GJPO, and project support activities related to UMTRA be funded through the UMTRA PO. UMTRA PO has decided to pursue resolution of this confusion through a request for clarification from the Director, Off-Sites Remediation Division (EM-451) (I-EP-30).

Finally, some potential for future confusion may also exist because MOAs do not provide specific direction on preserving technical consistency. Chem Nuclear-Geotech personnel responsible for implementing the LTSM have indicated that once GJPO begins its surveillance and maintenance activities, it would be within GJPO's authority to modify surveillance mechanisms and techniques in response to state-of-the-art evolution. Further, they indicated that all such changes would probably be done in coordination with UMTRA PO for sites where groundwater restoration activities are ongoing (I-EP-22 and I-EP-23). In their current forms, the MOAs do not provide specific direction and control on how technical consistency between GJPO's surveillance activities and UMTRA PO's groundwater characterization/restoration activities will be preserved. Specialists from the Technical Assistance Contractor (TAC) assisted UMTRA PO in formulating the original

MOAs. However, the current technical specialist at UMTRA PO now responsible for development of the technical approach to groundwater restoration was not involved in the development or execution of the original PLCC and LTSM MOA (I-EP-21). Technical consistency is important in areas such as data collection, data validation, quality assurance, and results interpretation. Consistency in interpreting results is especially important at sites where tailings have been stabilized in place or elsewhere on the mill site and where Phase II groundwater restoration activities under Uranium Mill Tailings Radiation Control Act of 1978, PL 95-604 (UMTRCA) are underway. Such consistency will be necessary to preserve DOE's overall credibility with the NRC, which has licensing authority for PLCC, LTSM, and groundwater restoration.

The PLCC and LTSM MOAs are believed by the UMTRA PO to be sufficient to effect a smooth transfer of activities and authority from UMTRA PO and the GJPO. However, the MOA does not provide details for maintaining consistency between the separately administered PLCC/LSTM and groundwater characterization/remediation programs.

While some believe that the transfer of GJPO to AL clarified or "fixed" the complex organizational arrangement, confusion among parties still exists (I-OS-10 and I-OS-11). Staff identified the problem of commingled waste, additional VPs, and LTSM as issues to be resolved.

This finding was neither identified in the UMTRA Project Office Self-Assessment (1992), nor the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factor for this finding is change, which rendered existing policies inadequate or inappropriate.

3.2 ENVIRONMENTAL COMMITMENT

3.2.1 Overview

The environmental commitment component of the audit was conducted to determine the extent to which the UMTRA Project exhibits a positive attitude toward environmental compliance. It consisted of an examination of three subareas: environmental policy, top management support, and line management support.

Two approaches were used to obtain information on this portion of the audit. Documents, including DOE Orders, Secretary of Energy Notices (SENs), the UMTRA Environmental Audit (1991), mission and policy statements, and program and implementation plans were reviewed prior to the onsite portion of audit. Onsite activities involved interviewing staff in both line management and support functions within the UMTRA Project, including both DOE and contractor personnel. Additional documents obtained during the onsite interviews were also reviewed.

Environmental commitment has been reflected throughout the Project by the issuance of written policy statements (D-EC-14, 25, 37, and 38). These statements are posted in prominent places in the workplace. The Remedial Action Contractor (RAC) requires that its employees sign-off that they have read and understood the policy (D-EC-30 and D-EC-27). The UMTRA PO has an Implementation Plan (D-EC-3) that describes how environmental policy will be put into practice.

Staff interviewed indicated that UMTRA PO is responsive to the public's environmental concerns (I-EC-2 and I-EC-6). In addition, interviewees characterized the office atmosphere as fostering open communication and providing support for environmental compliance activities.

Although environmental training (one of many indicators of environmental commitment) is not adequately developed and implemented, a variety of other positive indicators of environmental commitment were noted. UMTRA PO staff have a wide range of training courses available to them (D-EC-11, 22, 23, 26, 28, 29, and 33). Most position descriptions contain environmental elements. Environmental responsibilities are included in performance evaluations. Membership in professional environmental associations is found among staff members from all organizations.

The Technical Assistance Contractor (TAC) has an employee quality improvement suggestion system (D-EC-24); about 30 percent of these suggestions are environmentally related, and they include both office and field input (I-EC-9). The UMTRA PO has implemented a project-wide Cost Reduction/Productivity Improvement Program (CR/PIP) to look at continuous improvement opportunities across the Project. This includes participation from the TAC, RAC, Vicinity Properties (VP) RAC, and UMTRA PO. A number of initiatives are environmentally related as well. The RAC's involvement in studies to address the public's environmental concerns shows good management practice, beyond regulatory requirements (D-EC-31). Nearly half the staff of the RAC are involved with environmental compliance.

Progress toward environmental commitment has been made in a variety of areas since the UMTRA Environmental Audit (1991). As one indicator of environmental commitment,

routine oversight of environmental activities is performed. GJPO uses three types of approaches for routine oversight including a daily "walkdown" (D-EC-35; I-EC-1 and I-EC-6). The RAC has implemented daily and weekly oversight, as well as a weekly coordination meeting with contractors and subcontractors for discussion of environmental compliance activities (D-EC-32 and D-EC-34). These activities for the RAC have been implemented since the last audit.

Furthermore, the contracting system has been modified since the last audit to address environmental concerns. Additional language has been added to UMTRA PO contracts to incorporate environmental compliance concerns (D-EC-36). In addition, the RAC has restructured its contracting mechanisms for issuance of subcontracts. The revised bidding package reflects an increased emphasis on ES&H aspects of the work, and requires submissions from bidders specifically addressing these issues. Also, a separate section has been added to the bidding package where all required environmental protection related submissions are itemized and further described. The RAC has also established a mechanism for additional submissions from the successful bidder that demonstrate the subcontractor's compliance with environmental requirements and certify the subcontractor's credentials to do the work (e.g., certificates of Occupational Safety and Health Administration (OSHA) 40-Hour Hazardous Waste Site Worker training for all subcontractor employees when such training would be required).

Other indications of progress toward environmental commitment for the UMTRA Project include utilizing an independent contractor, assigning a subcontractor to define the regulatory envelope, and increased management support for this Environmental Management Audit. The UMTRA Project has also established an ES&H committee with representatives from all Project participants to deal with policy-making and other Project-wide issues. The RAC has also instituted a variety of organizational changes that reflect environmental commitment. The ES&H manager has been elevated from reporting to the operations manager to reporting to the director. ES&H site managers have been added to all active sites.

While positive indicators of environmental commitment were observed, some less positive aspects of environmental commitment were also noted. DOE (UMTRA PO and GJPO) staff resources have not been allocated to meet environmental compliance, despite requests for such resources (see Finding SR/CF-2). Environmental training for both support and line staff is poorly developed (see Finding SR/CF-1). Formal appraisal plans and self-assessment plans have not been fully developed and implemented (see Finding PE/CF-2). Some of UMTRA Project organizations do not have formal systems developed and implemented for lessons learned, performance trending, and tracking of environmental activities and issues (see Finding FP/BMPF-1). Furthermore, review and oversight roles identified for the environmental functions are not fully developed (see Finding FP/BMPF-1). Some of these deficiencies are related to the staff resource deficiency (see Finding SR/CF-2).

The UMTRA Project is moving toward comprehensive environmental commitment. However, implementation of an environmental ethic is not yet totally integrated and reflected in daily Project activities.

No findings were identified in the environmental commitment portion of the audit.

3.3 ENVIRONMENTAL PROTECTION PROGRAMS

3.3.1 Overview

The environmental protection programs portion of the audit evaluated the UMTRA Project's environmental protection programs against the following: performance standards and directives specified in DOE Orders (DOE 5400.1, "General Environmental Protection Programs"; DOE 5400.5, "Radiation Protection of the Public and the Environment"; and DOE 5480.4, "Environmental Protection, Safety and Health Protection Standards"); Federal, state, and local environmental protection standards and regulations; and environmental commitments of the UMTRA Project contained in consent decrees, administrative orders, memoranda of agreement, permits, and licenses.

The general approach to this portion of the audit involved review of relevant environmental protection plans and documents provided by the UMTRA Project before the onsite portion of the audit. Onsite activities involved obtaining and reviewing additional relevant plans and documents, and interviews of individuals at all levels of the organization, within both UMTRA PO and GJPO, as well as within the Technical Assistance Contractor (TAC), the surface Remedial Action Contractor (RAC), and vicinity property remedial action contractor organizations.

Because of the complexity of the UMTRA program, a systems approach was utilized. Environmental protection programs developed by both UMTRA PO and GJPO, as well as selected technical guidance documents, implementation strategies, and procedural guidances developed by the principal implementing contractors, were reviewed collectively. Determinations were made as to whether all such plans and guidances comprehensively and consistently addressed all applicable environmental standards and regulations, and were effectively linked to ensure overall environmental compliance and preserve overall program credibility. In addition, procedures for evaluating environmental performance throughout the UMTRA Project, as well as mechanisms for amending or correcting environmental protection plans in response to new requirements and identified deficiencies were also reviewed.

An environmental audit of the Rifle, Gunnison, and Grand Junction UMTRA Project sites was conducted in June 1991 (D-EP-22). One finding of that audit, EM/CF 3, determined that the overall environmental protection program of the UMTRA Project was not comprehensive and lacked necessary formality. In response to this finding, considerable progress has been made in developing necessary programs and procedures, and in formalizing existing program elements. Presently, all but one environmental protection program required by DOE 5400.1 have been established. The one delinquent document, the Environmental Monitoring Plan (D-EP-21), is in final draft status and expected to be issued as final in the near future.

The general strategic approach to Environmental Protection Plan development in the UMTRA Project is for plans developed by UMTRA PO and GJPO to have a program-wide scope. It then becomes the responsibility of the implementing contractors to develop site-specific action plans, to implement procedures that satisfy all requirements of those plans, and to introduce additional site-specific requirements as required.

To ensure that environmental protection programs remain current, and problems and deficiencies are resolved expeditiously, UMTRA PO has established an ES&H Committee, chaired by the UMTRA PO Environment and Safety Manager. The charter for this Committee has been established and meetings have been held to establish operating protocols. However, additional operating procedures still need to be implemented.

A second finding of the UMTRA Environmental Audit (1991), EM/CF-5, identified the lack of a comprehensive operating envelope of applicable environmental requirements contained in DOE Orders and Secretary of Energy Notices (SENs), and Federal, state, and local laws and regulations. In response to this finding, UMTRA PO has utilized an independent contractor to establish a comprehensive list of over 700 documents that specify requirements for UMTRA-related activities in Grand Junction, Colorado (D-EP-42). UMTRA PO has conceptualized a Regulatory Oversight Compliance Support (ROCS) group that would be primarily responsible for evaluating these identified requirements, placing them in an appropriate implementation order (utilizing a risk-based decision-making procedure, the criteria of which have not yet been created), and assisting the ES&H Committee in ensuring that environmental requirements are properly incorporated into environmental protection programs.

The environmental protection programs of the UMTRA Project are generally in good condition and they substantially meet the requirements of DOE 5400.1. In response to the UMTRA Environmental Audit (1991) (D-EP-22), and in accordance with the approved Action Plan (D-EP-5), UMTRA PO and its contractors have improved the quality of many of their programs required by DOE 5400.1 including: Environmental Protection Implementation Plan (EPIP) (D-EP-45); Quality Assurance Program Plan, revised June 1992 (D-EP-63); Groundwater Protection Management Program Plan (GWPMPP), issued as final in June 1992 (D-EP-61); and the Waste Minimization/Pollution Prevention Awareness Program Plan (WM/PPAPP), issued as final in April 1992 (D-EP-27). Implementation plans for Long-Term Surveillance and Maintenance programs (D-EP-58), which are to be executed by GJPO, and the Vicinity Properties program (D-EP-59) also are undergoing revisions. Major outstanding environmental protection issues include: management of commingled wastes from vicinity properties, establishing supplemental standards for mill tailings mixed with listed hazardous wastes, and satisfaction of the National Emission Standards for Hazardous Air Pollutants (NES-HAP) standard for radon. The UMTRA PO is actively pursuing resolution of each of these issues.

One compliance finding has been identified relating to the Environmental Monitoring Plan not being finalized by the schedule established in DOE 5400.1. Two best management practice findings have been identified relating to procedures for contract change orders to contractors, and incorporation of all environmental commitments into environmental program documents.

3.3.2 Compliance Finding

FINDING EP/CF-1:

Environmental Protection Plans

Performance Objective: DOE 5400.1, "General Environmental Protection Programs," establishes the environmental protection program requirements, authorities, and responsibilities for DOE operations necessary to ensure compliance with applicable Federal, state, and local environmental protection laws and regulations, Executive Orders, and DOE Orders and Secretary of Energy Notices (SENs). Specific environmental protection plans and reports required by DOE 5400.1 include: Annual Site Environmental Report, Environmental Protection Implementation Plan (EPIP), Long-Range Environmental Protection Plan, Groundwater Protection Management Program, Waste Minimization Program, Pollution Prevention Awareness Program, and Environmental Monitoring Plan.

Best management practice suggests that procedures be established to determine the applicability of the requirements of DOE 5400.1, Chapter I, to all technical program decisions. Chapter I, Section 4, requires that DOE Assistant Secretary for Environment, Safety and Health (EH-1) be provided notice of variances and exemptions requested from Federal and state regulations and that EH-1 approval is obtained for variances or exemptions from DOE Order requirements.

Finding: The UMTRA PO has not finalized an Environmental Monitoring Plan as required by DOE 5400.1 and procedures for determining the applicability of DOE 5400.1, Chapter I, to UMTRA Project technical decisions have not been formally established.

Discussion: The Environmental Monitoring Plan for the UMTRA Project is still in final draft status (D-EP-21). The draft plan has been submitted to AL for review and comment, and AL review comments have been incorporated, but the plan has not been finalized. DOE 5400.1, Chapter IV, Section 1(b), requires that the Environmental Monitoring Plan be completed by May 1990. UMTRA PO intends to issue the final plan in November 1992 (I-EP-32).

Documentation indicates that the UMTRA PO has developed (and submitted to AL as required) all other plans required by DOE 5400.1 within the respective schedules for those plans, and that AL has satisfied all of its responsibilities to submit certain environmental protection plans to Headquarters (D-EP-50).

The Environmental Monitoring Plan reflects technical decisions based on the professional judgments of staff from the UMTRA PO and its contractors. These decisions represent good faith interpretations of applicable standards and requirements. One such example of technical decision-making is the meteorological monitoring program discussed in Section 4 of the draft Environmental Monitoring Plan. The Remedial Action Contractor (RAC) responsible for development of this program has determined that a Meteorological Monitoring Program is required only for UMTRA sites where monitoring for total suspended particulate (TSP) is also required. This approach appears to be technically defensible. However, DOE 5400.1, Chapter IV, Section 6, universally requires meteorological monitoring programs at all DOE facilities to support environmental monitoring requirements. DOE 5400.1, Chapter I, Section 4, establishes specific procedural requirements for securing variances and exemptions from Federal, state, and local regulations or from DOE Order requirements when technical conditions warrant. These

procedures require notice to EH-1 of all requests made to Federal or state/local regulatory authorities for temporary or permanent exemptions or variances. The procedures further require approval by EH-1 of the variances or exemptions from DOE Orders. It is not clear from the content of Section 4 of the Environmental Monitoring Plan that an exemption from Meteorological Monitoring Program requirements has already been granted by state or local authorities, or whether an exemption by rule exists in the applicable rules that address this particular instance. It is not clear from a reading of DOE 5400.1, Chapter I, Section 4, whether EH-1 concurrence is necessary where exemptions by rule are available. Nevertheless, the RAC's proposed technical approach appears to constitute a variance from DOE 5400.1, Chapter IV, Section 6. EH-1 approval has not been secured for this technical approach. Contractor personnel have indicated that they were not aware of the potential applicability of the procedures in DOE 5400.1 (I-EP-28 and I-EP-29).

Best management practice suggests that obtaining interpretation on this point is a prudent course of action for UMTRA PO. Currently, UMTRA PO does not have a procedure for identifying those instances where it is appropriate to pursue variances or exemptions and to ensure that proposals for such variances or exemptions are submitted to EH-1 for review or concurrence as required by DOE 5400.1.

This finding was neither identified in the UMTRA Project Office Self-Assessment (1992), nor the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are resources, in that sufficient staff were not available to finalize the environmental monitoring plan; and procedures, in that DOE requirements relating to variances and exemptions were not addressed.

3.3.3 Best Management Practice Findings

FINDING EP/BMPF-1:

Structure of Environmental Protection Plans

Performance Objective: DOE 5400.1, "General Environmental Protection Program," establishes requirements for all DOE operations to establish environmental protection programs of sufficient scope and detail so as to ensure compliance with all applicable environmental standards and requirements, including those environmental commitments contained in site-specific permits, licenses, consent decrees, administrative orders, and memoranda of agreement.

Finding: The environmental protection programs developed by UMTRA PO and GJPO to support the UMTRA Project are program-wide in scope and do not articulate site-specific requirements. Proposed changes to the GJPO Environmental Protection Implementation Plan (EPIP) may result in discrepancies between the GJPO and UMTRA PO EIPs with respect to vicinity property remediations.

Discussion: Environmental protection programs established by the UMTRA PO and the GJPO are program-wide in their respective structures. That is, they establish goals and objectives that apply to all sites included in the UMTRA Project (or in the case of GJPO, they apply to all current GJPO activities, not just UMTRA-related activities). These program plans recognize, but do not itemize, the site-specific requirements that apply to individual sites which are contained in permits, licenses, or memoranda of agreement.

As a result, it is incumbent solely on the UMTRA Project contractors to develop site-specific action plans and implementation procedures incorporating all site-specific environmental commitments and responsibilities. Furthermore, since neither UMTRA PO, nor GJPO staff review contractors' site-specific implementation plans before execution, the Project Offices' first opportunity to recognize that certain site-specific requirements have been omitted or that implementing procedures are deficient or in error occurs during oversight inspections. This was shown in a recent self-assessment conducted on the UMTRA-related activities of GJPO (D-EP-55). In that assessment, deficient procedures were identified for solid and hazardous wastes, and conduct of radiation protection programs (Observation EM.3.1). Procedures supporting UMTRA activities were also found by that self-assessment to have not been formally developed (Observation EM.4.3).

Due in large part to the strong institutional memory that now exists within the contractor organizations, no evidence suggest that any site-specific requirements are now being ignored at any particular site. However, best management practice suggests that changes to the structure of program-wide documents could be made that would better ensure that site-specific requirements are identified and incorporated in contractors' site-specific implementation procedures. Changes to program-wide documents that would provide for itemization of site-specific requirements would help ensure that oversight activities at each site would be comprehensive, and that data required to be collected for incorporation into Annual Site Environmental Reports were indeed being collected.

The UMTRA PO EPIP indicates that remediation of Grand Junction vicinity properties will be covered in the GJPO EPIP (D-EP-25). The current GJPO EPIP acknowledges that Grand Junction vicinity property remediations are managed through the GJPO, but does not otherwise speak to the specifics of that program and how environmental protection

aspects of that program will be addressed (D-EP-28). However, GJPO's contractor has recently provided the GJPO Project Manager with a final draft revised EPIP (D-EP-62), covering the period November 9, 1992 to November 9, 1993 (D-EP-60). It is important and encouraging to note that this revised draft GJPO EPIP pays much more explicit attention to Grand Junction vicinity property remediations than did its predecessor document. The draft EPIP contains a permit status schedule and a planning/reporting schedule, both of which itemize specific requirements for the UMTRA Grand Junction vicinity property remediations. It is not clear whether the approach to Grand Junction vicinity property remediation contained in this revised GJPO EPIP has been discussed and coordinated with UMTRA PO to ensure compatibility between GJPO and UMTRA PO EIPs.

This finding was not identified in the UMTRA Project Office Self-Assessment (1992), and was partially identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy implementation, in that DOE Policy requiring sufficient scope and detail of environmental protection programs was not implemented to ensure environmental protection documents address all environmental commitments; and procedures, in that existing procedures fail to ensure in a timely manner that all environmental commitments are accommodated for each site.

FINDING EP/BMPF-2:**Contract Change Order Procedure**

Performance Objective: DOE 5400.1, "General Environmental Protection Program," requires all DOE facilities to establish environmental protection plans and to ensure timely and continuous compliance with all applicable Federal, state, and local environmental laws and regulations, DOE Orders, Secretary of Energy Notices (SENs), and Executive Orders. Best management practices suggest that these environmental protection plans be supported by procedures that provide for expeditious compliance with applicable environmental requirements and be sufficiently flexible to accommodate new environmental and DOE requirements within the respective compliance schedules of those new requirements.

Finding: Draft procedure for issuing change of scope authorizations to contractors for the purpose of addressing new regulatory requirements or DOE Orders is not adequate to ensure contractors' timely compliance with these new requirements.

Discussion: UMTRA PO and DOE Field Office, Albuquerque (AL) (Contracting Officer) have developed a draft procedure for authorizing contract change orders to UMTRA contracts to accommodate new regulatory requirements and new DOE Orders (D-EP-49). The primary objective of this new procedure is to ensure that Federal Acquisition Regulations (FARs) are satisfied in all instances. It is also an objective of this procedure that its application does not constitute an obstruction to timely compliance.

The authorization procedure calls for the Contracting Officer to receive impact analyses (including cost estimates and implementation schedules) from affected contractors, and have those analyses concurred in by appropriate UMTRA PO personnel (e.g., the Environment and Safety Manager, for all new environmental and safety requirements) before issuing authorizations to contractors to proceed with implementation. The Contracting Officer estimates that administrative processing time for this procedure should take no more than 2 weeks. There are no current estimates for contractor impact analyses preparation or UMTRA PO concurrence reviews. However, major environmental regulations routinely have compliance deadlines of 90 days or more and UMTRA PO and AL personnel feel that this is a sufficiently long timeframe to complete the entire process, and have the authorization issued to the affected contractors well before the compliance deadline. However, there are no supporting procedures in place that guarantee the Contracting Officer will receive information on new DOE Orders and regulations as soon as they are received at AL or UMTRA PO in order to initiate the process in a timely fashion. The Contracting Officer is not normally in the loop to receive information on new environmental requirements contained in DOE Orders or environmental regulations, nor should the Contracting Officer be expected to have sufficient environmental expertise to recognize the applicability and impact of new requirements to the UMTRA Project.

The current procedures provide for an expedited processing path, but with respect to environmental issues, eligibility criteria are limited to those conditions constituting immediate threats to the environment and no criteria have been established which would expedite processing on the basis of regulatory compliance deadlines or deadlines contained in administrative compliance orders, some of which have the potential to be very short. UMTRA PO personnel clearly recognize the importance of this procedure in assuring coincident compliance with both FARs and environmental requirements, and are continuing to work with the AL Contracting Officer to develop adequate procedures.

This finding was neither identified in the UMTRA Project Office Self-Assessment (1992), nor in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy, in that adequate policy does not exist to ensure simultaneous and expeditious compliance with FARs, new DOE Orders, and environmental regulations; and procedures, in that the procedures for authorizing contractors to pursue compliance are not fully in place.

3.4 FORMALITY OF ENVIRONMENTAL PROGRAMS

3.4.1 Overview

The formality of environmental programs portion of the audit reviewed the UMTRA Project to determine whether formal systems and procedures are in place to support environmental protection programs and to ensure quality and consistency of environmental management operations. Specific areas of review included regulatory tracking systems, procedure development and implementation, inspections, recordkeeping and reporting, and conduct of operations. Because of the nature of the UMTRA Project and the reliance on contractor support for project implementation, this review focused on UMTRA PO, GJPO, and contractor systems and procedures, and UMTRA PO and GJPO oversight of contractors.

The general approach to this portion of the audit was to review DOE Orders and Secretary of Energy Notices (SENs), Federal regulations, and background documents provided by the UMTRA Program organizations prior to the onsite portion of the audit. Onsite activities included interviews with management and staff from UMTRA PO, GJPO, the Remedial Action Contractor (RAC), Technical Assistance Contractor (TAC), and GJPO RAC and the review of documents received onsite. This portion of the audit also relied on input from other audit team specialists.

The development of the conduct of operations for the UMTRA PO contractor was initiated in the fall of 1990 when the UMTRA Project Manager requested the RAC and TAC to prepare and submit implementation plans. Both the TAC and RAC submitted plans, but to date, DOE Field Office, Albuquerque (AL), who was expected to approve the plans, has not concurred. The GJPO RAC has also submitted its plan to GJPO, but there is no system for approval. In spite of the approval issue, the contractors have implemented their respective conduct of operations programs. The UMTRA PO and GJPO have not fully developed and implemented conduct of operations programs, but they have formalized or are formalizing many of their operations. In addition, a majority of the UMTRA PO and some of the GJPO staff have been trained on conduct of operations.

Although DOE and contractor personnel are aware of environmental laws and regulations that impact on the program, there is no program-wide system for identifying and tracking all applicable requirements. In general, the development and implementation in these areas have progressed more rapidly at the contractor level than the DOE organizations. In response to the UMTRA Environmental Audit (1991) (D-FP-14), UMTRA PO has created a comprehensive listing of regulations impacting UMTRA activities in Grand Junction, Colorado. UMTRA PO anticipates formation of a Regulatory Oversight Compliance Support (ROCS) group that would be responsible for integrating these requirements into existing program plans and create an identification/tracking system for future requirements.

Document control systems for UMTRA Project environmental program documents are in place. The GJPO RAC has a document control system that is formalized, controlled, and auditable. GJPO uses the GJPO RAC's system. The TAC also has a formal document control system. UMTRA PO uses the TAC's systems, and relies on them for this service. Currently, the RAC is in the process of updating its document control and records management system. Review of these systems identified problems in that documents were not in the system, and some documents in the system were not the current versions.

Indicators of progress in the formality of environmental programs area include the increased formality and regimentation in all operational areas of the Project. The UMTRA primary contractors have many formal and documented systems in place for conducting the operations of their environmental programs. The DOE Project Offices have not fully developed these formal documented systems, but many of the required activities are being performed informally. Without these formalized systems, the DOE organizations may not be aware of opportunities where they can improve the effectiveness of their oversight of the UMTRA Project's environmental programs.

The overall assessment in this area is that the UMTRA Project contractors have effectively institutionalized formality in their environmental programs and activities. The POs have been less successful in fully developing and implementing formality into their programs and operations because of limited staff resources.

There were two compliance findings and one best management practice finding in the formality of environmental programs portion of the audit. The compliance findings address implementation of effective document control systems for the project and the development and implementation of conduct of operations. The best management practice finding addresses the development and implementation of formal systems for tracking and distributing DOE Orders and environmental regulations, and for translating DOE Orders and environmental regulations into internal policies, standards, and procedures.

3.4.2 Compliance Findings

FINDING FP/CF-1:

Document Control

Performance Objective: DOE 5700.6C, "Quality Assurance," establishes quality assurance requirements for the Department of Energy. The Order states that documents shall be prepared, reviewed, approved, issued, used, and revised to prescribe processes, specify requirements, or establish design.

The UMTRA Project Office Quality Assurance Program Plan (QAPP), Section 4.0, "Documents and Records," states that the preparation, issue, and revision of documents that specify quality requirements or prescribe activities affecting quality shall be controlled to ensure that correct documents are being employed. In addition, each UMTRA Project contractor shall develop and implement procedures to ensure that UMTRA Project documents are prepared, revised, reviewed, approved, and issued in a prescribed and controlled manner, as specified in their individual QAPPs.

Finding: Effective document control systems have not been implemented for the UMTRA Project, as required by DOE 5700.6C.

Discussion: During the audit, a review of the Remedial Action Contractor's (RAC's) documents and records showed that the RAC's Occurrence Reporting and Processing System (ORPS) Procedure Manual was not in their document control system. Discussions revealed that the RAC is revising its management system for UMTRA documents and records to be consistent with the UMTRA PO QAPP and DOE 5700.6C. Implementation of the new system for the Environment, Health and Safety (ES&H) QAPP is scheduled for June 1993.

Another review has indicated there are problems with document control. A Quality Assurance Assistance Review (D-FP-28) conducted by AL at the UMTRA PO, Technical Assistant Contractor (TAC), and RAC stated in the Executive Summary that "weaknesses noted in the UMTRA PO document control system during the conduct of the review are not documented as observations in this report, but this area will be considered in future assessments." Discussion with the Review Team Leader (I-FP-23) revealed that several documents in the UMTRA PO's document management system related to environmental programs, notably, Erosion Protection and Earthwork, were not the currently approved version. UMTRA PO uses the TAC's document management system. The TAC is responsible for maintaining the system.

At GJPO, Chem-Nuclear Geotech (CNG) is charged with maintaining both GJPO and CNG documents and records. Discussion with CNG personnel (I-FP-22) revealed that GJPO and CNG had problems with their document control and records management system, but procedures have been developed and are currently being implemented.

This finding was fully identified in both the UMTRA Project Office Self Assessment (1992), and the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are procedures, in that there was a lack of familiarity with the document control procedures; and training, in that there has been a lack of training on implementation of policy and procedures.

FINDING FP/CF-2:

Conduct of Operations

Performance Objective: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provide requirements and guidelines for Departmental Elements to use in developing directives, plans, and procedures relating to the conduct of operations at DOE facilities. This Order states that it is DOE policy that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities. Conformance with the requirements shall be documented and as a minimum this document shall be approved by the Head of the Field Element.

Finding: UMTRA PO and GJPO have not fully developed and implemented formal Conduct of Operations Programs as required by DOE 5480.19. The contractor programs have been developed and implemented but not approved as required by DOE 5480.19.

Discussion: The UMTRA PO and GJPO have not developed conduct of operations programs for Project operations. The majority of the UMTRA PO staff and some of the GJPO staff have been trained on conduct of operations.

The three primary UMTRA contractors have developed and implemented conduct of operations. Program documents (D-FP-30, D-FP-31, and D-FP-33) have been prepared, but there are no records to support approval of these programs by the Head of the Field Element.

This finding was partially identified in the UMTRA Project Office Self-Assessment (1992), and was fully identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factor for this finding is policy implementation, in that DOE 5480.19 has not been fully implemented as directed.

3.4.3 Best Management Practice Finding

FINDING FP/BMPF-1: Regulatory Tracking, Translation, and Distribution

Performance Objective: Best management practice suggests having a formal system for tracking and distributing DOE Orders and environmental regulations, and for translating DOE Orders and environmental regulations into internal policies, standards, and procedures.

Finding: UMTRA PO and GJPO have not fully developed and implemented formal systems for tracking and distributing DOE Orders and environmental regulations, and for translating DOE Orders and environmental regulations into internal policies, standards, and procedures.

Discussion: Currently, UMTRA PO and GJPO distribute DOE Orders and environmental regulations to their contractors through the contracting officer, who requests contractor review for impact and associated cost (I-PE-16). This system has not been formalized (see Finding EP/BMPF-2). Dissemination of new environmental information and regulations to the staff at the UMTRA PO is being done, although a formal process of notification has not been developed and implemented. The GJPO is also in the process of developing and implementing a formal procedure for regulatory tracking and translation (D-FP-34 and D-FP-35). This procedure will be incorporated in the GJPO Projects Office Manual (D-FP-11).

In response to the UMTRA Environmental Audit (1991) (D-FP-14), UMTRA PO has tasked an independent contractor to develop a comprehensive "operating envelope" which identifies the full array of regulations, Orders, and other guidance that governs the UMTRA Project. UMTRA PO has also conceptualized the formation of a Regulatory Oversight Compliance Support (ROCS) group, the functions of which would be identification, tracking, analysis, and distribution of new regulatory and DOE requirements (I-PE-3 and I-PE-19). However, the group has not yet been formally chartered.

This finding was fully identified in the UMTRA Project Office Self-Assessment (1992), and partially identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy, in that formal delegation of responsibility to identify, track, and distribute DOE Orders and regulations has not been established at UMTRA PO; policy implementation, in that distribution of new regulations and assessments is not occurring at GJPO in accordance with established policy; and resources, in that the UMTRA PO does not have the available staff to develop a policy.

3.5 INTERNAL AND EXTERNAL COMMUNICATION

3.5.1 Overview

The communication portion of this audit was conducted to assess the appropriateness of the communication system both internal and external to the UMTRA Project. The internal communication system was viewed as the process of sending and receiving information. This includes regular formal processes such as staff meetings, management reporting, routing of key documents, and so forth, and it includes informal processes such as telephone calls and informal meetings. The scope also included anonymous reporting systems and common perceptions of information/communication effectiveness. The audit considered communication among all of the Project participants: UMTRA PO, DOE Field Office, Albuquerque (AL), the Remedial Action Contractor (RAC), the Technical Assistance Contractor (TAC), GJPO, the Vicinity Property (VP) RAC, and Headquarters (HQ). External communication refers to the system of sending and receiving information as it relates to outside organizations. The process of communication with external groups, the frequency of communication, and the perception of adequacy and effectiveness were examined. External groups include the following: Nuclear Regulatory Commission (NRC), Colorado Department of Health (CDH), Mesa County Citizens' Advisory Group, and local communities.

The general approach used in this portion of the audit was to interview staff in all relevant organizations (internal and external), review Secretary of Energy Notices (SENs) and DOE Orders relative to communication, and review findings from the UMTRA Environmental Audit (1991) (D-IC-9).

The assessment method used in this portion of the audit is based heavily on interviews and evidence of routine communication processes such as routing of key documents, weekly status reports, newsletters, and so forth. Interviews with 39 people, representing HQ Off-Sites Remediation Division (EM-451), AL, UMTRA PO, GJPO, the RAC, TAC, VP RAC, NRC, CDH, Mesa County Citizens' Advisory Group, and local communities were conducted. Consideration was given to interviewees' perception of how well the communication system worked.

The organization was viewed as a system with major components consisting of HQ, AL, UMTRA PO, GJPO, the RAC, TAC, and VP RAC. The UMTRA project is basically a decentralized project run by the UMTRA PO with weekly conference calls by site managers on site-specific issues. UMTRA has a history of successful remediation, and HQ does not get involved in the day-to-day details of technical management. Communication between HQ and UMTRA PO personnel takes place on a daily basis between different individuals. At the field level, the parallel organizational structure of the UMTRA PO, the RAC, and the TAC facilitates interaction across organizations in that most UMTRA PO staff have a counterpart in the other organizations. While there are a number of meetings between the UMTRA PO and contractors, staff identified a need for better communication across the organizations.

A number of internal communication improvements have been made at the Project Office level in the last year. These include twice weekly standup staff meetings within UMTRA PO and the development of a local area network and electronic mail that connects the UMTRA PO, TAC, RAC, GJPO UMTRA personnel, the Grand Junction Site Manager,

and HQ personnel. Much of the flow of information in the UMTRA PO is informal in nature (such as information about training opportunities), which means that those with the least opportunity to interact (remote site managers) are often left out of the communication loop. Brief standup staff meetings do not include the remote site managers, but the remote managers do receive the weekly UMTRA PO activity report.

The RAC has implemented a system of weekly reporting from field sites which include weekly status reports and weekly Environment, Safety and Health (ES&H) reports. The RAC also has a quarterly newsletter sent to Chem-Waste RAC employees.

In terms of external communication, the UMTRA project has long been noted for its public involvement program, which includes citizens' advisory groups, regular interactions with community representatives, and notification/interaction with the press. Because UMTRA PO site managers have ultimate responsibility for interacting with these external groups, communications are uneven across sites. Interviews with outside groups focused on Colorado, with positive comments about a number of site managers. Outside groups/community representatives in the Grand Junction area recommended the Grand Junction Site Manager as an excellent proactive model. Because outside groups/communities in other states were not consulted during this audit, other site managers did not have the chance of being identified as excellent models.

The NRC is very pleased with the communication process (as are UMTRA PO personnel) with weekly conference calls and quarterly meetings keeping all participants abreast of activities. In addition, communication channels with NRC are such that working drafts of material are sent to NRC for comment prior to official reviews. External communication with CDH is viewed by UMTRA PO as positive and improved, while CDH perceives DOE could be more supportive in data sharing activities. Much of the communication between these organizations seems to be dependent on personalities. Historical conflicts make it difficult for the two organizations to feel positive about all interactions. The UMTRA Environmental Audit (1991) identified a deficiency in the area of data sharing. An agreement has been drafted between the UMTRA PO and the CDH, but has not been formalized or distributed to staff.

Overall internal communication at UMTRA PO has improved within the last year, however, there is room for further improvement. Remote site managers are often left out of the communication loop and communication with the GJPO suffers occasionally from lack of clear lines of authority in relation to UMTRA PO (although a draft agreement specifying responsibilities does exist). External communication needs implementation of a clear policy on routine data/information sharing between UMTRA and CDH. A data sharing agreement, although drafted in cooperation with CDH, is still not implemented. External communications with communities and community groups seem to be very good in the locations checked.

There were two best management practice findings in the internal and external communication portion of this audit, which relate to internal communication and data sharing and communication with CDH.

3.5.2 Best Management Practice Findings

FINDING IC/BMPF-1: Data Sharing and Communication with Colorado Department of Health

Performance Objective: Secretary of Energy Notice (SEN)-11-89, "Setting the New DOE Course," states "The new culture will emphasize an open door philosophy and demand professional excellence in both government and contractor performance, a culture wherein constructive criticism from any source, external as well as internal, is encouraged and rewarded." Furthermore, Secretary Watkins' 10-Point Initiative establishes that DOE will cooperate fully with other agencies to ensure an open and credible posture with respect to data sharing (related specifically to health).

The Public Participation Policy for Environmental Restoration and Waste Management (signed October 1992 (D-IC-36)) states that it is DOE's "policy to conduct its programs in an open, responsive, and accountable manner . . . the public will have the opportunity to participate in the EM decision making process for program planning, design, and implementation."

Finding: A data sharing policy between UMTRA PO and the Colorado Department of Health (CDH) is in draft, but has not been put into place and UMTRA PO has not developed a program of information sharing, as is required by the new culture.

Discussion: The UMTRA Environmental Audit (1991), identified a lack of data sharing policy between UMTRA PO and CDH (EM/BMPF-1) (D-IC-9). Three items identified in the Corrective Action Plan (D-IC-8) to correct this situation were: distribute a policy on data sharing; develop a comprehensive data validation standard operating procedure; and provide routine environmental field sampling data to CDH within 8 weeks after collection. UMTRA PO has made significant progress in correcting this problem over the last 15 months. A draft data sharing agreement has been developed in cooperation with CDH but has not been signed or distributed to all staff as an operating principle. The agreement should be signed shortly and CDH is pleased with the development of the agreement and the working relationship established in the process of writing the agreement (I-IC-20). The standard operating procedure has similarly been developed and shared with CDH in draft form, but has not been finalized. The 8-week time limit on sharing field data has presented problems because of delays with the analytical laboratory. The problem has been brought to CDH's attention and solutions to the problem are being explored. UMTRA PO now regularly sends CDH sampling plans and schedules prior to commencing field work.

UMTRA PO has had a long history of interaction with CDH. The early history described as adversarial and closed has given way to good individual working relationships and more willingness to share information. Multiple conversations with three different CDH representatives (I-IC-20, 29, 36, 37, and 38) suggest the following: progress in external communication and data sharing; good working relationships exists with many site managers; and UMTRA PO is more proactive and has a better working relationship with CDH (Denver) than the GJPO does with CDH Grand Junction (where operating philosophy, history, and personalities are harder to overcome). DOE's slowness in response to requests for information is often viewed as a reticence to be open (although it is

recognized that the lethargic system in other parts of DOE may be more to blame in some cases).

CDH would like to play a larger role in the project, primarily from the perspective that they believe UMTRA contractors need closer oversight to ensure that costs are kept as low as possible.

This finding was neither identified in the UMTRA Project Office Self-Assessment (1992), nor in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factor for this finding is policy, in that data sharing policy has not been established between UMTRA PO and CDH.

FINDING IC/BMPF-2:**Vertical and Horizontal Internal Communication**

Performance Objective: Best management practice suggest that formal communication systems be in place to facilitate the regular transmission of information throughout an organization. Formal systems can be supplemented by informal systems of communication, especially when the organization is small. Both formal and informal communication systems should facilitate the exchange of information throughout the organization.

Finding: Vertical and horizontal internal communication systems do not always facilitate the transmission of project information.

Discussion: UMTRA PO and associated contractors communicate well in many respects. The development of electronic mail on a network that includes UMTRA PO, the Technical Assistance Contractor (TAC), the Remedial Action Contractor (RAC), GJPO UMTRA personnel, the Grand Junction Site Manager, and Headquarters personnel has meant increased ease of interaction (I-IC-9 and I-IC-11). Full implementation of the system will likely lead to better communication. The UMTRA PO Manager has instituted twice weekly stand up staff meetings with the staff (which do not include the GJPO UMTRA staff). The RAC has implemented an excellent system of weekly reporting from field sites, utilizing a weekly status report that includes environmental issues and a separate weekly ES&H report from the field sites (D-IC-33; I-IC-17). The RAC has begun a quarterly newsletter (UMTRA Update) (D-IC-27) sent to all Chem Waste (subcontractor to RAC) employees, but is not distributed throughout the RAC or the larger UMTRA project (I-IC-36).

Although horizontal communication between the TAC, RAC, UMTRA PO, and GJPO has improved considerably over the last year, problems still exist. These problems include staff located at GJPO being omitted from the communication loop and the GJPO being omitted in particular (I-IC-10 and I-IC-11). For instance, GJPO is not on the UMTRA PO distribution list for office information, therefore information is often passed on informally instead of circulated with the distribution list (D-IC-35). The GJPO Site and Vicinity Property (VP) managers receive only the weekly status report from UMTRA PO on a regular basis. The staff indicated that the information flow between the TAC, RAC, and DOE is poor and requires improvement. One example is the dissemination of Orders and regulations.

In regard to electronic mail, as the system becomes better integrated into work habits, it is expected that communication will improve using this medium. However, the electronic mail system lacked usage guidance to define whether it had the same status as correspondence, when one had to reply and so forth. Finally, although the TAC and the RAC have a form for employee suggestions/anonymous reporting, no mechanism was found at UMTRA PO.

This finding was partially identified in the UMTRA Project Office Self-Assessment (1992), and was not identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are training, in that a formal communication system enforces accurate communication; and supervision, in that management support and enforcement of communication facilitates the need for transmission of project information.

3.6 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

3.6.1 Overview

The staff resources, training, and development component of the audit was conducted to assess: quantity and quality of staff; training; professional development; and performance evaluation activities. In terms of quantity and quality of staff, emphasis was placed on examining the types of tasks performed, mix of staff, and the educational background and work experience of staff. In terms of training, the focus was on the presence of systems for assessing training needs, the development and implementation of training courses, systems for tracking completed training courses, and evaluation of the effectiveness of training. The professional development aspect emphasized the presence of professional development programs and opportunities for advancement for all staff. The performance evaluation component focused on whether position descriptions were accurate, and whether position descriptions and performance evaluations included appropriate environmental elements.

Two approaches were used to gather information on this portion of the audit. Documents, including DOE Orders, Secretary of Energy Notices (SENs), the UMTRA Environmental Audit (1991), position descriptions, training plans, and organization charters were reviewed before the site visit (D-SR-12). Onsite activities involved interviewing line management and support functions within the UMTRA Project, including DOE and contractor personnel. Additional documents, obtained during the interviews, were also examined.

The UMTRA Environmental Audit (1991) (D-SR-12) identified a shortage of DOE staff available to complete environmental compliance activities. Although one staff position has been added, this shortage has not been alleviated. UMTRA PO currently has 19 full-time staff to oversee the Environment Safety and Health (ES&H) activities of the Remedial Action Contractor (RAC) (with over 300 employees and approximately 400 subcontractor employees) and the Technical Assistance Contractor (TAC) (with over 120 employees). In addition, there are about four full-time equivalents (FTEs) at Headquarters Office of Southwestern Area Programs, Off-Site Remediation Divisions (EM-451) to provide oversight to the UMTRA Project. Office of Environmental Restoration (EM-40) has also recently selected a support services contractor. This contract will provide approximately three to four employees to support UMTRA work.

Line management staff at UMTRA PO have difficulty performing all their ES&H duties, such as reviewing new DOE Orders and environmental regulations, conducting field work, reviewing and conducting training, and overseeing contractors (I-SR-2, 3, 8, 10, 21, and 24). Support staff are unable to accomplish such tasks as reviewing and synthesizing applicable regulations, responding to requests for information, and conducting inspections and audits (I-SR-8 and I-SR-10). Some of the workload has been delegated to both the TAC and RAC, such as drafting environmental reports, developing transmittal letters, and supporting environmental training. There is no system for setting priorities to accomplish these tasks, so individual staff members use professional judgment to determine their own priorities (I-SR-1, 3, 8, 10, 21, and 24).

The staff includes engineers, physical scientists, technicians, public affairs, and business specialists. Staff interviewed felt the mix and proportion of the staff was appropriate

given the nature of the work (I-SR-4 and I-SR-7). The exception was at Grand Junction, where GJPO and Chem-Nuclear Geotech (CNG) personnel felt they might need a slightly higher proportion of engineers (I-SR-1 and I-SR-12).

In contrast to the DOE staffing levels, the number of contractor staff (TAC, RAC, and CNG) are sufficient to carry out their environmental responsibilities (I-SR-16, I-SR-17, and I-SR-18). The TAC consists of 119 people involved in site characterization, technical advice, development of conceptual designs, and plan review. The RAC has 326 staff, including the recently added ES&H site managers (resulting in nearly half of all RAC staff having ES&H responsibilities). The RAC is involved in developing site-specific remediation plans, and implementing the remediation.

GJPO staff include two FTEs for the UMTRA project. They are involved in managing the Grand Junction Vicinity Properties remediation, monitoring program status, interacting with regulators, and overseeing the subcontractor, CNG. About 180 FTEs at CNG are involved with the UMTRA Project, and are involved in managing subcontracts, assessing remediation needs and developing designs, inspecting construction activities, and conducting negotiations with vicinity property owners.

The turnover rate is relatively low throughout the UMTRA Project, and career paths are available (although they lack formal definition) across contractor organizations and DOE. UMTRA PO personnel could move to Kirtland Area Office, DOE Field Office, Albuquerque (AL), or across groups within UMTRA PO, as well as to the RAC or TAC. RAC or TAC staff can also move to DOE to obtain additional responsibility, although not necessarily additional monetary compensation. There are also career paths within the corporations of both the RAC and TAC. Career paths and mobility preferences are tracked at the TAC for the Jacobs Engineering Group, Inc. (JEG). The UMTRA PO grade structure is comparable to Area Offices, but one grade lower than AL. Upward mobility in terms of General Schedule grade is limited.

Training systems are inadequate in terms of assessing needs, conducting and tracking training, and evaluating effectiveness. While AL has a training order, and a wide range of training topics are available, specific UMTRA PO training plans and procedures do not exist. A training coordinator, recently hired by the RAC, will be conducting a needs assessment. None of the other organizations currently has formally assessed training needs. The TAC has a tracking system for recording who has participated in different types of training; no other organization has training tracking systems. Finally, evaluation of training programs is not conducted consistently.

With the exception of GJPO, most position descriptions reflect staff's actual job duties. Other than CNG personnel, most position descriptions also include appropriate environmental components. Environmental responsibilities are included in performance evaluations.

Overall, although UMTRA PO has obtained one additional staff member since the last audit, staff resources are still insufficient for UMTRA PO and GJPO, but not for the contractor organizations. Training activities are inadequately developed and implemented.

Two compliance findings and one best management practice finding were identified in this area. The compliance findings concern the area of training systems and numbers of staff. The best management practice finding addresses position descriptions.

3.6.2 Compliance Findings

FINDING SR/CF-1: Training Systems

Performance: DOE 3410.1B, "Training," states that "all employees be provided with opportunities to improve their knowledge, skills and abilities," and have the opportunities for "advancement in accordance with specifically defined and approved training needs." DOE 3410.1B specifies the following training requirements: identification of short- and long-term training needs, and implementation of annual systematic training needs assessment; provision of appropriate management, technical and general training; provision of advice on career development and training opportunities; development of annual training plan or updating of existing one; encouragement of the development of individual development plan; provision of on-the-job orientation; employee identification of knowledge, skills and abilities to achieve immediate and long-range goals, and evaluation of all training. This guidance is also reflected in DOE Field Office, Albuquerque (AL) 3410.1B, "Employee Development and Training."

Furthermore, Secretary of Energy Notice (SEN)-6E-92, "Departmental Organizational and Management Arrangements," states "the lack of a coherent effort to recruit, train, and develop the technical talent within DOE to run our complex operations is one of the Department's most serious problems."

Finding: The training systems for the UMTRA Project have not been adequately developed, as required by DOE 3410.1B and SEN-6D-92.

Discussions: Although training is recognized as an important component of the UMTRA Project, training procedures, needs, tracking systems, and evaluations are not adequately developed and implemented. The UMTRA Project does not have formal training policies (I-SR-17 and I-SR-19) or plans. In addition, since there are no formalized training systems, no requirements exist for determining training needs for various positions (e.g., Site Managers, engineering staff), or for determining how training material and courses are developed. As a first step to specify training needs by job category, the UMTRA PO is using the "certification of managers" as guidance for training needs for project management (D-SR-36).

Although policies do not exist, the Technical Assistance Contractor (TAC) has a training procedure to identify training requirements and to document that training requirements have been met (D-SR-24); however, it has not been fully implemented (I-SR-4).

Regardless of the lack of policies and plans, training is available for UMTRA Project staff. Environmental training is provided to new employees (D-SR-22), and is also available to existing employees. This includes training in diverse technical areas, such as hydrogeology, regulatory requirements, and overviews of DOE Orders; working with the media; interacting with the public; time management; and cost and scheduling. Moreover, diverse approaches are used to conduct both formal and informal training. Examples include continuing education, individualized reading activities, staff meetings, collegial interaction, filmstrips and videos, newsletters (D-SR-35), seminars, and workshops. At the Remedial Action Contractor (RAC), training is currently being developed for non-environmental positions (I-SR-17 and I-SR-19).

UMTRA Project support staff and line managers indicated they were supported in their desire for training, even though UMTRA PO staff did not have time to attend training courses (I-SR-1, 8, 10, 21, and 24). Staff in support functions such as budget and personnel are not receiving and see less applicability for environmental training (I-SR-11).

Only the RAC has a training coordinator, who has an appropriate professional training background. The TAC and UMTRA PO do not have a person specifically assigned to coordinate and oversee training, although UMTRA PO can use the support of AL (Personnel and Industrial Relations Division). Both the TAC and UMTRA PO acknowledge the need for a training coordinator.

The UMTRA Project also lacks systematic training needs assessments, including a description of skills needed for each job category (I-SR-17). The group which has made the most progress in this area is the RAC, where the newly hired training coordinator is in the process of developing the procedures for assessing needs of the RAC staff (D-SR-37, D-SR-33, and D-SR-30). Related to the necessity of a needs assessment are individual development plans, which are in various stages of formation across the UMTRA project. However, since there are no needs assessments, these individual development plans cannot be linked to needs assessments. Some companies within the TAC and the RAC have these plans (D-SR-25, 32, 34, 38, and 39), and UMTRA group leaders have recently received Office of Energy and Special Programs (OESP) guidance to obtain them from UMTRA staff by December 1992 (D-SR-23 and D-SR-42).

Once the training needs are determined, tracking systems are necessary to record who takes what training, and what training has been conducted. GJPO and the RAC do not have tracking systems, although both are in the process of obtaining them (D-SR-29). UMTRA PO and one company within the TAC do not have fully developed systems (D-SR-26 and D-SR-27).

Finally, throughout the UMTRA Project, training courses are not evaluated for their effectiveness (I-SR-17). Short generic forms have been developed for the RAC and TAC Jacobs Engineering Group, Inc. (JEG) to obtain general impressions about the training (D-SR-31 and D-SR-28). UMTRA PO and GJPO sometimes use DOE Form 3410.4 (D-SR-43). When employees, at the RAC (D-SR-37), use individualized reading as training, "read forms" are used to indicate a staff member has read and understands the document.

This finding was partially identified in both the UMTRA Project Office Self-Assessment (1992), and the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors contributing to this finding are lack of policy implementation, in that DOE 3410.1B has not been implemented; and a lack of resources, in that requested DOE staff for the UMTRA Project have not been allocated.

FINDING SR/CF-2:**Number of DOE Staff**

Performance: DOE 5400.1, "General Environmental Protection Programs," indicates that environmental practices will be implemented at "the levels and locations where many DOE activities are performed by its management and operating contractors." Moreover, Secretary Watkins' 10-Point Initiative indicates that Environment, Safety and Health (ES&H) represent the number one priority for the DOE. For a successful ES&H program, necessary human resources must be available for each program area.

Finding: Current staff resources do not meet the letter and spirit of environmental compliance, as required by DOE 5400.1.

Discussion: UMTRA PO currently has 19 full-time equivalents (FTEs), who perform both line management and support functions. In addition, the UMTRA PO has one cooperative-education student and one short-term detailee to assist with the workload. GJPO has two FTEs involved in the UMTRA Project. The Environmental Restoration and Waste Management staff in the Office of Southwestern Area Programs, Off-Sites Remediation Division (EM-451) at Headquarters (HQ) has approximately four FTEs who work on UMTRA activities. A support services contractor has been recently acquired to support the Office of Environmental Restoration (EM-40) at HQ and will provide approximately three to four FTEs to EM-451 for UMTRA. Field and HQ staffing has not changed appreciatively over the last several years.

Lack of UMTRA PO staff resources was identified as a compliance finding in the UMTRA Environmental Audit (1991) (D-SR-12). Six findings from that Environmental Audit have not been corrected due in part to inadequate DOE staff (D-SR-44). Since that time, UMTRA PO identified the need for eight additional staff to address its workload (D-SR-46), and has been provided with only one. GJPO has requested two additional FTEs for UMTRA and have received none to date (D-SR-45). UMTRA PO has tried to delegate responsibilities to the Technical Assistance Contractor (TAC) to ease their work load, but they cannot delegate their ES&H oversight responsibilities. Other findings in this audit identify the shortage of staff as an apparent causal factor (see Findings FP/BMPF-1, PE/CF-5, PE/CF-2, and SR/CF-1). Requests for UMTRA PO staff relative to other program/project offices at DOE Field Office Albuquerque (AL) have received relatively low priority (D-SR-21). Although resources are not adequate at the UMTRA PO, there is relatively no apparent shortage of staff at HQ, once the support contractor is on board, and the detailee returns from UMTRA PO (I-IC-39).

This finding was fully identified in both the UMTRA Project Office Self-Assessment (1992), and the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are risk, in that adequate resources to protect the environment through an effective ES&H program received a low priority; and policy implementation, in that staff resources to meet DOE policy have not been allocated.

3.6.3 Best Management Practice Finding

FINDING SR/BMPF-1:

Position Descriptions

Performance Objective: Best management practice suggests that job descriptions include environmental responsibilities for all personnel whose work may have environmental impacts. These provisions should apply to all personnel whose activities and decisions can impact environmental compliance and protection. In addition, best management practice suggests position descriptions should be updated as needed to accurately reflect specific activities individuals carry out.

Finding: Position descriptions for the Grand Junction Vicinity Properties contractor do not incorporate environmentally related duties and responsibilities. Position descriptions for the GJPO are not current.

Discussion: Position descriptions for line management staff for the GJPO Vicinity Properties contractor, while containing a safety element, lack a description of environmental responsibilities. Position descriptions for GJPO are not current (I-SR-1 and I-SR-6) in that they do not reflect the new relationship with DOE Field Office Albuquerque (AL).

This finding was partially identified in both the UMTRA Project Office Self-Assessment (1992) and the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factor for this finding is policy implementation, in that some position descriptions have not been revised to reflect actual responsibilities.

3.7 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

3.7.1 Overview

The program evaluation, reporting, and corrective action portion of the audit reviewed self-assessment programs; environmental appraisal programs; quality assurance programs; and the tracking, analysis, and reporting of findings from these activities. The review was based on the following guidance documents, standards, and requirements: DOE 5482.1B, "Environment, Safety and Health (ES&H) Appraisal Program"; Secretarial and Albuquerque Field Office Guidance on Self-Assessment; Secretary of Energy Notice (SEN)-29-91, "Performance Indicators and Trending Program for DOE Operations"; DOE 5400.1, "General Environmental Protection Programs"; DOE 5700.6C, "Quality Assurance"; and best management practices.

To evaluate the various aspects of the self-assessment, environment appraisal, and quality assurance programs, interviews were conducted with representatives from UMTRA PO, GJPO, DOE Field Office, Albuquerque (AL), the Remedial Action Contractor (RAC), the Technical Assistance Contractor (TAC), and the GJPO RAC. Interviews were conducted at the management, operations, and staff levels to ensure an understanding of the design and implementation of the programs. Selected documents were reviewed to gain an understanding of the programs' designs. Documents reviewed included contractors' self-assessment program plans and implementing procedures, the UMTRA Project's and contractor's quality assurance program plans, and selected internal and external audit reports and corrective action plans.

The environmental oversight function of the UMTRA Project has been assigned to the UMTRA PO Technical Support Group (D-PE-5). The UMTRA Project ES&H Plan provides guidelines on the UMTRA Project's ES&H requirements.

The currently implemented UMTRA Project ES&H Plan requires that UMTRA contractors comply with the UMTRA Project ES&H Plan, and ensure that all their subcontractors comply with the plan. In addition, it establishes an internal audit committee made up of the RAC's health and safety manager and other managers, as appropriate, to periodically review the health and safety operations and related procedures.

The September 1992 final draft version of the UMTRA Project ES&H Plan requires the TAC and RAC(s) to establish internal audit teams/committees made up of ES&H managers, and other managers and technical staff as appropriate, to periodically review both their own and their subcontractors' ES&H operations and related procedures. In addition, the Project Office, with the assistance of the TAC, shall also conduct audits of the RAC(s) health and safety, radiological, and environmental operations and procedures. The contractor organizations, the RAC, TAC, and GJPO RAC have developed and implemented ES&H appraisal programs that include internal appraisals of their own and their subcontractor programs. The Project Offices have not fully developed or implemented formal internal appraisals as part of their ES&H Appraisal Programs.

Although the ES&H Appraisal Program has not been formalized, the UMTRA PO, supported by the TAC, began conducting environmental audits of the RAC at UMTRA sites under construction in Fiscal Year (FY) 1992. Several environmental audits were conducted in FY 1992 and at least two more are scheduled through November 1992.

The independent oversight role of the UMTRA Projects' environmental program activities is assigned to the AL's Office of Environment, Safety and Health. DOE 5482.1B requires AL to develop an ES&H Appraisal Program and conduct management appraisals of UMTRA PO and GJPO, and functional appraisals of the Project Offices' and contractors' environmental activities. To date, management appraisals have not been conducted at either the UMTRA PO or the GJPO, and functional appraisals have not been conducted at the Project Offices and contractors. The AL Environmental Protection, Health Protection, and Safety Protection Divisions did conduct a baseline audit of the GJPO and its contractor in August 1992.

The UMTRA Project quality assurance (QA) program is currently consistent with DOE 5700.6C, and covers the applicable portions of the 11 elements described in Chapter IV, 10.a of DOE 5400.1. The UMTRA PO Quality Assurance Program Plan has been concurred with by the Nuclear Regulatory Commission (NRC). Both the RAC and the TAC revised their Quality Assurance Program Plans in FY 1992 to conform with DOE 5700.6C.

To date, the UMTRA PO has not issued a Project policy regarding analytical laboratory support for the UMTRA Project's radiological environmental monitoring programs. The RAC and TAC have required laboratories supporting the UMTRA Project contractually through them to participate in the DOE's Environmental Measurements Laboratory Quality Assessment Program (EML-QAP). The GJPO RAC's analytical laboratory currently participates in the EML-QAP for the UMTRA Project. A review of laboratory participation in the EML-QAP revealed the primary laboratory contracted to the RAC did not participate in the Spring 1992 distribution.

The lessons learned program; root cause analysis; performance indicators; and tracking, trending, and communicating on Project environmental programs are at various stages of development and implementation.

Prior to the DOE Environmental Management Audit, the UMTRA Project used a unique approach to self-assessment. Both the UMTRA PO and GJPO conducted environmental management self-assessments (D-PE-46 and D-PE-47) of their respective organizations that included the contractor organizations (the RAC and TAC in Albuquerque and the GJPO RAC at Grand Junction). These multi-organizational self-assessments reviews were conducted to determine the extent to which the UMTRA Project meets the criteria detailed in the DOE Office of Environmental Audit Protocols for Conducting Environmental Management Audits. These efforts are expected to complement the formal self-assessment programs that have been developed by the contractors. Although the contractor self-assessment programs have not been approved, the contractors are currently implementing their programs and procedures. The complication in the approval cycle appears to be due to the fact that Office of Environmental Restoration and Waste Management (EM) and Defense Programs (DP) are not in agreement as to how self-assessment should be implemented.

UMTRA PO has been more cautious in its approach to developing a self-assessment program recognizing the EM and DP posture. Recently, UMTRA PO began the task of developing their self-assessment program and is drafting it based on the Secretarial guidance of July 1990. To date, the UMTRA PO has drafted a self-assessment program plan and an implementing program document. The self-assessment program document is undergoing internal review at the Project Office and has undergone an informal review by

AL. Due to limited staff resources, the GJPO self-assessment program will utilize the UMTRA PO program and implementation plan as models in developing its program.

Implementation of evaluation programs, including self-assessment and environmental appraisal programs has progressed more rapidly at the contractor level than at the DOE Project Offices. Contractors have developed and are in the process of implementing these programs. Project Offices programs are not fully developed.

From an overall perspective, the UMTRA Project organizations have made significant progress in developing and implementing DOE Orders and requirements since the UMTRA Environmental Audit (1991) in the Performance Evaluation, Reporting, and Corrective Actions areas. The UMTRA Project contractors have effectively implemented their Environmental Appraisal Programs, QA Programs, and Self-Assessment Programs. The Project Offices have not been as successful in developing and implementing their Environmental Appraisal Programs because of limited staff resources, but they are progressing. The UMTRA Project has effectively implemented a QA Program. Oversight of the UMTRA Project's environmental activities has not been of the level expected. Contractor radioanalytical laboratory support and document control programs have deficiencies.

There were five compliance findings and one best management practice finding in the program evaluation, reporting, and corrective actions section of the audit. The compliance findings address implementation of an effective system to ensure that laboratories providing radiological analysis data for the Project's environmental protection programs are participating in the DOE EML-QAP; development and implementation of formal self-assessment programs at UMTRA PO and GJPO; conduct of management appraisals at the UMTRA PO and GJPO and functional appraisals of the Project Offices and contractors by AL; development of formal internal appraisal systems at UMTRA PO and GJPO; and development and implementation of formal systems by all UMTRA Project organizations in the areas of lessons learned, root cause analysis, performance indicators, and tracking, trending, and communicating performance of the Project's environmental programs. The best management practice finding addresses the role of review and oversight of the UMTRA PO environmental function.

3.7.2 Compliance Findings

FINDING PE/CF-1:

Interlaboratory Quality Assurance Program

Performance Objective: DOE 5400.1, "General Environmental Protection Programs," Chapter IV, Section 10, establishes the quality assurance and data validation requirements for environmental monitoring. Part C of Section 10 states that all DOE and contractor laboratories that conduct analytical work in support of DOE environmental radiological monitoring programs for radioactive materials shall participate in the DOE interlaboratory quality assessment program coordinated by the DOE Environmental Measurements Laboratory, New York, New York.

Finding: The UMTRA Project has not implemented an effective system to ensure that laboratories providing radiological analysis data for the Project's environmental protection programs are participating in the DOE Environmental Measurements Laboratory Quality Assessment Program (EML-QAP) as required by DOE 5400.1.

Discussion: The subcontractor laboratory supporting the UMTRA Project through the Remedial Action Contractor (RAC) is required contractually to participate in the EML QAP (I-PE-15; D-PE-53, D-PE-54, and D-PE-55), but the laboratory did not participate in the Spring 1992 performance evaluation sample distribution. The subcontractor laboratories supporting the Project through the Technical Assistance Contractor (TAC) have been requested to participate in the EML-QAP by the Contract Administrator (I-PE-20; D-P3-56 and D-PE-57). The TAC's records (D-PE-58) showed that the laboratory supporting its current environmental radiological monitoring programs is participating in the EML program. The GJPO RAC's analytical laboratory is also participating in the EML program.

In addition, an UMTRA Project policy and standard operating procedures (SOPs) to include the evaluation of performance evaluation samples from the Environmental Measurement Laboratory into UMTRA Project Data Validation and Management Program have not been developed. The development of the policy and SOPs is part of the corrective action plan response (D-PE-30) for Finding QA/BMPF-5 from the UMTRA Environmental Audit (1991) (D-PE-21). The UMTRA Project policy will be one of the directives used to ensure subcontractor laboratory participation in the EML-QAP. The policy and procedures are under development and scheduled for completion in November 1992 (D-PE-30).

This finding was not identified in the UMTRA Project Office Self-Assessment (1992).

The apparent causal factor for this finding is policy implementation, in that the DOE 5400.1 quality assurance requirements have not been fully implemented throughout the UMTRA Project.

FINDING PE/CF-2:**Self-Assessment Programs**

Performance Objective: On January 26, 1990, Secretary Watkins' issued a directive to Secretarial and Operations Office Managers that "all line organizations implement a comprehensive self-assessment program to identify and characterize ES&H concerns relative to their operations."

On July 31, 1990, Secretary Watkins transmitted to Secretarial and Operations Office Managers detailed guidance to be used by line management organizations in developing and strengthening their self-assessment programs.

On September 14, 1990, DOE Field Office, Albuquerque (AL) transmitted the guidance to the UMTRA Project Manager so that the UMTRA PO, and its contractors, develop a plan to implement a self-assessment program. "The program should be consistent with the elements in the transmittal memorandum and the guidance in the July 31, 1990 memorandum from Secretary Watkins."

Finding: UMTRA PO and GJPO have not fully developed and implemented formal self-assessment programs as required by Secretarial directive and guidance (January 26, 1990).

Discussion: The UMTRA PO and GJPO self-assessment programs are at various stages of development. In developing its self-assessment program, UMTRA PO has had to respond to both Office of Environmental Restoration and Waste Management (EM) and Defense Programs (DP) in its approach to developing a self-assessment program. In addition, AL has tasked the Operations Quality Division to issue formal guidance on conducting self-assessments. To date, this guidance has not been received at the UMTRA PO. Recently, UMTRA PO began the task of developing their self-assessment program and is drafting it based on the Secretarial guidance of July 1990. To date, the UMTRA PO has drafted a self-assessment program plan and an implementing program document. The self-assessment program document is undergoing internal review at the Project Office and has undergone an informal review by AL. The UMTRA PO expects to submit a plan to AL for formal review in December 1992. Due to limited staff resources, the GJPO self-assessment program will utilize the UMTRA PO program and implementation plan as models in developing its program.

Prior to the DOE Environmental Management Audit, both Project Offices have conducted Environmental Management Self-Assessments (D-PE-46 and D-PE-47). UMTRA Environmental Management Self-Assessments were performed at Grand Junction September 8 through September 11, 1992, and at Albuquerque September 28 through October 2, 1992. These self-assessments were conducted to determine the extent to which the UMTRA Project meets the criteria detailed in the DOE Office of Environmental Audit Protocols for Conducting Environmental Management Audits. The self-assessment performed for the UMTRA PO assessed the environmental activities for DOE, Remedial Action Contractor (RAC), and Technical Assistance Contractor (TAC) and used interviewers from Chem-Nuclear Geotech (CNG), Roy F. Weston, Inc. (RFW), Jacobs Engineering Group, Inc. (JEG), UMTRA PO, RAC, and TAC. The self-assessment performed at the GJPO assessed the UMTRA management activities at GJPO and CNG, and used interviewers from GJPO, CNG, UMTRA PO, and Chemical Waste Management Federal Environmental Services, Incorporated. These efforts are expected to complement

the formal self-assessment programs that have been developed by the contractors. Although the contractor self-assessment programs have not been approved, the contractors are currently implementing their programs and procedures. The complication in the approval cycle appears to be due to the fact that EM and DP are not in agreement as to how self-assessment should be implemented.

This finding was fully identified in both the UMTRA Project Office Self-Assessment (1992), and in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy implementation, in that the project offices have not fully implemented the self-assessment guidance; procedures, in that detailed procedures have not been fully developed to implement the self-assessment principles; and resources, in that staffing was not available to develop the program and procedures, and then implement the program.

Performance Objective: On July 31, 1990, Secretary Watkins transmitted to Secretarial and Operations Office Managers detailed guidance to be used by line management organizations in developing and strengthening their self-assessment programs. Fundamental elements of the self-assessment guidance include a formal process for identifying Environment, Safety and Health (ES&H) trends, a mechanism to communicate root causes, trends, and lessons learned throughout the organization and incorporate them into daily planning and operations, and a formal reporting system to document, communicate, and track findings and corrective actions.

Secretary of Energy Notice (SEN)-29-91, "Performance Indicators and Trending Program for Department of Energy Operations," established a uniform system of performance indicators for trending and analyzing operational data to help assess and support progress in improving performance and in strengthening line management control of operations relating to environmental, safety, and health activities. The performance indicators will be trended and analyzed to assist management with the early identification of potential ES&H problems and/or deteriorating ES&H conditions.

DOE Field Office, Albuquerque (AL) procedure WMOSD-01-01, "AL ES&H and Maintenance Performance Indicator Program," requires that the UMTRA PO Remedial Action Contractor (RAC) develop and implement a Performance Indicator program for the UMTRA Project.

Finding: UMTRA Project organizations have not fully developed and implemented formal systems in the areas of lessons learned; root cause analysis; performance indicators; and tracking, trending, and communicating performance for the Project's environmental programs, as required by SEN-29-91 and AL WMOSD-01-01.

Discussion: The systems at the various UMTRA Project organizations for lessons learned; root cause analysis; performance indicators; and tracking, trending, and communicating performance in the Project's environmental programs are in various stages of development and implementation.

UMTRA Project Office environmental audit schedule and completion are tracked using the UMTRA Audit/Surveillance Tracking System (D-PE-51). Only the findings and corrective actions for the Environmental Audit (August 1991), are tracked on an individual basis with a report being published quarterly (D-PE-7). Findings from other assessments/audits are not tracked or analyzed on an individual basis.

At GJPO, findings and corrective actions resulting from the recent institution of their Management by Walkdown system are tracked manually. GJPO is currently developing a new tracking system. Performance indicators for environmental program performance have not been defined. Tracking and trending analysis are not performed.

Generally, the contractors have developed and implemented systems to track environmental assessment program findings and corrective actions.

Technical Assistance Contractor (TAC) environmental assessment findings and corrective actions are tracked in the TAC Action Implementation Logging System (TAILS). Trending

for findings, root causes, and corrective actions is being developed. The TAC plans to incorporate both strengths (i.e., noteworthy practices), and weaknesses in its lessons learned program.

The system employed by the RAC tracks and trends findings and corrective actions for quality assurance and ES&H. Current plans are to use it for self-assessment activities. A root cause analysis program is being developed. Currently, root cause analysis is being done manually.

The GJPO RAC tracks and trends findings and corrective actions for ES&H and self-assessment activities in its Commitment Tracking and Management System (CTMS). Root cause analysis and trending analysis have been developed. Performance indicators are being developed.

Performance indicators for the UMTRA Project are currently being developed by the RAC. While current plans are to have an approved procedure (for AL WMOSD-01-01) by the end of 1992, a draft procedure has not yet been submitted to UMTRA PO. Currently, performance indicators per SEN-29 are being tracked and reported to AL for the Grand Junction site as required.

This finding was fully identified in both the UMTRA Project Office Self-Assessment (1992), and the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy implementation, in that the Secretarial Guidance and SEN requirements have not been implemented as directed; and resources, in that sufficient staff are not available to develop and implement the Secretarial Guidance and SEN requirements.

FINDING PE/CF-4:

AL Environmental Appraisal Program

Performance Objective: DOE 5482.1B, "Environment, Safety and Health Appraisal Program," establishes the Environment, Safety and Health Appraisal Program for DOE. The Order requires Heads of Field Organizations to conduct management appraisals for environment, safety, and health (ES&H) programs of subordinate field activities at least once every 3 years and functional appraisals of DOE and contractor activities to ensure effectiveness of ES&H activities.

Finding: DOE Field Office, Albuquerque (AL) has not conducted management appraisals of the UMTRA PO's and GJPO environmental activities, and functional appraisals of the Project Offices' contractors' environmental activities as required by DOE 5482.1B.

Discussion: The UMTRA Program has no records indicating that the AL Environmental Protection Division has conducted management appraisals of the UMTRA PO's or the GJPO's environmental program in the last 3 years (I-PE-3). In addition, there are no records indicating that functional appraisals of the UMTRA PO's, as well as the Technical Assistance Contractor's (TAC's), Remedial Action Contractor's (RAC's), and the GJPO RAC's environmental activities have been conducted (I-PE-3). The director of the AL Environmental Protection Division also indicated that management and functional appraisals of the UMTRA Program organization had not been conducted as required (I-PE-26). However, the AL Environmental Protection, Health Protection, and Safety Protection Division did conduct a Baseline Audit of the GJPO and its primary contractor in August 1992. As part of AL's ES&H Appraisal Program, the Safety Programs Division Manager and the Environmental Protection Division Director are scheduled to meet with the UMTRA PO staff in November 1992, to discuss ES&H management issues, particularly in the area of industrial safety (D-PE-63). A functional appraisal is scheduled to be conducted in September 1993.

This finding was partially identified in the UMTRA Project Office Self-Assessment (1992), and was fully identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy implementation, in that the AL has not implemented DOE 5482.1B as directed; and procedures, in that the procedures to plan and schedule management and functional appraisals of AL's subtier organizations did not include UMTRA Project organization.

FINDING PE/CF-5:

UMTRA Project Environment Appraisal Program

Performance Objective: DOE 5482.1B, "Environment, Safety and Health Appraisal Program," establishes the Environment, Safety and Health (ES&H) Appraisal Program for DOE. The Order requires that a formal internal appraisal system be implemented to review the overall operation of each facility with sufficient frequency to ensure adequate ES&H coverage.

Finding: UMTRA PO and GJPO have not fully developed formal internal appraisal systems as part of their ES&H Appraisal Programs, as required by DOE 5482.1B.

Discussion: Although the UMTRA PO currently schedules and conducts assessments of project environmental activities, it has not completed the development of a formal internal appraisal system as part of its ES&H program. The schedule of the environmental audits and the associated reports are tracked using the UMTRA Audit/Surveillance Tracking System (D-PE-51), but individual findings and corrective actions are not tracked. Although the GJPO conducts reviews of environmental activities using management by walkdown, it has no formal internal appraisal program (I-PE-6). Results of these walkdowns are documented (D-PE-59). The findings and corrective actions are manually tracked (D-PE-60).

This finding was partially identified in the UMTRA Project Office Self-Assessment (1992), and was fully identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors for this finding are policy implementation, in that the Project Offices have not fully implemented DOE Order 5482.1B; and resources, in that adequate staff are not available to develop procedures.

3.7.3 Best Management Practice Finding

FINDING PE/BMPF-1:

Environmental Oversight

Performance Objective: Best management practice suggests that an environmental professional in the Project Office review and oversee documents and activities related to environmental issues.

Finding: The review and oversight role of the UMTRA PO environmental function is not fully developed.

Discussion: The UMTRA PO Technical Support Group has the responsibility for providing Environment, Safety and Health (ES&H) oversight for the project (D-PE-38). This is reinforced by Secretary of Energy Notice (SEN)-11-89 which states that in the area of ES&H, DOE Managers are not relieved of their responsibilities to ensure that contractor duties are performed in accordance with expected high standards of professional excellence. While the environmental function in UMTRA PO is involved in a wide range of review and oversight activities, there are several areas where environmental review and oversight are not formally or routinely performed:

- **Project Interface Document Development:** The analysis generated by the identification of a new issue/problem during the construction phase is not routinely reviewed by the Environment and Safety Manager.
- **Field Audits:** Frequency of field level environmental audits is not adequate (I-RM-20 and I-RM-30).
- **Site Characterization:** The Site Characterization Plans developed by the support contractor as part of the remedial action planning process are not routinely reviewed (I-RM-30).
- **Standard Operating Procedures:** Subcontractor standard operating procedures are not reviewed to ensure environmental compliance and minimization of environmental impact (I-RM-16).
- **GJPO Vicinity Properties (VP):** Interaction between GJPO VP and UMTRA PO environmental staff does not occur on a regular basis (I-RM-20 and I-RM-22). For the specific issue of consistency of regulatory requirements, this problem should be alleviated by the newly established ES&H Committee. The committee procedures have yet to be finalized.

The objective of an increase in the level of technical involvement through oversight and review is to increase the awareness of the environmental staff to a broader range of program issues, rather than to increase the level of documentation associated with a particular action. The availability of this type of information provides the environmental staff with a basis for determining the appropriate level of involvement. There is no intent to suggest that the environmental function in UMTRA PO formally approve or sign-off on these documents and activities.

This finding was partially identified in the UMTRA Project Office Self-Assessment (1992), and was fully identified in the UMTRA GJPO Environmental Management Self-Assessment (October 23, 1992).

The apparent causal factors contributing to this finding are policy implementation, in that the Environmental Protection Implementation Plan (EPIP) policy on environmental oversight has not been implemented; and resources, in that sufficient environmental staff are not available to develop and implement a comprehensive review and oversight program.

3.8 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

3.8.1 Overview

The environmental planning portion of the audit addresses the extent to which the consideration of environmental issues, such as regulatory requirements and potential environmental impacts, is included in UMTRA Project planning processes. Because the UMTRA Project is an environmental remediation project and environmental considerations are central to the mission, this portion of the audit focussed on the role of environmental considerations in budget development and resource allocation decisions. The environmental risk management portion of the audit addressed the adequacy of the program and procedures developed by UMTRA PO to identify, evaluate, and mitigate the environmental risks associated with program activities. This included a review of the Project Plan (D-RM-3), the budget process, and a variety of activities associated with the design and implementation of remediation plans.

The general approach used in this portion of the audit was to review the documents provided to the audit team by the project participants before and during onsite activities, and to interview relevant UMTRA PO, GJPO, and contractor personnel. Personnel interviewed onsite included technical and site managers, and other staff involved in planning and budgeting for UMTRA PO, GJPO, and the support contractors.

Environmental considerations are integral to all UMTRA Project planning processes and are clearly reflected in project design and implementation plans, scheduling, and budgeting. Overall plans and budgets for the Project are constructed from site level remedial action planning activity. Compliance with applicable environmental regulations and specified standard drives both the cost and schedule of site level plans (I-RM-12). If there is a risk of violation, both money and time are expended to mitigate the potential problem (I-RM-12). Consideration of new technologies for reducing the risk of environmental impact, lowering the cost, or expediting the schedule is also part of the planning process. The Technical Assistance Contractor (TAC) is tasked with investigating both new remediation technologies and analytical/modeling techniques in order to identify better procedures for assessing environmental risks, monitoring water quality, and other environmental activities (D-RM-33). GJPO also has an ongoing role in evaluating remedial and pollution control technologies, especially in the area of the treatment of commingled waste (I-RM-4).

The site planning process also includes an informal lessons learned component. Plans for the more recently initiated sites are based not only on information gained from the site characterization data, but also from information on potential problems and viable solutions gained from activities at other sites that are further along in the process. Consequently, the planning process is improved due to the availability of more information (I-RM-12).

An UMTRA PO "overall goal is to cleanup and control tailings from inactive uranium mills in a safe and environmentally sound manner, to eliminate current and potential environmental and public health hazards associated with these tailings" (D-RM-30). Risk management is an important part of program activity and it is being addressed by Project participants in different ways. However, there appears to be no formal integrated program or technical focal point to provide comprehensive uniform guidance.

Knowledge of all applicable environmental regulations is a first step in the identification of potential risk. The recent definition of the Environment, Safety and Health (ES&H) Operating Envelope is an important step in this process. The proposed Regulatory Oversight and Compliance Support (ROCS) Group is designated specifically to help identify the applicable portions of existing and new ES&H requirements (D-RM-27; I-RM-20). This process is still under development (see Environmental Protection Programs Overview).

In terms of risk identification and evaluation (in addition to the substantial National Environmental Policy Act (NEPA) activities), there are procedures for developing detailed inventories of site hazards and associated risks prior to remedial design. This information also becomes part of the subcontractor bid packages, as well as part of a risk data base for the site (I-RM-16). Historical information about the site is also included in the risk data base. Specific studies on disposal alternatives and lessons learned from preceding remediation sites provide additional information on process risks. The remedial designs in turn acknowledge the risks either by avoiding or mitigating them.

During the construction process, new problems/issues that may lead to environmental risk are identified through regular site inspections, audits, surveillances, and walkdowns. These issues are analyzed to determine the need for design changes necessary to reduce the risk and/or remain in compliance (I-RM-17). Environmental professionals in the Remedial Action Contractor (RAC) and TAC are involved in this process. The Nuclear Regulatory Commission (NRC) and states/tribes are also given an opportunity in the review process to identify potential risks and assess proposed design changes.

The budget development process, which involves both DOE and support contractors, also takes environmental risk into consideration. Site managers identify potential risk scenarios associated with their sites that are to be included in the budget. Events that have a likelihood of 90 percent or greater are included in the base budget. Proposed regulatory changes are included in this category. Events with a likelihood of 50 to 90 percent are included in a contingency account. This process ensures that likely risks are included in the budget. It is possible, however, that some lower probability items will not be funded, which creates some vulnerability (I-RM-3).

Overall, environmental planning and risk management are addressed adequately by UMTRA PO. Environmental concerns and requirements are integral to the Project. The ES&H Long-Range Planning Requirement specified in DOE 5400.1, "General Environmental Protection Programs," has been satisfied. Long-range planning will be done for the groundwater program, and an integrated site-specific plan that addresses both surface and groundwater projects is currently in draft (D-RM-25). In terms of risk management, discrete procedures are in place to identify potential environmental risk at various points in the site-level design and construction process. Potential risks are also considered in the process of developing the Project budget. However, these individual risk management mechanisms have not been formally integrated into a program.

No findings were identified in the environmental planning and risk management portion of the audit.

APPENDIX A

BIOGRAPHICAL SKETCHES OF AUDIT TEAM

NAME: Atam P. (Al) Sikri, Ph.D, P.E.

AREA OF RESP: Audit Team Leader

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 25 years

- U.S. Department of Energy, Office of Environmental Audit
 - Team Leader and Environmental Engineer, Office of Environmental Audit. Provides guidance, direction, and assistance to a multi-disciplined group of professionals performing Environmental Audits and Assessments at DOE facilities. Participated as the Environmental Subteam Leader for the Ames Laboratory, Naval Petroleum and Oil Shale Reserves, and Stanford Linear Accelerator Center Tiger Team Assessments; Team Leader for the West Valley Demonstration Project Environmental Audit; and Assistant Subteam Leader for the Sandia National Laboratories Tiger Team Assessment.
 - Assessment and Validation Engineer, Office of Program/Project Management and Control. Provided independent appraisal of projects involving design/construction, environmental aspects planning/scheduling, and cost estimating. Also, NEPA Compliance Officer for the Office of Procurement.
 - Program Manager/Assistant Director, Office of Fossil Energy. Responsible for directing and managing synthetic fuel research, development, and demonstration of technologies. Processes were developed in full compliance with environmental regulations.
 - General Engineer, Office of Defense Programs. Worked with uranium enrichment technology, project management, and classification determination capability.
- Other Experience
 - Petroleum Engineer, U.S. Corps of Engineers. Work involved process design, project engineering, and cost studies.
 - Senior Process Design/Development Engineer. Have worked with DuPont Company, Cities Service Company (now part of Occidental Petroleum Corporation), Johnson & Johnson, and Hoffmann-LaRoche, Incorporated.

EDUCATION: Ph.D., Chemical Engineering, University of Pennsylvania
M.S.E., Chemical Engineering, University of Michigan
B.S.E., Metallurgical Engineering, University of Michigan
B.S.E., Chemical Engineering, University of Michigan

OTHER: Registered Professional Engineer

NAME: Victor I. Crawford
AREA OF RESP: Deputy Audit Team Leader
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 17 Years

- U.S. Department of Energy, Office of Environmental Audit, Washington, D.C.
 - Environmental Engineer under the direction of the Audit Team Leader/ Environmental Subteam Leader, provides guidance, direction, and assistance to a multi-disciplined group of professionals performing Environmental Audits and Tiger Team Assessments at DOE facilities. Participated as the Deputy Environmental Subteam Leader in the Tiger Team Assessment of the National Institute for Petroleum and Energy Research.
- Naval Facilities Engineering Command, Alexandria, Virginia
 - Branch Head in the Assistant Commander's Office for Environment, Safety, and Health. Principal duties included developing and/or managing the Navy's Shoreside Environmental Programs for Air Compliance, Asbestos Abatement, Radon Assessments, Underground Storage Tanks, Spill Response, Water and Wastewater Compliance, and Environmental Auditing.
- Western Division, Naval Facilities Engineering Command, San Bruno, California
 - Section Head in charge of Shoreside Compliance Program support for Naval Installations in Northern California.
- Southern Division, Naval Facilities Engineering Command Charleston, South Carolina
 - Environmental Engineer responsible for conducting environmental audits at and providing environmental support to Naval Installations located throughout the Southeastern United States.

EDUCATION: B.S., Civil Engineering, California State University
Registered Professional Engineer - South Carolina

OTHER: Personnel Protection and Safety (29 CFR 1910.120)
DOE Tiger Team Training

NAME: Susan Barisas
AREA OF RESP: Technical Coordinator
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 15 Years

- Argonne National Laboratory

- Participant in the Tiger Team Assessments of Savannah River Site and Lawrence Berkeley Laboratory and Environmental Audits at the Environmental Measurements Laboratory, Southwestern Area Power Administration, Uranium Tailings Remedial Action Project, Component Development and Integration Facility, and Alaska Power Administration sites. Provided technical assistance to the DOE in the development and execution of environmental survey and audit programs. Principal responsibilities include conducting environmental surveys at eight major DOE operating facilities, evaluating audit and appraisal procedures used by the DOE and private industry, and developing guidance manuals to be used by DOE facilities and field organizations.
- Project manager for various projects related to hazardous waste materials management. Responsibilities included developing hazardous waste and materials management plans, evaluating applicability of treatment and disposal options for synthetic fuels facilities, evaluating technologies for the treatment and disposal of polychlorinated biphenyl (PCB) waste, and assessing the environmental impacts of alternative energy scenarios.

- Iowa Natural Resources Council

- Developed task force reports on Water for Energy Production, Water for Commercial and Recreational Navigation, and Water Quality for a State Comprehensive Water Plan. Aided in the development of a public participation program.

EDUCATION: M.S., Water Resources/Agricultural Engineering, Iowa State University
B.A., Biology, Grinnell College

NAME: James Margolis
AREA OF RESP: Special Assistant
ASSOCIATION: Arthur D. Little
EXPERIENCE: 9 Years

• Arthur D. Little

- Served as Environmental Management Specialist for Environmental Management Audits of Western Area Power Administration and Formerly Utilized Sites Remedial Action Program.
- Served as Environmental Management Specialist in Environmental Audit of Weldon Spring Remedial Action Project and West Valley Demonstration Project.
- Assessed environmental, health, and safety management systems at the corporate, division, and plant levels for a major diversified international industrial products manufacturer. The work focused on organization structure, staffing, review and oversight activities, and managing for compliance.
- Evaluated the corporate organization structure and roles and responsibilities related to environmental, health, and safety management for a major international natural resources company to best serve the needs of its various business units.
- Assessed the environmental management systems in place for a leading pharmaceutical manufacturer at the company's largest U.S. facility with a particular focus on water pollution control.
- Assessed hazardous materials management programs in place at all twenty campuses of a major State University system. Recommendations focused on the adequacy of management controls and opportunities for automation.

• Deloitte & Touche

- Performed operations improvement assessments in a range of functions (e.g., finance, accounting, information services) in the energy, manufacturing, and health care industries.
- Performed market assessments and developed financial projections for new business opportunities in the health insurance industry.

EDUCATION: B.S., Civil Engineering, Tufts University
M.M., Management, Kellogg Graduate School of Management,
Northwestern University

NAME: Lynne Day
AREA OF RESP: Administrative Support
ASSOCIATION: META, Inc.
EXPERIENCE: 16 Years

• META, Inc.

- Information Management Specialist. Provides administrative support for Environmental Audits; Environment, Safety and Health (ES&H) Progress Assessments; and the Environmental Subteam on DOE Tiger Team Assessments. Participant in Environmental Audits of the Component Development and Integration Facility, Environmental Measurements Laboratory, and Alaska Power Administration. Participant in the ES&H Progress Assessments of the Fernald Environmental Management Project and Hanford Site. Participant in Tiger Team Assessments of the Solar Energy and Research Institute, Los Alamos National Laboratories, Strategic Petroleum Reserves, and Naval Petroleum Oil Shale Reserves. Provided support for production of the Progress Assessment Guidance Manual and attended Progress Assessment Training Program.

• INNOVA Communications, Inc.

- Office Administrator. Provided system and documentation support for a local and wide area network integration firm. Worked on office automation systems configuration analysis project providing technical writing and project management support. Responsible for development of instruction materials, graphics support, manuals, and vendor documentation. Prepared proposals, presentations, graphics, and technical drawings. Compiled and prepared statistical data for price quotations, cost proposals, and for use in analysis and reporting.

• Sandier & Greenblum

- Word Processing Departmental Manager. Developed and coordinated activities related to the word processing department for law firm specializing in patent/trademark law. Responsible for supervision and staffing of word processing department and hardware and software procurement and installations. Identified and resolved problems, and repaired and replaced malfunctioning hardware components. Performed database management functions.

EDUCATION: A.A., Computer Science, Strayer College

NAME: Marsha Goldberg
AREA OF RESP: Environmental Planning and Risk Management
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 20 Years

- Argonne National Laboratory
 - Development of technical and procedural guidance documents for environmental impact assessment, the management and execution of environmental assessments at both the programmatic and project levels, and the evaluation of NEPA compliance procedures. Environmental compliance planning activities include the development of an approach to long range planning that balances programmatic needs with environmental requirements and budget constraints.
 - Participated in the development of the NEPA guidance document for the Air Force. Responsible for the land use component of the Scott Air Force Base EIS. Development of the approach for the programmatic component of the EIS for the New Production Reactor. Examination of the NEPA documentation procedure for the Office of Operations and Facility Reliability, Uranium Enrichment to determine if the existing procedure can be simplified and made more effective.
 - Developed guidelines and format for U.S. Department of Energy Defense Programs Environment, Safety and Health Long Range Compliance Plans. Worked with the individual Field Offices to develop their plans. Developed a computer data base that facilitated the coordination of budget development and long range compliance planning.
- U.S. Department of Energy
 - Designed and managed a study to determine the potential for cumulative environmental impacts associated with the conversion from oil to coal of 42 power plants in the northeastern United States. Products of the study included a regional environmental impact statement and individual reference reports addressing air quality, solid waste disposal, regional geohydrology, transportation, health effects, and alternative energy sources.
- Planning Research Corporation
 - Designed and managed a three-year study of potential for environmental impact associated with policies, programs, and projects of the U.S. Department of Housing and Urban Development (HUD).

EDUCATION: Ph.D., City and Regional Planning
MCP., City and Region Planning
M.S., South Asia Regional Studies
B.A., International Relations

NAME: Ron Kolpa
AREA OF RESP: Environmental Protection Programs
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 19 Years

- Argonne National Laboratory

- Group Leader, Regulatory Compliance, Environmental Research Division. Principal responsibilities include CERCLA preliminary assessments and site investigations for the DOE, Department of Defense, Department of Commerce, and Army National Guard. Served as the project manager for property assessments required on Army properties as a result of the Base Closure and Realignment Act, and as Team Leader for site characterizations of Army National Guard properties throughout the United States. Participated in the Tiger Team Assessment of Lawrence Berkeley Laboratory, environmental audits of the Southwestern Area Power Administration, Uranium Mill Tailings Remedial Action Project, the Component Development and Integration Facility, the Environmental Measurements Laboratory, and Alaska Power Administration and participated in Environmental Compliance and Management Plan (Audits) at Department of the Air Force bases under the control of Air Force Space Command and Air Force Materiel Command. Participated in DOE's development and evaluation of mixed waste management protocols for DOE installations. In addition, Mr. Kolpa serves on the Environmental Research Division's Environment, Safety, and Health Committee and has previously served as the Environmental Compliance Representative for the Environmental Research Division. Mr. Kolpa is responsible for regulatory impact assessments for the Division's field investigation efforts.

- Iowa Department of Natural Resources

- Prior environmental experience includes over 14 years as technical program specialist and Environmental Program Supervisor for regulatory programs in air, solid waste, and hazardous waste for the State of Iowa. Included during this period was a 2-year detail to the U. S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC, where his responsibilities included the development of Federal and state implementation strategies for hazardous waste programs developed under CERCLA and RCRA authorities.

EDUCATION: M.S., Inorganic Chemistry, Iowa State University
B.S., Chemistry, St. Procopius College

NAME: Peter C. Lindahl

AREA OF RESP: Formality of Environmental Programs and Program Evaluation,
Reporting, and Corrective Action

ASSOCIATION: Argonne National Laboratory

EXPERIENCE: 20 Years

- Argonne National Laboratory

- Group Leader. Principal responsibilities include supervision of environmental analysis group. Currently is a detailee to DOE's Office of Environmental Restoration and Waste Management in the Technology Development's Laboratory Management Division. Served as analytical laboratory project manager for the DOE Environmental Survey Program and as task manager for the development of gas analysis methods and associated quality assurance requirements for the DOE Waste Isolation Pilot Plant Pretest Waste Characterization Program. Also, participated in the DOE Tiger Team Assessments of Savannah River Site and Lawrence Berkeley Laboratory; environmental audits of the Southwestern Area Power Administration, Uranium Mill Tailings Remedial Action Project, Component Development and Integration Facility, Environmental Measurements Laboratory, and Alaska Power Administration; and Operational Readiness Review of the Defense Waste Processing Facility at the Savannah River Site.

- Exxon Production Research Company

- Senior Research Specialist. Responsible for supervision of inorganic analytical chemistry laboratory in support of coal, oil shale, and hydrothermal research projects.

- Perkin-Elmer Corporation

- Senior Product Specialist. Responsible for atomic absorption spectrophotometry and analytical technical support.

- Illinois State Geological Survey

- Associate Chemist. Worked in an analytical chemistry research laboratory on the development of analysis methods for determining trace elements in coal.

EDUCATION: Ph.D., Analytical Chemistry, Southern Illinois University
M.A., Inorganic Chemistry, Southern Illinois University
B.A., Chemistry, Lake Forest College

NAME: Helen C. Walters

AREA OF RESP: Administrator

ASSOCIATION: META

EXPERIENCE: 25 Years

- META

- Information Processing Specialist. Provides administrative support to the Environmental Subteam on DOE Tiger Team Assessments and overall support to DOE's Office of Special Projects. Participated in Tiger Team Assessments of the Sandia National Laboratory, Albuquerque, Morgantown Energy Technology Center, Idaho National Engineering Laboratory, Pittsburgh Energy Technology Center, Los Alamos National Laboratory, the Naval Petroleum Reserves in California, the Strategic Petroleum Reserves, the National Institute for Petroleum and Energy Research, and the Fermi Laboratory. Participated in the Environmental Audits of the Uranium Mill Tailings Remedial Action Project and the Component Development and Integration Facility. Provides administrative support for final Tiger Team and environmental audit reports. Provided support for production of the Self-Assessment Training course for EH-5.

- Cate & Associates, Chartered

- Administrator. Served as Executive Assistant with administrative responsibilities for filing estate accounting in excess of \$125,000 to the Commissioner of Accounts; liaison with attorneys and the courts with regards to these accounts; and handled accounts receivable and payable.

- National Council of Farmer Cooperatives

- Administrator. Responsible for administration of financial and human resources for a staff of 13 professional and 13 support staff. Duties in the area of finance included the preparation and oversight of an annual operating budget of \$2.5 million with reporting responsibility to a committee composed of board members. Duties in the area of human resources included hiring and training of all support staff, and developing and coordinating employee benefits packages. Responsible for accommodating 65 employees in newly constructed, 17,000-square-foot office space.

EDUCATION: B.S., Business, Kent State University

NAME: R. Gary Williams, Ph.D.
AREA OF RESP: Organizational Structure and Internal and External Communication
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 15 Years

- Argonne National Laboratory
 - Scientific responsibilities include evaluating Federal projects, studying social aspects of human and natural resource interaction, analysis of social, demographic and economic impacts of various projects on the social system, and designing and implementing socioeconomic monitoring and mitigation programs.
 - Responsibilities included management of projects related to environmental compliance. Research interest includes evaluation research impact assessment, effects of population change, and international development.
- Western Research Corporation
 - Responsibilities included: research design, research management and statistical analysis. Research areas: Social effects of rapid population growth brought on by natural resource development, transformation of rural communities, social impact assessment methodology, and population forecast modeling. Also part-time instructor, Department of Sociology, University of Wyoming.
- Colorado State University
 - Responsibilities included studying turn-around migration and community change in the western United States and statistical analysis for a regional migration project. Area of concentration: Rural and developmental sociology, research methods and theories of social change. Dissertation on domestic and international comparison of community integration and community satisfaction.
- University of Wyoming
 - Courses taught: Sociological Principles, Social Problems and Social Change. Research Associate, Center for Urban and Regional Analysis, Institute for Policy Research, University of Wyoming. Research area: Social consequences of rapid population growth brought on by energy development/industrialization and environmental impact research.

EDUCATION: Ph.D., Sociology, Colorado State University
M.Ed., Social Science Education, University of Georgia
Certificate, Afro-American Studies, University of Georgia
B.A., Sociology, University of Georgia

NAME: Charlotte F. Young
AREA OF RESP: Environmental Commitment and Staff Resources, Training, and Development
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 10 Years

- Argonne National Laboratory
 - Assistant Environmental/Social Scientist, Environmental Assessment and Information Services Division (EID). Develop and implement evaluation research on the effectiveness of environmental and science education programs for diverse audiences such as teachers, students, and workers, in settings ranging from schools to nonformal locations such as parks and zoos.
 - Conceptualized and carried out an evaluation of the effectiveness of organizational structure, workforce characteristics, staff resource needs as they apply to environmental compliance of a production-oriented agency.
 - Evaluated effectiveness of public meetings for programmatic Environmental Impact Statements. Drafted socio-economic sections for Environmental Impact Statements for federal agencies. Developed proposals such as research plans for community relations programs for remedial action at hazardous waste sites.
- University of Michigan
 - Devised materials for Hazardous Waste inspectors' training manual, and Permit Writers' Manual on waste streams and citizen participation. Developed conceptual research plans and solicited grants. Designed and evaluated educational information including implemented sampling plan, analyzed data, and wrote and edited manuscripts for Urban Post Management Education Project. Developed new graduate course.
 - Team taught "Communication for Natural Resource Professionals," and "Introduction to Natural Resource Problems." Designed and taught recitation sections for "Ecological and Environmental Issues." Taught "Technical Communication."

EDUCATION: Ph.D., University of Michigan, Natural Resources
Psychology/ Communications
M.S., Michigan State University, Environmental
Communications/ Park Resources
B.S., Lock Haven State College, Biology

APPENDIX B

AUDIT PLAN

AUDIT PLAN

FOR THE DOE ENVIRONMENTAL MANAGEMENT AUDIT OF THE URANIUM MILL TAILINGS REMEDIAL ACTION (UMTRA) PROJECT

1.0 INTRODUCTION

The Office of Environmental Audit (EH-24) within the Office of Environment, Safety and Health (EH) performs independent audits and assessments as part of DOE's Environmental Audit Program. This Environmental Audit Program, created in 1985, provides a continuing program of independent oversight of line management's environmental performance to support DOE's broader goal of achieving full compliance and excellence in the environmental area. The Program's objectives include:

- Performing comprehensive baseline environmental audits at facilities not addressed in either the Environmental Survey or Tiger Team Assessments;
- Performing audits on line management functions, including adequacy of self-assessment programs;
- Continuing technical re-audits at DOE facilities;
- Conducting focused, special issue audits for high priority issues at specific sites or across site and program lines; and
- Updating and automating audit protocols, training, and other mechanisms of transferring the auditing expertise of EH-24 to the field in support of line management self-assessment programs.

An environmental management audit of the Uranium Mill Tailings Remedial Action (UMTRA) Project will be performed from October 26 through November 6, 1992. This audit will evaluate the effectiveness of environmental management programs established by the UMTRA Project Office and UMTRA Project support contractors. The "DOE Environmental Audit Program Guidance" (January 1992) and Draft "Protocols for Conducting Environmental Management Audits" (July 1992) will be used to perform this audit.

Environmental management issues at the Headquarters, field, and project office levels will be reviewed in order to evaluate line management's performance in achieving environmental compliance and developing and implementing environmental programs. Issues such as the design and effectiveness of environmental self-assessment programs, implementation of policy and procedures, occurrence reporting, and use of performance indicators will receive special attention.

The comprehensive scope of the UMTRA Project audit will address the following management system disciplines:

- Organizational Structure;
- Environmental Commitment;
- Environmental Protection Programs;
- Formality of Environmental Programs;
- Internal and External Communication;
- Staff Resources, Training, and Development;
- Program Evaluation, Reporting, and Corrective Action; and
- Environmental Planning and Risk Management.

National Environmental Policy Act (NEPA) requirements are not in the scope of this audit.

2.0 ENVIRONMENTAL AUDIT IMPLEMENTATION

The UMTRA Project environmental management audit will be conducted by a team consisting of a Team Leader and a Deputy Team Leader from the Office of Environmental Audit (EH-24), a Special Assistant from Arthur D. Little, Inc. (ADL), and a Group Coordinator and five management systems specialists from Argonne National Laboratory (ANL). The names and assignments are listed below:

Al Sikri	DOE	Team Leader
Victor Crawford	DOE	Deputy Team Leader
James Margolis	ADL	Special Assistant
Susan Barisas	ANL	Group Coordinator
Ron Kolpa	ANL	Environmental Protection Programs
Gary Williams	ANL	Internal and External Communications; Organizational Structure
Marsha Goldberg	ANL	Environmental Planning and Risk Management
Charlotte Young	ANL	Staff Resources, Training and Development; Environmental Commitment
Peter Lindahl	ANL	Formality of Environmental Programs; Program Evaluation, Reporting and Corrective Action

2.1 PRE-AUDIT ACTIVITIES

Pre-audit activities for the UMTRA Project environmental management audit included the issuance of an introduction and information request memorandum, a pre-audit site visit, and initial review of documentation which was sent to the audit team by the UMTRA Project Office as a result of the information request memorandum.

A pre-audit site visit was conducted on August 4-6, 1992, by the DOE Team Leader and Deputy Team Leader, and the Group Coordinator and a management systems specialist from Argonne National Laboratory. The purpose of the pre-audit visit was to brief site personnel on the purpose and scope of the environmental management audit, to become familiar with the UMTRA Project, to review information being supplied, to request additional information, and to coordinate activities for the upcoming audit. The pre-audit visit also included presentations by the UMTRA Project Office and its principle contractors on the status of the UMTRA Project, as well as a brief overview of the UMTRA Project organizational structure.

This environmental management audit plan is based on information received by the audit team as of September 27, 1992.

2.2 ONSITE ACTIVITIES AND REPORTS

The onsite activities for the environmental management audit will begin October 26, 1992 and conclude with a final closeout briefing on November 6, 1992. Onsite activities will include file/record reviews, interviews with personnel from the DOE Field Office, Albuquerque (AL) and interviews with UMTRA Project Office and contractor personnel. Onsite activities will have been preceded by interviews with the Office of Environmental

Restoration and Waste Management (EM) staff in Washington, DC, the week of October 13, 1992. The agenda for the audit is shown in Appendix C.

During the audit, the audit team Leader will conduct daily debriefing sessions with the audit team to review progress and concerns to date. UMTRA Project Office and contractor personnel will be invited to attend these daily debriefings and will be given the opportunity to provide additional relevant information and request clarifications during the meeting. A Factual Accuracy Review (FAR) of all findings will begin at the beginning of the second week of the audit.

A closeout briefing will be conducted at the conclusion of the onsite portion of the audit. A summary of the results of the audit, including key findings, will be presented by the audit team Leader at that time. Also at the closeout, a draft report containing the findings will be provided to the UMTRA Project Office for review and comment.

3.0 ORGANIZATIONAL STRUCTURE

3.1 ISSUE IDENTIFICATION

The management systems activities for Performance Objectives Criteria (POC) EM.1, Organizational Structure, will review and analyze whether the current organizational structure of the UMTRA Project is established in such a manner that the functions, responsibilities, and authorities for environmental protection programs are clearly defined, and whether both oversight and line management responsibilities are accommodated. This portion of the audit will also examine the recent changes to the UMTRA Project organization made in response to environmental management findings identified in the June 1991 comprehensive baseline environmental audit for the UMTRA sites at Grand Junction, Rifle, and Gunnison, Colorado. In particular, the audit will be designed to consider the following topical areas:

- Functional versus matrix organizational structure;
- Centralized versus decentralized structure;
- Definition/understanding of roles, responsibilities, and authorities;
- Reporting relationships within the organization;
- Line responsibility; and
- Conflicts of interest.

The general approach to the audit will include a review of documentation regarding organizational structure, and interviews with Headquarters, UMTRA Project Office, DOE Field Office, Albuquerque (AL), and contractor personnel. Areas of particular interest will include:

- The formal structure and working relationship among AL, UMTRA Project Office, Grand Junction Project Office, Field Office, Idaho (ID) and contractor personnel, including the transition of GJPO from ID to AL;
- The formal and informal processes by which components of the organization identify environmental staffing needs and the process of requesting additional positions;
- The existence and nature of formal documents that define organizational responsibility, authority, and accountability for environmental protection programs;
- The degree to which responsibility, authority, and accountability for the implementation of environmental protection programs has been assigned to all of the line organization units;

- The degree to which authority to make decisions related to environmental protection is assigned to the organizational levels that can provide the most timely response;
- The reporting "distance" and "pathway" between the persons (located in Albuquerque as well as remote locations) with the most relevant knowledge of environmental issues and senior line management;
- The consistency between the functioning reporting arrangements for environmental management and those that are shown on the organization charts;
- The definition and understanding of functional relationships between environmental support groups and line units; and
- Organizational arrangements for post closure responsibilities.

3.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following records will be examined at UMTRA Project Office:

- Formal documents that further define organizational responsibility, authority, and accountability for environmental protection programs;
- Formal job descriptions for field-office and facility-level environmental staff, as well as other key line management and operating personnel; and
- Formal measures of job performance.

4.0 ENVIRONMENTAL COMMITMENT

4.1 ISSUE IDENTIFICATION

The management systems audit activities for Performance Objectives and Criteria (POC) EM.2, Environmental Commitment, will review and analyze whether the organization exhibits a positive attitude toward environmental protection and a culture committed to environmental excellence. In particular, the audit will be designed to consider the following issues:

- Training/motivation/job satisfaction of environmental management and staff with environmental protection program responsibilities;
- Evidence of environmental commitment outside the ES&H structure;
- Top management support and commitment;
- Organizational location of environmental units relative to line managers;
- Acceptance of environmental compliance/performance responsibility;
- Formal environmental policies that address specific environmental concerns;
- Integration/congruence of environmental planning with business planning processes; and
- Personal responsibility of all managers and staff for the environmental impacts of their activities and decisions.

The general approach to the audit will include a review of documentation related to environmental commitment and interviews with personnel in all areas of the organization. Areas of particular interest will include:

- Formal statements of commitment to environmental excellence by managers at all levels;
- The existence of a formal statement of policy that places the highest priority for environment, safety, and health, and that delineates environmental goals and how they are to be met;
- The degree to which environmental awareness is included in all aspects of the organization such as public affairs, legal, and procurement;
- Whether adequate numbers of staff are available for environmental activities;
- Evidence (gathered principally through interviews) of a sense of "ownership" of environmental protection responsibilities by personnel at all levels and in all functions in the organization;

- The extent to which policies addressing environmental excellence and protection are distributed and understood throughout the organization;
- Top management encouragement and acceptance of input on environmental issues from employees;
- Top management statements and actions, and other documentation demonstrating support for environmental efforts; and
- Whether the environmental planning function is an integral part of the budget and planning processes and is conducted with comparable formality to other mission-related planning functions.

4.2 RECORDS REQUIRED

In addition to those documents already provided by the UMTRA Project Office, the following documents and records will be examined during the audit:

- Formal statement of environmental management policy;
- Additional issue-specific policies addressing more focused environmental concerns;
- Environmental Affairs Manual or similar procedures and guidance documents;
- Top management statements of support for the environmental management effort that are included in internal and external reports, speeches, internal newsletters, or other documents;
- Descriptions of environmental programs/projects, and special awards programs;
- Accounts of employee or organization involvement in, or work with environmental task forces, environmental professional associations, or local community organizations;
- Examples of environmental reporting requested by top management;
- Formal statements of commitment to environmental excellence by managers at any level; and
- Environmental management budget and planning documents, including strategic and/or business plans.

5.0 ENVIRONMENTAL PROTECTION PROGRAMS

5.1 ISSUE IDENTIFICATION

The management systems audit activities for Performance Objectives and Criteria (POC) EM.3, Environmental Protection Programs, will assess whether environmental programs are in place to ensure compliance with Federal, state, and local environmental laws and regulations, and provide for timely and correct implementation of those DOE Orders and Secretary of Energy Notices (SENs) designed to protect the environment and public health. The emphasis of the review will be on determining whether effective and comprehensive programs are in place and whether there is sufficient planning and oversight of these programs. The key issues involve conformance of UMTRA Project environmental protection programs with the performance objectives and prescriptive requirements of the following DOE Orders and environmental protection statutes (including the implementing regulations of these statutes):

- Uranium Mill Tailings Remedial Action Control Act (UMTRACA);
- Clean Water Act (CWA);
- Clean Air Act (CAA);
- Resource Conservation and Recovery Act (RCRA);
- Toxic Substances Control Act (TSCA);
- DOE 5400.1, "General Environmental Protection Program";
- DOE 5400.2A, "Environmental Compliance Issue Coordination";
- DOE 5480.4, "Environmental Protection, Safety, and Health Protection Standards"; and
- DOE 5700.6C, "Quality Assurance."

In addition, the UMTRA Project environmental protection programs will be evaluated for their adequacy in light of all agreements entered into with Federal, state and local governments and associations.

The general approach to the audit will include interviews with UMTRA Project Office and contractor personnel responsible for environmental program development and implementation, and reviews of documentation supporting those programs or demonstrating their proper implementation. Areas of particular interest will include:

- Determination of regulatory requirements and incorporation of those requirements (regulatory envelope) into appropriate environmental protection programs;
- Determination that all activities and contractors are included in environmental protection planning documents;

- Assignment of responsibilities;
- Identification and regular monitoring of environmental releases;
- Activities relative to long-term surveillance and maintenance programs;
- Prevention and minimization of environmental releases;
- Regular inspections of facilities and pollution control equipment;
- Emergency response provisions;
- Recordkeeping and reporting;
- Groundwater monitoring;
- Ambient radon monitoring;
- Policies and procedures relating to quality assurance; and
- Effective and consistent implementation of environmental programs by UMTRA Project contractors.

5.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following records will be examined at the UMTRA Project Office:

- Individual project plans;
- Results of ongoing environmental effluent and release monitoring;
- Results of internal audits and self-assessments;
- Emergency response plans;
- NESHAPs agreement;
- Preventive maintenance and inspection procedures;
- Reports to management, DOE HQ, and regulatory agencies;
- Minutes of the UMTRA Environmental Steering Committee, and
- Other records as determined on site.

6.0 FORMALITY OF ENVIRONMENTAL PROGRAMS

6.1 ISSUE IDENTIFICATION

The management systems audit activities for POC EM.4, Formality of Environmental Programs, will assess whether environmental protection activities are conducted in accordance with formal programs supported by controlled documentation. The emphasis of the review will be to determine whether policies and procedures are documented and implemented through formal, disciplined, auditable systems. Based on a review of pre-audit information provided to the audit team, the key issues that will be addressed are the following:

- Systems to stay current with new and emerging environmental regulations and trends;
- Systems for receiving, reviewing, interpreting, and disseminating environmental regulations and standards;
- Formal standards and procedures for environmental policy and program implementation;
- Inspection programs, corrective action schedules, and followup;
- Program for contractor oversight;
- Recordkeeping and document control systems; and
- System for preparing reports, providing notifications, and tracking and monitoring trends or deficiencies.

The general approach to the audit will include interviews with UMTRA Project Office and contractor personnel responsible for environmental policy development and implementation, and a review of documentation supporting environmental programs. Areas of particular interest will include:

- Systems to track and translate regulatory and DOE requirements into policies, standards, and procedures;
- Clarity and comprehensiveness of formal policies, standards, and procedures;
- Document control systems;
- Record retention policies and systems;
- Formal systems to track, investigate, report, correct, and monitor trends in identified problems; and
- Contractor oversight procedures and systems.

6.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following records will be examined at the UMTRA Project Office:

- Project and field office implementation plans for specific policies and procedures;
- Long-range environmental protection plans;
- Regulatory tracking system and procedures;
- Examples of environmental records and reports;
- Documentation and records of environmental performance;
- Reports of internal audits and self-assessments;
- Reports of corrective action implementation;
- Incident reports; and
- Other records as determined on site.

7.0 INTERNAL AND EXTERNAL COMMUNICATION

7.1 ISSUE IDENTIFICATION

The audit activities for Performance Objective and Criteria (POC) EM.7, Internal and External Communication, will assess whether formal and informal channels of communication are used to effectively manage environmental protection and to promote awareness of environmental policies and programs. Communication programs will also be reviewed against communication-related findings of the 1991 comprehensive baseline environmental audit for the UMTRA sites at Grand Junction, Rifle, and Gunnison, Colorado. The emphasis of the review will be to determine the mechanisms of communication used and their effectiveness. Based on a review of information provided to the audit team, the key issues that will be addressed include the following:

- Internal Communication:
 - Extent and effectiveness of communication of DOE and UMTRA Project environmental commitment, standards, implementation guidance, and performance to all employees;
 - Lateral communication of environmental activities and best management practices across remedial projects, including those implemented through GJPO;
 - Mechanisms for "bottom-up" communications of environmental concerns and issues, including staffing requests;
 - Clarity of ES&H directives and guidance to communicate policies and guidelines to all personnel;
 - Timeliness of communication within the organization;
 - Methods to evaluate the effectiveness of communication;
 - Awareness of ES&H responsibilities by line management; and
 - Overall understanding of environmental policies and requirements throughout the UMTRA Project.
- External Communication:
 - Working relationships with external oversight organizations (outside UMTRA Project);
 - Communication programs with state and local governments/associations;
 - Promotion of, and involvement in, external environmental-related activities by UMTRA Project Office personnel and contractors (including working with environmental interest groups);

- Quality of the working relationship with regulators; and
- Transfer of technology and know-how to other government and private industry activities.

The general approach to the audit will include interviews with EM Headquarters and UMTRA Project personnel responsible for environmental policy and program communication, as well as affected personnel such as UMTRA Project Office managers and contractor employees (management and staff). As appropriate, interviews will also be conducted with selected external groups (neighbors, environmental interest groups, regulators and/or state representatives). The audit will also include a review of documentation supporting internal communication programs.

The scope of internal communication programs is interpreted widely, and is viewed as including staff meetings, memoranda, management reports, task forces, training programs, newsletters, speeches, and other relevant forms of communication. Given this wide scope, and the overlap with other audit functional areas, interactions with other audit team members will be routine and extensive.

7.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following will be examined at the UMTRA Project Office:

- Forms and guidelines for internal anonymous reporting of environmental issues;
- Guidance documents for interpretation and implementation of environmental regulations and policies;
- Internal UMTRA Project memoranda or newsletter(s) that communicate and promote environmental awareness;
- Documentation of information and awareness programs for affected external groups;
- Samples of the scope of relevant management reports and staff meeting minutes; and
- Other records as determined on site.

8.0 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

8.1 ISSUE IDENTIFICATION

The management systems audit activities for Performance Objectives and Criteria (POC) EM.6, Staff Resources, Training and Development, will involve a review and analysis of the programs that are in place to ensure that staffing and resources are sufficient for meeting the UMTRA Project's environmental goals and statutory responsibilities, and that all personnel (DOE and contractor) have received environmental protection training appropriate for their job responsibilities. Specifically, the audit will address the following:

- Adequacy of environmental staffing levels to achieve environmental performance goals;
- Systems to identify staffing and resource requirements, both in terms of quality and quantity;
- Education, training, and experience of the environmental protection staff and key line managers;
- Identification and maintenance of job qualifications for environmental support and line management positions;
- Inclusion of environmental protection factors in job descriptions and performance evaluations for all relevant employees (staff and line functions);
- Identification of short-term and long-term requirements for staff development and training programs;
- Existence of processes to ensure that the depth and coverage of training courses are adequate;
- Systems to evaluate and establish the environmental training needs for all personnel;
- Methods to ensure that all employees, including new employees and contractors, receive the training deemed appropriate;
- Systems to formally evaluate training programs for effectiveness on a periodic basis; and
- Maintenance of environmental training records.

The general approach to the audit will include a review of documentation regarding staffing resources and training, and interviews with UMTRA Project Office and contractor personnel. Areas of particular interest will include:

- Commitment of adequate environmental staff;

- Formal and informal chain of command for environmental planning and compliance responsibilities;
- Job qualifications for environmental support personnel and professional staff;
- Staff awareness of their roles and responsibilities;
- Incentive systems for environmental support and line management personnel;
- Policies and procedures for staff development and training programs, as well as requirements for training materials and the documentation of training content;
- Broad based training courses covering DOE Orders, regulations, internal UMTRA procedures, and principles of environmental protection;
- Evidence that personnel at all levels and functions in the organization undergo environmental awareness training;
- Inclusion of environmental training in orientation for new employees and contractors, and existence of environmental protection training requirements for temporary employees and visitors; and
- Training that goes beyond regulatory requirements for environmental protection personnel and any other personnel whose work activities can directly impact environmental performance.

8.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, documents will be examined at the UMTRA Project Office and may include the following:

- Issues considered in performance evaluations of environmental personnel;
- Job descriptions and job analysis (performance appraisal) forms for a selected sample of line managers and non-environmental staff whose jobs include environmental tasks;
- Definitions of staff development and training programs for environmental protection, such as policies and procedures. These should include requirements regarding the preparation of training materials, as well as training content, and depth and coverage of training programs;
- Presentation materials for all environmental protection training programs (e.g., manuals, slides, or other);
- Names, locations, and work/educational background information (e.g., resumes) for all environmental protection trainers (both UMTRA Project Office and contractor personnel);

- Training history and educational records for all environmental staff and line managers within the UMTRA Project; and
- Environmental task analyses.

9.0 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

9.1 ISSUE IDENTIFICATION

The management systems audit activities for Performance Objectives and Criteria (POC) EM.7, Program Evaluation, Reporting and Corrective Action, will assess whether the organization has systems in place to effectively evaluate environmental protection activities, implement corrective actions, and report environmental concerns. The emphasis of the review will be to evaluate the appraisal programs in place including internal and external appraisals and self-assessment programs and the followup to those assessments. Based on a review of pre-audit information provided to the audit team, the key issues that will be addressed include the following:

- Design of the evaluation and audit programs including objectives, scope, approach, organization, coverage, and resources;
- Responsibility for evaluation and audit programs;
- Audit program implementation;
- Selection of qualified staff to conduct audits and appraisals;
- Annual budget for audits and appraisals;
- Reporting format and distribution;
- Audit/appraisal corrective action procedures, including followup and tracking; and
- Allocation of budget to address deficiencies.

The general approach to the audit will include interviews with UMTRA Project Office and contractor personnel responsible for environmental self-assessments, audits, appraisals, followup and corrective action programs, and documentation supporting the evaluation and audit programs. Areas of particular interest will include the following:

- Comprehensiveness of the programs;
- Frequency of audits and appraisals;
- Definition and tracking of performance indicators;
- Development of action plans and tracking of corrective actions;
- Periodic review of evaluation and audit programs; and
- Qualifications of audit personnel.

9.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following records will be examined at the UMTRA Project Office:

- Description of the programs, processes, and responsibility regarding self-assessments and internal audits;
- Audit/appraisal reports;
- Corrective action plans;
- Program budget allocation;
- Trends analysis reports;
- Auditor training/certification; and
- Other records as determined on site.

10.0 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

10.1 ISSUE IDENTIFICATION

The audit activities for Performance Objectives and Criteria (POC) EM.8, Environmental Planning and Risk Management, will assess both the organization's system for developing a plan for future activities that considers impacts on the environment, and the organization's system for identifying, assessing, and addressing potential environmental hazards. The review will be used to determine whether environmental risks have been adequately identified and quantified to make informed decisions on proper measures needed to minimize and control risks, as well as to determine the effectiveness of project-wide environmental planning activities. The scope of the audit will also include the more generic business planning activities of budgeting and priority-setting for the allocation of available funds. Both short- and long-term planning will be addressed.

Based on a review of pre-audit information provided to the audit team, the key issues that will be addressed are the following:

- Environmental Planning:
 - The existence of an environmental planning process that integrates the activities of all UMTRA Project participants;
 - Integration of environmental planning within the overall Project planning process;
 - The existence of adequate technical systems to support the planning function (e.g., monitoring, organized information exchange); and
 - Decision-making mechanisms for allocation of short- and long-term funds, operating and capital budgets.

- Risk Management
 - Risk management program design and approach;
 - Program responsibility;
 - Issues identification;
 - Levels of management involvement;
 - Proactive versus reactive management;
 - Actions taken to address identified risks;
 - Adequacy of funding for environmental protection activities; and
 - Adequacy of remedial action and pollution control technologies that are selected.

The general approach to the audit will include interviews with UMTRA Project Office, DOE Field Office, Albuquerque (AL) and contractor personnel responsible for environmental risk management and planning, and documentation supporting these programs. Areas of particular interest will include the following:

- The organization's understanding of environmental planning and risk management;

- A management policy of looking beyond compliance;

- How environmental planning activities for all UMTRA Project participants are integrated;
- The organization's operations/activities to identify environmental risks;
- Establishment of risk acceptability criteria and setting risk management priorities;
- Programs the organization has in place to keep up-to-date on remediation and pollution control technologies;
- Methods of assuring that the UMTRA Project is employing the best available technologies for environmental risk management; and
- The mechanisms of resource allocation and priority setting, and the extent to which actual resource allocation is consistent with environmental objectives (both at the UMTRA Project Office and contractor organizations).

10.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the audit, the following records will be examined at the UMTRA Project Office:

- Site review and followup;
- Descriptions of any programs, policies, and/or procedures for tracking current trends in remediation and pollution control technologies;
- Description, if any, of budgeting mechanisms for the UMTRA Project Office and contractor organizations (operating and capital);
- Short- and/or long-term business plans;
- Latest budget requests from all facets of the UMTRA Project specifying purposes for all planned expenditures; and
- Approved budgets for same.

APPENDIX C

AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 1	Monday 10/26/92	Tuesday 10/27/92	Wednesday 10/28/92	Thursday 10/29/92	Friday 10/30/92	Saturday 10/31/92
Gary Williams am	Orientation	Interviews:	Interviews:	Telephone interviews:	*Develop findings	Develop findings
Organizational Structure		*C. Cormier, re: organizational change and communication	*DOE-AL ES&H Manager, re: organizational support	*J. Decker, re: DHEC		
Internal and External Communications		*A. Chernoff, re: organizational change and communication	*DOE-AL Office of General Counsel re: organizational support and reporting	*J. Gringland, re: BLM		
		*J. Virgona, re: reorganization	*R. Lawrence, re: line management reporting	*NRC		
				*Citizens group		
pm	Interviews:	Interviews:	Interviews:	Followup interviews	Develop findings	Develop findings
	*F. Borjjevac, re: organizational structure, reporting and communications	*M. Madson, re: ES&H organization and reporting	*B. Zebick, re: organizational change and reporting			
	*C. Eparza-Baca, re: organizational structure, reporting communication	*N. Norman, re: ES&H organization and reporting	*J. Huff, re: line management responsibility			
	*P. Mann, re: ES&H reporting, line management responsibility					
	*D. Leske					

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 1	Monday 10/26/92	Tuesday 10/27/92	Wednesday 10/28/92	Thursday 10/29/92	Friday, 10/30/92	Saturday 10/31/92
Charlotte Young Environmental Commitment Staff Resources, Training, and Development	am Orientation	Interviews: *N. Norman, re: environmental commitment, staff and training *F. Bosiljevac, re: environmental commitment, staff and training *J. Solecki, re: environmental commitment, staff and training	Interviews: *L. Fahy, re: environmental commitment, staff, and training *M. Smith, re: staff and PDS *D. Koch, re: environmental commitment, id training	Interviews: *R. Cooney, re: environmental commitment, training, and staff *D. Carleon, re: environmental commitment, training, and staff *J. Isham, re: environmental commitment, staff, training *R. Short, re: training *B. Zebick, re: environmental commitment, staff, and training	Develop findings Interviews: *P. Monette, re: trr *R. Edgs, re: environmental commitment	Develop findings
	pm Interviews: *C. Smythe, re: environmental policies, and commitment *C. Cormier, re: environmental commitment, staff, and training *J. Virgona, re: environmental commitment, staff, and training	Interviews: *J. Gibb, re: environmental commitment, staff, and training *C. Esparza-Baca, re: environmental commitment, staff, and training *R. Nelson, re: environmental commitment, staff, and training	Interviews: *G. Hartman, re: environmental commitment *J. Blount, re: environmental commitment *A. Chernoff, re: environmental commitment, staff, and training	Interviews: *M. Abrams, re: management support *J. Sink, re: environmental commitment, staff, and training	Develop findings	Develop findings

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 1	Monday 10/26/92	Tuesday 10/27/92	Wednesday 10/28/92	Thursday 10/29/92	Friday 10/30/92	Saturday 10/31/92
Ron Kolpa Environmental Protection Program	am *Orientation	Interviews: *B. Young, CNG re: self-assessment *D. Koch, CNG re: internal audits *P. Bonin, CNG re: self-assessment, vicinity properties program *D. Leake, re: UMTRA program oversight committee, environmental program effectiveness, Grand Junction activities, and communication	Interviews: *J. Iahern, re: RAC's environmental program, subcontractor oversight, audits and training *C. Carlson, re: radiological monitoring, dose assessment, offsite monitor, and n.p. verification *J. Huff, re: MK-F self-assessment, ES&H planning, and ES&H committee *T. Manchecky, re: RAC's self-assessment program, training, and environmental program	Interviews: *S. Hamp, re: contractor oversight, LTSM issues, UMTRA PO-GJPO interface *M. Scutaris, re: QA program, contractor oversight, self-assessment *D. Metzler, re: LTSM issues and groundwater restoration *J. Stelmach, re: self-assessment, environmental program changes, audit findings progress	Interviews: *L. Fahy, re: UMTRA budget and GJPO's LTSM activities *J. Iahern, re: variance/exemption *A. Vollmer, re: variance/exemption	Develop findings
	p.m. Interviews: *C. Esperze-Baca, re: environmental programs, ES&H Committee, and operating envelopes *L. Ulland, re: environmental programs improvement, self audit, and ES&H Committee *A. Vollmer, re: environmental program, TAC's role and ROCs group	Interviews: *J. Gibb, re: TAC's environmental program, TAC's role and permit compliance *J. Virgone, re: GJPO activities, GJPO environmental program, and LTSM/PLCC issues	Interviews: *S. Mertz, re: MK-F's QA program, audits, and trending program *S. Arp, re: vicinity properties issues, overights, and ES&H Committee	Interviews: *C. Jones, re: LTSM/PLCC issues and UMTRA PO GJPO interface *D. Schauerman, re: LTSM/PLCC issues and UMTRA PO GJPO interface *C. Smythe, re: contractor directives and new requirements *M. Thomas, re: contractor directives and federal acquisition regulations compliance *C. Esperze-Baca, re: environmental program and ES&H committee	Develop findings *L. Ulland, re: environmental oversight *C. Soden, re: environmental oversight	Develop findings

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 7	Monday 10/26/92	Tuesday 10/27/92	Wednesday 10/28/92	Thursday 10/29/92	Friday 10/30/92	Saturday 10/31/92
Peter Lindahl a.m. Formality of Environmental Programs Program Evaluation, Reporting, and Corrective Action	Orientation	Interviews: *A. Chernoff, re: formality of operations and environmental oversight *C. Cormier, re: formality of operations and environmental oversight *B. Young, re: formality of operations, inspect vs, and environmental oversight *D. Koch, re: inspections, tracking, trending, and environmental oversight	Interviews: *G. Jacquitz, re: self-assessment, corrective actions, tracking and trending *J. Huff and J. Iahem, re: corrective actions, tracking, and environmental oversight *S. Mertz, re: corrective actions, tracking, trending, and quality assurance *T. Manchesky, re: corrective actions, tracking, trending, and self-assessment	Interviews: *J. Gibb, re: environmental oversight *M. Alewine, re: laboratory oversight and document control *M. Miller and R. Sawyer, re: laboratory oversight *J. Steinhach, re: self-assessment and corrective actions *L. Jilend, re: procedure	Interviews: *L. Ulland, re: environmental oversight *C. Soden, re: environmental oversight	Develop findings
p.m.	Interviews: *D. Leake, re: environmental oversight, procedures, and inspections *M. Scuteris, re: quality assurance, oversight, tracking, trending, document control and inspections *C. Esparza-Baca, re: environmental oversight, inspections, tracking, and corrective actions	Interviews: *L. Fahy, re: procedure *P. Bonin, re: tracking, trending, and self-assessment *J. Virgona, re: formality of operations, tracking, corrective actions, and self-assessment *F. Boaljevac, re: environmental oversight, corrective actions, and tracking	Interviews: *R. Lawrence, re: corrective actions and environmental oversight *A. Vollmer, re: formality of operations, procedures, and environmental oversight *D. Carlson, re: laboratory quality assurance and laboratory oversight *J. Iahem, re: reporting and document control	Interviews: *N. Lindes, re: procedure *W. Woodworth, re: self-assessment *C. Esparza-Baca, re: environmental oversight *A. Vollmer, re: environmental oversight	Develop findings	Develop findings

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 1	Monday 10/26/92	Tuesday 10/27/92	Wednesday 10/28/92	Thursday 10/29/92	Friday 10/30/92	Saturday 10/31/92
<p>Mersha Goldberg a.m.</p> <p>Environmental Planning. Risk Management</p>	<p>Orientation</p>	<p>Interviews:</p> <ul style="list-style-type: none"> *J. Virgone, re: risk management and technical development *M. Scouteris, re: quality assurance *B. Cornish, re: risk management and risk identification 	<p>Interviews:</p> <ul style="list-style-type: none"> *N. Norman, re: risk management and technology *D. Metzler, re: environmental planning and risk management *N. Lindas, re: budget and risk management 	<p>Interviews:</p> <ul style="list-style-type: none"> *J. Isham, re: risk management and environmental planning *R. Cooney, re: design process and risk management *S. Mertz, re: quality assurance *J. McBoe, re: site activities 	<p>Interviews:</p> <ul style="list-style-type: none"> *C. Esparza-Baca, re: strategic planning <p>Develop findings</p>	
<p>p.m.</p>	<p>Interviews:</p> <ul style="list-style-type: none"> *C. Cormier, re: risk management *N. Lindas, re: budget and risk management *L. Fahy, re: risk management 	<p>Interviews:</p> <ul style="list-style-type: none"> *R. Nelson, re: environmental planning and risk management *J. Gibb, re: environmental planning *M. Leaf, re: site planning 	<p>Interviews:</p> <ul style="list-style-type: none"> *D. Langdon, re: risk management *M. Madson, re: risk management *C. Esparza-Baca, re: ESH committee 	<p>Interviews:</p> <ul style="list-style-type: none"> *C. Esparza-Baca, re: environmental oversight *D. Leaki, re: lessons learned *J. Sink, re: environmental planning 	<p>Develop findings</p>	<p>Develop findings</p>

ENVIRONMENTAL AUDIT TEAM SCHEDULE OF ONSITE ACTIVITIES

Week 2	Monday 11/2	Tuesday 11/3	Wednesday 11/4	Thursday 11/5	Friday 11/6	Saturday 11/7
Gary Williams Organizational Structure Internal and External Communication	Develop findings	Factual accuracy reviews	Finalize findings	Report preparation	Closeout	
Charlotte Young Environmental Commitment Staff Resources, Training, and Development	Develop findings	Factual accuracy reviews	Finalize findings	Report preparation	Closeout	
Ron Kolpa Environmental Protection Program	Develop findings	Factual accuracy review	Finalize findings	Report preparation	Closeout	
Peter Lindehl Formality of Environmental Programs Program Evaluation, Reporting and Corrective Action	Develop findings Interviews: *R. Blisf, re: document control *K. Douglas, re: document control	Develop findings	Factual accuracy reviews Finalize findings	Report preparation	Closeout	
Marsha Goldberg Environmental Planning, Risk Management	Develop findings	Develop findings	Factual accuracy review	Report preparation	Closeout	

APPENDIX D

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Organizational Structure (OS)			
D-OS-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
J-OS-2	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-OS-3	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-OS-4	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending June 30, 1992	UMTRA/AL	7/92
D-OS-5	Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL	4/92
D-OS-6	Job Descriptions for Staff and Environmental Management Responsibilities in DOE and Contractor Organizations	Unknown	Undated
D-OS-7	Job Descriptions for Staff with Environmental Management Responsibility in DOE and Contractor Organizations	CNG	Undated
D-OS-8	Organization Charts from Project Management Control System Description	CNG	5/92
D-OS-9	Operations Management Policy Manual	CNG	12/21/90
D-OS-10	Program Plan for the DOE Disposal Site Long-Term Surveillance and Maintenance (LTSM) Program	UNC CNG	9/89
D-OS-11	Memorandum: GJPO Compliance Order on Consent and Settlement Agreement to Resolve the "Commingled" Waste Issue	A. Pitrolo/ID/L. Duffy	11/19/91
D-OS-12	CNG Summary of Organization	CNG	1/3/91
D-OS-13	Draft Final Action Plan to Respond to the Environmental Audit of the UMTRA Project	A. Chernoff/AL/R. Lightner	12/19/91
D-OS-14	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-OS-15	MK-F Organization Chart	MK-F	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Organizational Structure (continued)			
D-OS-18	UMTRA Project Environmental Protection Implementation Plan	JEG and MK-F/UMTRA DOE-AL	3/92
D-OS-17	GJPO Environmental Protection Implementation Plan	DOE-GJPO	11/9/91 - 11/9/92
D-OS-18	UMTRA Project Programmatic Agreement Between Albuquerque and Idaho Operations	M. Crew/DOE-GJ/C. Greenslit/Bendix Field Engineering Corp.	9/30/85
D-OS-19	General Environmental Policy Statement	G. Sersten/Morrison Knudsen Corporation	Undated
D-OS-20	Environmental Policy and Guidance Manual	Morrison Knudsen Corporation	10/91
D-OS-21	Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	DOE/UMTRA	9/92
D-OS-22	Memo: UMTRA PO/GJPO UMTRA Programmatic Agreement	J. Solecki/DOE-GJ/A. Chernoff	10/6/92
D-OS-23	GJPO Organizational Philosophy and Functions	Unknown	8/10/92
D-OS-24	Memo: Issue of DOE-GJPO Policy Statements	J. Solecki, GJPO/DOE-GJPO Staff and Support Staff	10/8/92
D-OS-25	Uranium Mill Tailings Remedial Action Project Office FY 1993 Operational Plan	Unknown	Undated
D-OS-26	Memo: Revised FTE Priority List/Albuquerque Field Office/Environmental Restoration and Waste Management Activities	J. Bickel/DOE/P. Grimm	Undated
D-OS-27	Implementation Plan for the Integration of Pre-Licensing Custodial Care Programmatic Activities Between the Uranium Mill Tailings Remedial Action Project Offices and the Grand Junction Project Office	M. Matthews/UMTRA PO/M. Tucker	1/2/91
D-OS-28	United States Department of Energy Long-Term Surveillance and Maintenance Program Implementation Plan for Site Transfer between the Uranium Mill Tailings Remedial Action and the Grand Junctions Projects Office	DOE/UMTRA and GJPO	1/2/91
D-OS-29	UMTRA Environmental Management Self-Assessment Final Draft	AL/UMTRA	10/23/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Organizational Structure (continued)			
D-OS-30	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	UMTRA PO	10/23/92
D-OS-31	Memo: UMTRA Project Programmatic Agreement Between Albuquerque and Idaho Operations Offices	R. Romatowski/AL/T. Wade	9/12/85
D-OS-32	Transmittal Letter from M. Matthews Transmitting the Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL/S. Hill	7/10/91
Environmental Commitment (EC)			
D-EC-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-EC-2	TAC Technical Staff	Unknown	5/8/92
D-EC-3	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-EC-4	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-EC-5	UMTRA Project Site Management Manual	UMTRA-DOE/AL	10/90
D-EC-6	Job Descriptions for Staff and Environmental Management Responsibilities in DOE and Contractor Organizations	Unknown	Undated
D-EC-7	Job Descriptions for Staff with Environmental Management Responsibility in DOE and Contractor Organizations	CNG	Undated
D-EC-8	Organization Charts from Project Management Control System Description	CNG	5/92
D-EC-9	Draft CNG Policy and Procedures	CNG	Undated
D-EC-10	Mission Statement Grand Junction Projects Office	GJPO	1/13/92
D-EC-11	Training Catalog	CNG	12/31/91
D-EC-12	CNG Job Descriptions	CNG	Undated
D-EC-13	Summary of Programs Designed to Communicate Sound Environmental Protection	Unknown	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Commitment (cont.nued)			
D-EC-14	Morrison Knudser Corporation, Environmental Policy and Guidance Manual	MK-F	10/91
D-EC-15	MK-F Staff Management Roles and Responsibilities	MK-F	Undated
D-EC-16	General Environmental Policy Statement	G. Sarsten/Morrison Knudsen Corporation	Undated
D-EC-17	Environmental Policy and Guidance Manual	Morrison Knudsen Corporation	10/91
D-EC-18	Memo: Environmental Compliance and Environmental Quality	A. Charnoff/AL/UMTRA Project Office Staff	10/8/92
D-EC-19	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	Unknown	Undated
D-EC-20	GJPO Organizational Philosophy and Functions	Unknown	8/10/92
D-EC-21	Memo: Issue of DOE-GJPO Policy Statements	J. Solecki, GJPC/DOE-G-IPO Staff and Support Staff	10/8/92
D-EC-22	New Employee Orientation Manual	AL/UMTRA	11/91
D-EC-23	Fundamentals for DOE Operations Course Student Handbook	AL	Undated
D-EC-24	TAC Indication of EC	Unknown	9/16/92
D-EC-25	Environmental Planning	Chem Waste Management, Inc.	4/90
D-EC-26	CWM Federal Environmental Services, Inc. Health Physics Training Manual	CWM Federal Environmental Services, Inc.	Undated
D-EC-27	Memo: Environmental Issues and Policies for Review DC-92-73	CWM Federal Environmental Services, Inc.	9/23/92
D-EC-28	UMTRA Update	CWM Federal Environmental Services, Inc.	10/92
D-EC-29	Project Management Workshop	AL	6/29/92
D-EC-30	Memo: Site-Specific ES&H Requirements	R. Lawrence/MK-F/Distribution	9/3/92
D-EC-31	Sound Study of Gunnison UMTRA Project Proposed Haul Routes	MK-F	10/91
D-EC-32	Engineer's Daily Activity and Inspection Report	MK-F	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Commitment (continued)			
D-EC-33	Comprehensive Review of MK-F UMTRA ES&H Operations	MK-F	Undated
D-EC-34	Examples of Different Weekly Status Reports	Unknown	Undated
D-EC-35	Sample "Walkdown Form"	GJPO	Undated
D-EC-36	Amendment of Solicitation/Modification of Contract (Remed) UMTRA Project Environment, Health, and Safety Plan UMTRA-DOE/AL	Unknown	10/92
D-EC-37	UMTRA PO Environmental Policy	Chernoff/UMTRA PO/UMTRA PO Staff	10/8/92
D-EC-38	Policy and Procedure Administrative Bulletin for Geotech, Inc.	D. Leuven, CGN and J. Solecki, GJPO/GJPO	Undated
Environmental Protection Programs (EP)			
D-EP-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-EP-2	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-EP-3	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-EP-4	UMTRA Project Environmental, Health and Safety Plan	UMTRA-DOE/AL	2/89
D-EP-5	Corrective Action Plan to DOE Environmental Audit Report of Grand Junction, Colorado Processing, Transfer and Disposal Sites	MK-F	6/15/92
D-EP-6	Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL	4/92
D-EP-7	Preplanning Guidance Document for Groundwater Restoration	UMTRA-DOE/AL	6/91
D-EP-8	Plan for Implementing EPA Standards for UMTRA Sites	UMTRA-DOE/AL	1/84
D-EP-9	UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92
D-EP-10	Groundwater Protection Management Program Plan	UMTRA/DOE/AL	6/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Protection Programs (continued)			
D-EP-11	Waste Minimization and Pollution Prevention Awareness Plan	CNG/UMTRA	3/92
D-EP-12	Program Plan for the DOE Disposal Site Long-Term Surveillance and Maintenance (LTSM) Program	UNC CNG	9/89
D-EP-13	Self-Assessment Manual (Manual 118)	CNG	3/21/92
D-EP-14	Memorandum: GJPO Compliance Order on Consent and Settlement Agreement to Resolve the "Commingled" Waste Issue	A. Pitrolo/ID/L. Duffy	11/19/91
D-EP-15	Notification of Regulated Waste Activity	J. Solecki/DOE-Grand Junction/M. Meumiller	5/27/92
D-EP-16	Request for Entering into Negotiations to Attain Compliance with Land Disposal Restrictions (LDR) for Mixed Waste	M. Tucker/GJPO/J. Sowinski	5/8/92
D-EP-17	Grand Junction Projects Office U.S. Department of Energy Baseline Environmental Audit Action Plan	CNG	2/92
D-EP-18	CNG Summary of Organization	CNG	1/3/91
D-EP-19	Volume 1 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG, and CWM Federal Environmental Services, Inc.	1991
D-EP-20	Volume 2 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG and CWM Federal Environmental Services, Inc.	1991
D-EP-21	UMTRA Project DOE Order 5400.1 Environmental Monitoring Plan	MK-F, JEG and CWM Federal Environmental Services, Inc.	5/92
D-EP-22	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-EP-23	Memorandum: DOE 5500 Series Orders	F. Bosiljeva/UMTRA Project Office/R. Lawrence	6/2/92
D-EP-24	MK-F Organization Chart	MK-F	Undated
D-EP-25	UMTRA Project Environmental Protection Implementation Plan	JEG and MK-F/UMTRA DOE-AL	3/92
D-EP-26	Summary of Programs Designed to Communicate Sound Environmental Protection	Unknown	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Protection Programs (continued)			
D-EP-27	Waste Minimization and Pollution Prevention Program for UMTRA	MK-F/AL	4/92
D-EP-28	GJPO Environmental Protection Implementation Plan	DOE-GJPO	11/9/91 - 11/9/92
D-EP-29	General Environmental Policy Statement	G. Sarsten/Morrison Knudsen Corporation	Undated
D-EP-30	Environmental Policy and Guidance Manual	Morrison Knudsen Corporation	10/91
D-EP-31	Memo: Environmental Compliance and Environmental Quality	A. Chernoff/AL/UMTRA Project Office Staff	10/8/92
D-EP-32	UMTRA Groundwater Program Plan	DOE-UMTRA	5/92
D-EP-33	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending June 30, 1992	UMTRA	7/92
D-EP-34	UMTRA Audit/Surveillance Tracking System	UHIST/DAT	1/10/92
D-EP-35	Plan for Implementing EPA Standards for UMTRA Sites	DOE/UMTRA	1/84
D-EP-36	Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	DOE/UMTRA	9/92
D-EP-37	Draft Uranium Mill Tailings Remedial Action Project Environmental Monitoring Plan	MK-F, CWM Federal Environmental Services, Inc., and JEG	10/92
D-EP-38	Draft Groundwater Monitoring Program Plan	Unknown	4/92
D-EP-39	Memo: Development and Implementation of DOE 5500 Order Series	M. Henderson/MK-F/F. Bosiljevec	7/13/92
D-EP-40	Regulatory Oversight and Compliance Support (ROCS) Manager/Group	Unknown	Unknown
D-EP-41	Memo: UMTRA PO/GJPO UMTRA Programmatic Agreement	J. Solecki/DOE-GJ/A. Chernoff	10/6/92
D-EP-42	Requirements Identification Document and Systems Identification Report for the Uranium Mill Tailings Remedial Action Project at Grand Junction, Colorado	WASTREN, Inc.	8/5/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Protection Programs (continued)			
D-EP-43	Draft Environmental Assessment of Remedial Action at Vicinity Properties Containing Commingled Waste at Grand Junction, Colorado	UMTRA-DOE/AL	9/92
D-EP-44	Letter: Transmittal of the GJPO Compliance and Regulatory Permits Schedule	D. Van Leuven/CNG/J. Solecki	10/9/92
D-EP-45	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	UMTRA-AL	10/92
D-EP-46	UMTRA Environmental Management Self-Assessment Final Draft	Unknown	10/23/92
D-EP-47	Memo: ES&H Site Specific Programs, Plans and Procedures	I. Isham/MK-F/Distribution	10/26/92
D-EP-48	Safety and Health Surveillance Plan	MK-F	8/92
D-EP-49	Draft Change Order Notice Procedure	Unknown	10/28/92
D-EP-50	Documentation Demonstrating Development Reviews Submissions to EH-1 of Environmental Protection Implementation Plans (EPIPs) for Facilities under the DOE/AL Field Office (including UMTRA PO and GJPO)	Several	Several
D-EP-51	Memo: Site-Specific ES&H Requirements	R. Lawrence/MK-F/Distribution	9/3/92
D-EP-52	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	C. Esparza-Baca, UMTRA PO; M. Miller, JEC; J. Millard, JEC; J. Isham, MK-F; F. Patelka, MK-F; J. Turner, MK-F; J. Turner, MK-F; M. Henderson, MK-F; M. Matthews, UMTRA PO	10/90
D-EP-53	1991 Annual Environmental Monitoring Report Volume 1	MK-F, JEG, CWM Federal Environmental Services, Inc./UMTRA-AL	1991
D-EP-54	1991 Annual Environmental Monitoring Report Volume 2	MK-F, JEG, CWM Federal Environmental Services, Inc./UMTRA-AL	1991
D-EP-55	UMTRA Environmental Management Self-Assessment Final Draft	AL/UMTRA	10/23/92
D-EP-56	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	UMTRA PO	10/23/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Protection Programs (continued)			
D-EP-57	Project Management Agreement Between Office of Nuclear Waste Management and the Albuquerque Operations Office for the Uranium Mill Tailings Remedial Actions Project	Unknown	Unknown
D-EP-58	Transmittal Letter from M. Matthews Transmitting the Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL/S. Hill	7/10/91
D-EP-59	Final Vicinity Properties Management and Implementation Manual	UMTRA-DOE/AL	3/88
D-EP-60	Letter: 1992-1993 DOE-GJPO Environmental Protection Implementation Plan Update	D.B. Van Leuven/Geo'tech/J. Solecki	10/9/92
D-EP-61	Final UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92
D-EP-62	GJPO Environmental Protection Implementation Plan (Final Update)	CNG	11/9/92
Formality of Environmental Programs (FP)			
D-FP-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-FP-2	Draft Revised UMTRA Environmental, Health, and Safety Plan, TAC Action Memo No. 249	M. Miller/TAC/C. Esperza-Baca	5/92
D-FP-3	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-FP-4	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-FP-5	UMTRA Project Environmental, Health and Safety Plan	UMTRA-DOE/AL	2/89
D-FP-6	UMTRA TAC's Self-Assessment Program	UMTRA/AL	9/26/91
D-FP-7	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending June 30, 1992	UMTRA/AL	7/92
D-FP-8	Memorandum: Line Program Environmental Management Audit of the UMTRA Program	A. Sikri/DOE EH-24/A. Chernoff	7/6/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Formality of Environmental Programs (continued)			
D-FP-9	UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92
D-FP-10	Self-Assessment Manual (Manual 118)	CNG	3/21/92
D-FP-11	Draft Projects Office Manual	DC E	Undated
D-FP-12	Volume 1 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG and CWM Federal Environmental Services, Inc.	1991
D-FP-13	Volume 2 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG and CWM Federal Environmental Services, Inc.	1991
D-FP-14	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-FP-15	Line Management Self-Assessment	MK-F/UMTRA	6/4/92
D-FP-16	UMTRA Audit/Surveillance Tracking System	UHIST/DAT	1/10/92
D-FP-17	Incoming DOE Document Procedure and Outgoing DOE Document Procedure	MK-F	Undated
D-FP-18	UMTRA Project Document Control System Manual	AL	7/92
D-FP-19	Regulatory Oversight and Compliance Support (ROCS) Manager/Group	Unknown	Unknown
D-FP-20	Requirements Identification Document and Systems Identification Report for the Uranium Mill Tailings Remedial Action Project at Grand Junction, Colorado	WASTREN, Inc.	8/5/92
D-FP-21	UMTRA Environmental Management Self-Assessment Final Draft	Unknown	10/23/92
D-FP-22	Memo: ES&H Site Specific Programs, Plans and Procedures	I. Isham/MK-F/Distribution	10/26/92
D-FP-23	Fax: Self-Assessment Operations Department Responsibilities for Environmental Regulations Compliance	CNG	Undated
D-FP-24	Revised Draft UMTRA Project Change Control Procedure	Unknown	Undated
D-FP-25	UMTRA Project Change Control Procedure	Unknown	Undated

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LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Formality of Environmental Programs (continued)			
D-FP-26	UMTRA Environmental Management Self-Assessment Final Draft	AL/UMTRA	10/23/92
D-FP-27	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	UMTRA PO	10/23/92
D-FP-28	Quality Assurance Assistance Review Report	AL	4/29/92
D-FP-29	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending September 30, 1992	UMTRA-DOE	9/92
D-FP-30	Conduct of Operations Plan for Uranium Mill Tailings Remedial Action Project MK-F For DOE Order 5480.19	MK-F	Undated
D-FP-31	The Technical Assistance Contractor's (TAC's) Final Determination of Applicability and Conformance concerning DOE Order 5480.19, "Conduct of Operations for DOE Facilities"	UMTRA-DOE/AL	8/8/91
D-FP-32	Letter: Draft Conduct of Operations Program Plan for CNG	J. Bolling/Geotech/J. Solecki	9/28/92
D-FP-33	Draft Conduct of Operations Program Plan	CNG	9/30/92
D-FP-34	Memo: GJPO Self-Assessment Response	J. Garner/GJPO/J. Virgone	10/19/92
D-FP-35	Memo: DOE/AL Draft Orders Control Transmittal	GJPO	Undated
Internal and External Communication (IC)			
D-IC-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-IC-2	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-IC-3	Project Management Control System Description	JEG	6/4/92
D-IC-4	UMTRA Project Site Management Manual	UMTRA-DOE/AL	10/90
D-IC-5	Job Descriptions for Staff and Environmental Management Responsibilities in DOE and Contractor Organizations	Unknown	Undated
D-IC-6	Organization charts from Project Management Control System Description	CNG	5/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Internal and External Communication (continued)			
D-IC-7	CNG Summary of Organization	CNG	1/3/91
D-IC-8	Draft Final Action Plan to Respond to the Environmental Audit of the UMTRA Project	A. Chernoff/AL/R. Lightner	12/19/91
D-IC-9	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-IC-10	MK-F Organization Chart	MK-F	Undated
D-IC-11	UMTRA Project Environmental Protection Implementation Plan	JEG and MK-F/UMTRA DOE-AL	3/92
D-IC-12	MK-F Staff Management Roles and Responsibilities	MK-F	Undated
D-IC-13	8.0 Public Information	VPMIM	3/88
D-IC-14	GJPO Environmental Protection Implementation Plan	DOE-GJPO	11/9/91 - 11/9/92
D-IC-15	UMTRA Project Programmatic Agreement Between Albuquerque and Idaho Operations	M. Crew/DOE-GJ/C. Greenslit/Bendix Field Engineering Corp.	9/30/85
D-IC-16	General Environmental Policy Statement	G. Sarsten/Morrison Knudsen Corporation	Undated
D-IC-17	Environmental Policy and Guidance Manual	Morrison Knudsen Corporation	10/91
D-IC-18	TAC New Employee Orientation Manual	JEG	11/91
D-IC-19	Employee Suggestion Form	JEG	8/92
D-IC-20	Regulatory Oversight and Compliance Support (ROCS) Manager/Group	Unknown	Unknown
D-IC-21	ES&H Committee Charter, Procedure, and Minutes	Unknown	Unknown
D-IC-22	Environmental Policy and Guidance Manual	Morrison Knudsen Corporation	10/91
D-IC-23	Letter: Transmittal of the GJPO Compliance and Regulatory Permits Schedule	D. Van Leuven/CNG/J. Solecki	10/9/92
D-IC-24	Response to Request for Disposal of Calibration Test Models and Portable Pads at the Cheney Disposal Site	A. Chernoff/AL/J. Soleski	9/1/92
D-IC-25	New Employee Orientation Manual	AL/UMTRA	11/91

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LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Internal and External Communication (continued)			
D-IC-26	Memo: Environmental Issues and Polices for Review DC-92-73	CWM Federal Environmental Services, Inc.	9/23/92
D-IC-27	UMTRA Update	CWM Federal Environmental Services, Inc.	10/92
D-IC-28	Memo: Site-Specific ES&H Requirements	R. Lawrence/MK-F/Distribution	9/3/92
D-IC-29	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	C. Esperza-Beca, UMTRA PO; M. Miller, JEC; J. Millard, JEC; J. Isham, MK-F; F. Patelka, MK-F; J. Turner, MK-F; J. Turner, MK-F; M. Henderson, MK-F; M. Matthews, UMTRA PO	10/90
D-IC-30	Project Management Agreement Between Office of Nuclear Waste Management and the Albuquerque Operations Office for the Uranium Mill Tailings Remedial Actions Project	Unknown	Unknown
D-IC-31	Memo: UMTRA Project Programmatic Agreement Between Albuquerque and Idaho Operations Offices	R. Romatowski/AL/T. Wade	9/12/85
D-IC-32	Transmittal Letter from M. Matthews Transmitting the Final Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL/S. Hill	7/10/91
D-IC-33	Examples of Different Weekly Status Reports	Unknown	Undated
D-IC-34	UMTRA PO Requests for Training/Evaluation Form	DOE HQ	12/88
D-IC-35	UMTRA Project Routing Slip	Unknown	9/8/92
D-IC-36	Public Participation Policy for Environmental Restoration and Waste Management	DOE	10/92
D-IC-37	Statement of Principles and Directives for the Implementation of the Uranium Mill Tailings Remedial Action (UMTRA) Project in the State of Colorado	Unknown	Undated
Staff Resources, Training, and Development (SR)			
D-SR-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-SR-2	TAC Technical Staff	Unknown	5/8/92

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LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Staff Resources, Training, and Development (continued)			
D-SR-3	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-SR-4	UMTRA Project Site Management Manual	UMTRA-DOE/AL	10/90
D-SR-5	Job Descriptions for Staff and Environmental Management Responsibilities in DOE and Contractor Organizations	Unknown	Undated
D-SR-6	Job Descriptions for Staff with Environmental Management Responsibility in DOE and Contractor Organizations	CNG	Undated
D-SR-7	Organization charts from Project Management Control System Description	CNG	5/92
D-SR-8	DOE-GJPO Training Matrix	DOE	Undated
D-SR-9	CNG Job Descriptions	CNG	Undated
D-SR-10	CNG Summary of Organization	CNG	1/3/91
D-SR-11	Memorandum: FY 1994 Internal Review Budget Federal Staffing Requirements	J. Solecki/GJPO/D. Garcia, AL	6/12/92
D-SR-12	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-SR-13	MK-F Staff Management Roles and Responsibilities	MK-F	Undated
D-SR-14	Project Training Requirements Matrices	Unknown	12/31/91
D-SR-15	Position Training Requirements	Unknown	Undated
D-SR-16	Selected Employees Training Records (Computer Printout)	Unknown	Undated
D-SR-17	Selected Employees Training Records (Computer Printout)	Unknown	Undated
D-SR-18	Selected Employees Training Records (Computer Printout)	Unknown	Undated
D-SR-19	TAC New Employee Orientation Manual	JEG	11/91
D-SR-20	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	Unknown	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Staff Resources, Training, and Development (continued)			
D-SR-21	Memo: Revised FTE Priority List/Albuquerque Field Office/Environmental Restoration and Waste Management Activities	J. Bickel/DOE/P. Grimm	Undated
D-SR-22	New Employee Orientation Manual	AL/UMTRA	11/91
D-SR-23	Memo: Proposed Individual Development Plans	J. Bickel/AL/J. Arthur, A. Hunt, A. Chernoff, J. Solec, D. Bendy, J. Szenesi	8/13/92
D-SR-24	Training Instructional Manual	Unknown	Undated
D-SR-25	Employee Self-Evaluation Form	G & M, Inc.	Undated
D-SR-26	Jacobs Mobility Status	JEG	10/91
D-SR-27	JEG Employee Utilizing Tuition Reimbursement Program	JEG	9/92
D-SR-28	Sexual Harassment Self-Test	JEG	Undated
D-SR-29	WSSRAP Training Database	MK-F	8/24/92
D-SR-30	HP Monitor Qualification Coordinator	CWM Federal Environmental Services, Inc.	9/4/92
D-SR-31	Post Evaluation External Meeting Seminar	CWM Federal Environmental Services, Inc.	5/92
D-SR-32	Professional Development Request	CWM Federal Environmental Services, Inc.	4/92
D-SR-33	Procedure Review Form	MK-F	Undated
D-SR-34	HP Site Manager 1992 Goals and Objectives	MK-F	Undated
D-SR-35	UMTRA Update	CWM Federal Environmental Services, Inc.	10/92
D-SR-36	Project Management Workshop	AL	6/29/92
D-SR-37	Memo: Site-Specific ES&H Requirements	R. Lawrence/MK-F/Distribution	9/3/92
D-SR-38	Employee Performance Review and Career Development Plan (Company Private)	MK-F	1991
D-SR-39	Employee Performance Review and Career Development Plan (Employee's Guide)	MK-F	1991

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Staff Resources, Training, and Development (continued)			
D-SR-40	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	C. Esperza-Baca, UMTRA PO; M. Miller, JEC; J. Millard, JEC; J. Isham, MK-F; F. Patelka, MK-F; J. Turner, MK-F; J. Turner, MK-F; M. Henderson, MK-F; M. Matthews, UMTRA PO	10/90
D-SR-41	DOE-GJPO Training Matrix	Unknown	Undated
D-SR-42	Sample Professional/Personal Development Goals Statement	UMTRA PO	Undated
D-SR-43	UMTRA PO Requests for Training/Evaluation Form	DOE-HQ	12/88
D-SR-44	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending September 30, 1992	UMTRA-DOE	9/92
D-SR-45	Memo: FTEs Needed by the GJPO for FY 93	J. Solecki/GJPO/J. Bickel	10/8/92
Program Evaluation, Reporting, and Corrective Action (PE)			
D-PE-1	DOE Uranium Mill Tailings Remedial Action Project Office Organization Chart	A. Chernoff/AL/G. Faulhaber	7/92
D-PE-2	Draft Revised UMTRA Environmental, Health, and Safety Plan, TAC Action Memo No. 249	M. Miller/TAC/C. Esperza-Baca	5/92
D-PE-3	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-PE-4	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-PE-5	UMTRA Project Environmental, Health and Safety Plan	UMTRA-DOE/AL	2/89
D-PE-6	UMTRA TAC's Self-Assessment Program	UMTRA/AL	9/28/91
D-PE-7	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending June 30, 1992	UMTRA/AL	7/92
D-PE-8	Corrective Action Plan to DOE Environmental Audit Report of Grand Junction, Colorado Processing, Transfer and Disposal Sites	MK-F	6/15/92
D-PE-9	UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Program Evaluation, Reporting, and Corrective Action (continued)			
D-PE-10	UMTRA Technical Assistance Contractor Quality Assurance Program Plan	TAC	6/92
D-PE-11	Self-Assessment Manual (Manual 118)	CNG	3/21/92
D-PE-12	Draft Projects Office Manual	DOE	Undated
D-PE-13	Baseline Environmental Audit - June 1992 Progress Report	CNG	7/23/92
D-PE-14	Audits and Surveillances of Vendors 1991-1992	CNG	1/2/92
D-PE-15	Audits and Surveillances 1991-1992	CNG	3/23/92
D-PE-16	Quality Assurance Manual, Manual 101	CNG	2/21/92
D-PE-17	Volume 1 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG and CWM Federal Environmental Services, Inc.	1991
D-PE-18	Volume 2 1991 Final Draft Annual Environmental Monitoring Report	MK-F, JEG and CWM Federal Environmental Services, Inc.	1991
D-PE-19	Draft Final Action Plan to Respond to the Environmental Audit of the UMTRA Project	A. Chernoff/AL/R. Lightner	12/19/91
D-PE-20	Quality Assurance Program Plan	MK-F	6/1/92
D-PE-21	Environmental Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites	DOE, Office of Environmental Audits	8/91
D-PE-22	UMTRA Project Environmental Protection Implementation Plan	JEG and MK-F/UMTRA DOE-AL	3/92
D-PE-23	DOE-UMTRA Project, Corrective Action Plan Quarterly Status Report 2nd Quarter 1992	DOE-UMTRA/MK-F, AL	Undated
D-PE-24	Line Management Self-Assessment	MK-F/UMTRA	6/4/92
D-PE-25	Staff Management Environment, Safety and Health Oversight Appraisal	MK-F/UMTRA	6/3/92
D-PE-26	Quality Assurance Program Plan	MK-F	6/16/92
D-PE-27	Line Management Self-Assessment	MK-F, Remedial Action Contractor (RAC)	6/4/92

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LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Program Evaluation, Reporting, and Corrective Action (continued)			
D-PE-28	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	Unknown	Undated
D-PE-29	Summary of MK-F Self-Assessment Environmental Observations	Auditors: J. Isham, T. Menshesky, J. Coleman, D. Putman, C. Carville	Unknown
D-PE-30	Final Action Plan - In Response to the Environmental Audit of the Uranium Mill Tailings Remedial Action Project at the Grand Junction, Gunnison, and Rifle, Colorado Sites	A. Chernoff/AL/R. Lightner/Southwestern Area Programs Division, Office of Environmental Restoration EM-45, HQ	12/91/91
D-PE-31	Memo: Environmental Audit of Rifle, Colorado Site, July 27-29, 1992	F. Bosiljevac/DOE-UMTRA/R. Lawrence/MK-F	9/18/92
D-PE-32	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending June 30, 1992	UMTRA	7/92
D-PE-33	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending September 30, 1992	Unknown	9/92
D-PE-34	UMTRA Audit/Surveillance Tracking System	UHIST/DAT	01/10/92
D-PE-35	Regulatory Oversight and Compliance Support (ROCS) Manager/Group	Unknown	Unknown
D-PE-36	ES&H Committee Charter, Procedure, and Minutes	Unknown	Unknown
D-PE-37	Requirements Identification Document and Systems Identification Report for the Uranium Mill Tailings Remedial Action Project at Grand Junction, Colorado	WASTREN, Inc.	8/5/92
D-PE-38	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	UMTRA-AL	10/92
D-PE-39	UMTRA Environmental Management Self-Assessment Final Draft	Unknown	10/23/92
D-PE-40	Employee Self-Evaluation Form	G & M, Inc.	Undated
D-PE-41	Fax re: Self-Assessment Operations Department Responsibilities for Environmental Regulations Compliance	CNG	Undated
D-PE-42	Revised Draft UMTRA Project Change Control Procedure	Unknown	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Program Evaluation, Reporting, and Corrective Action (continued)			
D-PE-43	UMTRA Project Change Control Procedure	Unknown	Undated
D-PE-44	1991 Annual Environmental Monitoring Report Volume 1	MK-F, JEG, CWM Federal Environmental Services, Inc./UMTRA-AL	1991
D-PE-45	1991 Annual Environmental Monitoring Report Volume 2	MK-F, JEG, CWM Federal Environmental Services, Inc./UMTRA-AL	1991
D-PE-46	UMTRA Environmental Management Self-Assessment Final Draft	AL/UMTRA	10/23/92
D-PE-47	1992 Self-Assessment UMTRA Project Office for Environmental Management Audit	UMTRA PO	10/23/92
D-PE-48	Memo: Guidance on Environment, Safety and Health Self-Assessment	B. Twining/AL/P. Ramey, et al.	9/14/90
D-PE-49	Examples of Different Weekly Status Reports	Unknown	Undated
D-PE-50	Sample "Walkdown Form"	GJPO	Undated
D-PE-51	UMTRA Audit/Surveillance Tracking System	Unknown	10/8/92
D-PE-52	Implementation of UMTRA Project Environmental Audit Action Plan Status Report for Period Ending September 30, 1992	UMTRA-DOE	9/92
D-PE-53	Purchase Order Continuation Sheet	MK-F	2/88
D-PE-54	Letter: Barringer Laboratories participation in the DOE and EPA Intercomparison Studies	J. Hymas/MK-F/D. Leshar	2/19/92
D-PE-55	Letter: QAP samples from US DOE Office of Operational Safety, Quality Assessment Program	G. Zito/Barringer Laboratories/D. Carlson	10/29/92
D-PE-56	Letter: Subcontract Nos: 05-82350-S-910007 and 05-62350-S-91, UMTRA Project, EML/EMSL Performance Evaluation Programs	C. Nestor/JEG/D. Marshall	8/3/92
D-PE-57	Letter: Revision to Letter of August 3, 1992	C. Nestor/JEG/D. Marshall	8/5/92
D-PE-58	Fax from Core Laboratories: Report Dated March 1992 Samples	E. Wallace/Core Laboratories/M. Alewine	10/29/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Program Evaluation, Reporting, and Corrective Action (continued)			
D-PE-59	Memo: Management by Walkdown of the Monticello Millsite and Vicinity Properties, September 28-29, 1992	E. Bray/DOE-GJPO/B. Young	10/14/92
D-PE-60	Memo: Management-by-Walkdown 9/28/92	B. Young/DOE-GJPO/H. Perry and J. Pepin	9/28/92
D-PE-61	UMTRA PO Environmental Policy	Chernoff/UMTRA PO/UMTRA PO Staff	10/8/92
D-PE-62	Final UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92
Environmental Planning and Risk Management (RM)			
D-RM-1	Draft Revised UMTRA Environmental, Health, and Safety Plan, TAC Action Memo No. 249	M. Miller/TAC/C. Esparza-Baca	5/92
D-RM-2	UMTRA Environmental Protection Implementation Plan	JEG and MK-F	3/92
D-RM-3	UMTRA Project Plan	UMTRA Project Office and AL Operations Office (MSA-143)	9/89
D-RM-4	FY 1992 Task Plans Performance Period: October 1, 1991 through September 30, 1992	JEG/UMTRA-DOE/AL	5/92
D-RM-5	UMTRA Project Environmental, Health and Safety Plan	UMTRA-DOE/AL	2/89
D-RM-6	Environmental Restoration and Waste Management - Site-Specific Plan	DOE/AL	9/91
D-RM-7	UMTRA Project Site Management Manual	UMTRA-DOE/AL	10/90
D-RM-8	Guidance for Implementing the UMTRA Project Long-Term Surveillance Program	UMTRA-DOE/AL	4/92
D-RM-9	UMTRA Project Office Quality Assurance Program Plan	UMTRA-DOE/AL	6/92
D-RM-10	UMTRA Technical Assistance Contractor Quality Assurance Program Plan	TAC	6/92
D-RM-11	Waste Minimization and Pollution Prevention Awareness Plan	CNG/UMTRA	3/92
D-RM-12	Draft CNG Policy and Procedures	CNG	Undated
D-RM-13	Mission Statement Grand Junction Projects Office	GJPO	1/13/92

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Planning and Risk Management (continued)			
D-RM-14	Program Plan for the DOE Disposal Site Long-Term Surveillance and Maintenance (LTSM) Program	UNC CNG	9/89
D-RM-15	Draft Section V, Environmental Oversight	CNG	Undated
D-RM-16	Draft Projects Office Manual	DOE	Undated
D-RM-17	Quality Assurance Program Plan for the UMTRA Vicinity Properties Program	CNG	6/91
D-RM-18	Grand Junction Projects Office U.S. Department of Energy Baseline Environmental Audit Action Plan	CNG	2/92
D-RM-19	Environmental Audit of the Grand Junction Projects Office	DOE	8/91
D-RM-20	Draft Final Action Plan to Respond to the Environmental Audit of the UMTRA Project	A. Chernoff/AL/R. Lightner	12/19/91
D-RM-21	UMTRA Project Environmental Protection Implementation Plan	JEG and MK-F/UMTRA DOE-AL	3/92
D-RM-22	Line Management Self-Assessment	MK-F/UMTRA	6/4/92
D-RM-23	Waste Minimization and Pollution Prevention Program for UMTRA	MK-F/AL	4/92
D-RM-24	GJPO Environmental Protection Implementation Plan	DOE-GJPO	11/9/91 - 11/9/92
D-RM-25	Site-Specific Plan, Uranium Mill Tailings Remedial Action Surface and Groundwater Projects	Unknown	9/92
D-RM-26	Intentionally left blank		
D-RM-27	Regulatory Oversight and Compliance Support (ROCS) Manager/Group	Unknown	Unknown
D-RM-28	ES&H Committee Charter, Procedure, and Minutes	Unknown	Unknown
D-RM-29	Uranium Mill Tailings Remedial Action Project Office FY 1993 Operational Plan	Unknown	Undated
D-RM-30	Uranium Mill Tailings Remedial Action Project Environmental Protection Implementation Plan	UMTRA-AL	10/92

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LIST C. SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author/Organization/Recipient	Document Date
Environmental Planning and Risk Management (continued)			
D-RM-31	UMTRA Environmental Management Self-Assessment Final Draft	Unknown	10/23/92
D-RM-32	Uranium Mill Tailings Remedial Action Roadmap	UMTRA PO	8/92
D-RM-33	Memo re: Special Studies Proposal	J. Gibb/JEG/F. Bosiljevac	9/25/92
D-RM-34	GJPO Environmental Protection: Implementation Plan (Final Update)	CNG	11/9/92

APPENDIX E

**LIST OF CONTACTS/INTERVIEWS
CONDUCTED BY THE
AUDIT TEAM**

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
Organizational Structure (OS)						
I-OS-1	10/16/92	G. Williams	D. Mathes	EM-451	Offsite Program Division	Organizational structure
I-OS-2	10/16/92	G. Williams	R. Lightner N. Larson	EM-45	Director S.W. Programs Deputy Director S.W. Programs	Organizational structure
I-OS-3	10/21/92	G. Williams	J. Baublitz	EM-40	Deputy Director	Organizational structure
I-OS-4	10/26/92	G. Williams	L. Ulland	JEG	Group Leader, Environmental Services	Organizational structure
I-OS-5	10/26/92	G. Williams	P. Mann	UMTRA PO	Project Site Manager	Organizational structure
I-OS-6	10/26/92	G. Williams	C. Esperze-Beca	UMTRA PO	ES&H Manager	Organizational structure
I-OS-7	10/26/92	G. Williams	F. Bosiljevac	UMTRA PO	Group Leader	Organizational structure
I-OS-8	10/27/92	G. Williams	C. Cormier	UMTRA PO	Deputy Project Manager	Organizational structure
I-OS-9	10/27/92	G. Williams	A. Chernoff	UMTRA PO	Project Manager	Organizational structure
I-OS-10	10/27/92	G. Williams	J. Virgona	GJPO	Site Manager	Organizational structure
I-OS-11	10/27/92	G. Williams	D. Leske	UMTRA PO	Project Site Manager	Organizational structure
I-OS-12	10/27/92	G. Williams	M. Madson	CNG	UMTRA Program Director	Organizational structure
I-OS-13	10/27/92	G. Williams	N. Norman	JEG	Deputy Project Manager	Organizational structure
I-OS-14	10/28/92	G. Williams	C. Smythe	UMTRA PO	Group Leader	Organizational structure
I-OS-15	10/28/92	G. Williams	L. Woodworth	EM-451	Environmental Scientist	Organizational structure
I-OS-16	10/28/92	G. Williams	R. Lawrence	MK-F	Project Director	Organizational structure
I-OS-17	10/28/92	G. Williams	W. Zebick	MK-F	Operations Manager	Organizational structure
I-OS-18	10/28/92	G. Williams	J. Huff J. Isham	MK-F MK-F	ES&H Manager Assistant ES&H Manager	Organizational structure
I-OS-19	10/28/92	G. Williams	D. Mathes	EM-451	Offsite Program Division	Organizational structure
I-OS-20	10/29/92	G. Williams	J. Deckler	Colorado Dept. of Health	Manager, UMTRA	Organizational structure
I-OS-21	10/29/92	G. Williams	R. Bucanen	BLM	Real Estate Specialist	Organizational structure

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-OS-22	10/29/92	G. Williams	R. Lambeth	BLM	Wild Life Specialist	Organizational structure
I-OS-23	10/29/92	G. Williams	D. Gillen	NRC	Section Leader	Organizational structure
I-OS-24	10/29/92	G. Williams	D. Ling	Rifle, Colorado	Mayor	Organizational structure
I-OS-25	10/29/92	G. Williams	D. Pettygrove	Mesa County Advisory	Chairman	Organizational structure
I-OS-26	10/29/92	G. Williams	S. Hamp	UMTRA PO	Site Manager	Organizational structure
I-OS-27	10/29/92	G. Williams	T. Crandall	EM-451	Environmental Scientist	Organizational structure
I-OS-28	10/29/92	G. Williams	C. Hundertmark	JEG	Acting Manager	Organizational structure
I-OS-29	10/29/92	G. Williams	B. Franz	Colorado Dept. of Health	V. P. Manager	Organizational structure
I-OS-30	10/29/92	G. Williams	J. Sink	GJPO	Administration and Support Branch Manager	Organizational structure
I-OS-31	10/30/92	G. Williams	R. Detimmerman	ALO	Deputy Chief Counsel	Organizational structure
I-OS-32	10/30/92	G. Williams	D. Mathes	EM-451	Director	Organizational structure
I-OS-33	10/30/92	G. Williams	G. Tomsic	Gunnison County	County Manager	Organizational structure
I-OS-34	10/30/92	G. Williams	J. Steimech	UMTRA PO	Site Manager	Organizational structure
I-OS-35	10/30/92	G. Williams	C. Soden	ALO	Director, Environmental Protection Division	Organizational structure
Environmental Commitment (EC)						
I-EC-1	10/26/92	C. Young	J. Virgona	Grand Junction	UMTRA Senior Program Manager	Environmental policy, top management support, line management support
I-EC-2	10/26/92	C. Young	C. Cormier	UMTRA PO	Deputy Project Manager	Environmental policy, top management support, line management support
I-EC-3	10/26/92	C. Young	C. Smythe	UMTRA PO	Group Leader	Environmental policy, top management support, line management support
I-EC-4	10/27/92	C. Young	N. Norman	JEG	Deputy Project Manager	Environmental commitment
I-EC-5	10/27/92	C. Young	F. Bosiljevac	UMTRA PO	Group Leader	Environmental commitment

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-EC-6	10/27/92	C. Young	J. Solecki	GJPO	Manager	Environmental commitment
I-EC-7	10/27/92	C. Young	J. Gibb	JEG, Geraghty-Miller	Assistant Project Manager, Technical Services	Environmental commitment
I-EC-8	10/27/92	C. Young	C. Esparza-Baca	UMTRA PO	ES&H Manager	Environmental commitment
I-EC-9	10/27/92	C. Young	R. Nelson	JEG	Project Manager	Environmental commitment
I-EC-10	10/28/92	C. Young	L. Fahy	UMTRA PO	Administrative Officer	Environmental commitment
I-EC-11	10/28/92	C. Young	M. Smith	JEG	Personnel Assistant	Management support
I-EC-12	10/28/92	C. Young	D. Koch	Geotech	Environmental Compliance Manager	Environmental commitment
I-EC-13	10/28/92	C. Young	G. Hartman	JEG	Engineer	Environmental commitment
I-EC-14	10/28/92	C. Young	J. Blount	JEG	Geochemist	Environmental commitment
I-EC-15	10/28/92	C. Young	A. Chernoff	UMTRA PC	Project Manager	Environmental commitment
I-EC-16	10/29/92	C. Young	R. Cooney	MK-F	Deputy Project Director	Environmental commitment
I-EC-17	10/29/92	C. Young	D. Carlson	MK-F	Health Physics and Environmental Manager	Environmental commitment
I-EC-18	10/29/92	C. Young	J. Ishem	MK-F	Assistant ES&H Manager	Environmental commitment
I-EC-19	10/29/92	C. Young	M. Abrams	UMTRA PO	Site Manager	Management support
Environmental Protection Programs (EP)						
I-EP-1	8/5/92	R. Kolpa	P. Mann	UMTRA PO	Project Site Manager	Environmental programs developed at UMTRA PO
I-EP-2	8/5/92	R. Kolpa	W. Glover	JEG	(Former) Manager Environmental Services	Environmental programs developed at TAC
I-EP-3	10/26/92	R. Kolpa	C. Esparza-Baca	UMTRA PO	E&S Manager	Environmental programs at UMTRA PO/ES&H committee

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-EP-4	10/26/92	R. Kolpa	L. Ulland	JEG	Group Leader, Environmental Services	TAC environmental programs/TAC oversight/TAC self-assessment programs/total quality management
I-EP-5	10/26/92	R. Kolpa	A. Vollmer	JEG	Environmental Specialist Environmental Services Group	Environmental programs of UMTRA, operating envelope, ROCS groups
I-EP-6	10/27/92	R. Kolpa	B. Young	GJPO	ES&H Specialist	CNG self-assessment program, CNG environmental programs
I-EP-7	10/27/92	R. Kolpa	P. Bonin	CNG	Self-Assessment Manager	CNG self-assessment, commingled waste
I-EP-8	10/27/92	R. Kolpa	D. Koch	CNG	Environmental Compliance Manager	CNG internal audit program, changes to CNG environmental programs
I-EP-9	10/27/92	R. Kolpa	D. Leske	UMTRA PO	Project Site Manager	Effectiveness of environmental programs, communication issues, technical issue resolution
I-EP-10	10/27/92	R. Kolpa	J. Virgona	GJPO	UMTRA Project Manager	UMTRA PO - GJPO interfaces, GJPO environmental programs, VP procedures manual, GJPO reviews of CNG environmental programs
I-EP-11	10/27/92	R. Kolpa	J. Gibbs	JEG	Assistant Project Manager	Operating envelope, permit compliance strategy, RAC/TAC relationship, planning initiatives, transition to LTSM program
I-EP-12	10/28/92	R. Kolpa	J. Isham	MK-F	Assistant ES&H Manager	RAC procedures, audits, training, UMTRA oversight, variance and exemptions, subcontractor oversight and ES&H

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-EP-13	10/28/92	R. Kolpa	D. Carlson	MK-F	Health Physics and Environmental Manager	Radiological monitoring, population dose assessments, offsite monitoring, VP verification studies
I-EP-14	10/28/92	R. Kolpa	J. Huff	MK-F	ES&H Manager	MK-F self-assessment, ES&H committee, ES&H plan reviews
I-EP-15	10/28/92	R. Kolpa	T. Manchesky	MK-F	Industrial Hygiene Supervisor	MK-F self-assessment, training, audits, environmental program changes through audits
I-EP-16	10/28/92	R. Kolpa	S. Martz	MK-F	Project Quality Manager	MK-F QA program, audits, trending programs
I-EP-17	10/28/92	R. Kolpa	S. Arp	UMTRA PO	Project Site Manager	VP issues, operating envelope, oversight, ES&H committee
I-EP-18	10/29/92	R. Kolpa	S. Hemp	UMTRA PO	Site Manager, Gunnison	Oversight of contractor, LTSM program, UMTRA-PO-GJPO interface
I-EP-19	10/29/92	R. Kolpa	M. Scouteris	UMTRA PO	Construction Oversight and Quality Assurance Manager	UMTRA PO QA program and self-assessment, contractor oversight programs
I-EP-20	10/29/92	R. Kolpa	J. Stelmach	UMTRA PO	Site Manager	Self-assessment program at UMTRA PO, progress on audit findings, environmental program changes, training programs
I-EP-21	10/29/92	R. Kolpa	D. Metzler	UMTRA PO	Groundwater Geohydrology Manager	LTSM-GW restoration interface, GW technical approach, consistency between LTSM/GW restoration programs
I-EP-22	10/29/92	R. Kolpa	C. Jones	CNG	LTSM Project Manager	LTSM and PLCC activities by CNG, changes in technical approach

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-EP-23	10/29/92	R. Kolpa	D. Scheuermen	CNG	LTSM Project Specialist	LTSM and PLCC activities, changes in technical approach
I-EP-24	10/29/92	R. Kolpa	C. Smythe	UMTRA PO	Group Leader	Contract changes, procedures for scope of work changes for new requirements
I-EP-25	10/29/92	R. Kolpa	M. Thomas	AL	UMTRA Contract Officer	Contract changes, procedures for scope of work changes for new requirements
I-EP-26	10/29/92	R. Kolpa	C. Esperza-Beca	UMTRA PO	E&S Manager	Compliance with DOE 5400.1, EPIP finalization schedule, variances and exemptions, VP
I-EP-27	10/30/92	R. Kolpa	L. Fahy	UMTRA PO	Administrative Officer	GJPO budget requests for LTSM, UMTRA PO-GJPO interface during PLCC period
I-EP-28	10/30/92	R. Kolpa	J. Isham	MK-F	Assistant ES&H Manager	Variances and exemptions contained in environmental protection programs
I-EP-29	10/30/92	R. Kolpa	A. Vollmer	JEG	Environmental Protection Specialist	Variances and exemptions contained in environmental protection programs
I-EP-30	11/2/92	R. Kolpa	J. Virgone	GJPO	UMTRA Project Manager	LTSM and PLCC programs, GJPO environmental programs
I-EP-31	11/2/92	R. Kolpa	C. Smythe	UMTRA PO	Group Leader	Resolution of LTSM and PLCC funding issues
I-EP-32	11/2/92	R. Kolpa	C. Esperza-Beca	UMTRA PO	E&S Manager	Environmental monitoring plan/issuance date
Formality of Environmental Programs (FP)						
I-FP-1	10/26/92	P. Lindehl	D. Leske	UMTRA PO	Project Site Manager	Procedures, inspections

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-FP-2	10/26/92	P. Lindehl	M. Scouteis	UMTRA PO	Construction Oversight and Quality Assurance Manager	Tracking, trending, document control, inspections
I-FP-3	10/26/92	P. Lindehl	C. Esperza-Baca	UMTRA PO	ES&H Manager	Inspections, tracking, corrective actions
I-FP-4	10/27/92	P. Lindehl	A. Chernoff	UMTRA PO	Project Manager	Formality of operations
I-FP-5	10/27/92	P. Lindehl	C. Cormier	UMTRA PO	Deputy Project Manager	Formality of operations
I-FP-6	10/27/92	P. Lindehl	B. Young	GJPO	ES&Q Specialist	Formality of operations, inspections
I-FP-7	10/27/92	P. Lindehl	D. Koch	CNG	Environmental Compliance Manager	Inspections, tracking, trending
I-FP-8	10/27/92	P. Lindehl	L. Fahy	UMTRA PO	Administrative Officer	Procedures
I-FP-9	10/27/92	P. Lindehl	P. Bonin	CNG	Self-Assessment Manager	Tracking, trending
I-FP-10	10/27/92	P. Lindehl	J. Virgona	GJPO	UMTRA Senior Program Manager	Formality of operations, tracking, corrective actions
I-FP-11	10/27/92	P. Lindehl	F. Bosiljevac	UMTRA PO	Group Leader	Corrective actions, tracking
I-FP-12	10/28/92	P. Lindehl	G. Hauquitz	JEG	Quality Manager	Corrective actions, tracking, trending
I-FP-13	10/28/92	P. Lindehl S. Begisas	J. Huff J. Isham	MK-F	ES&H Manager Assistant ES&H Manager	Corrective actions, tracking
I-FP-14	10/28/92	P. Lindehl S. Barisas V. Crawford	S. Mertz	MK-F	Project Quality Manager	Corrective actions, tracking, trending
I-FP-15	10/28/92	P. Lindehl	T. Manchesky	MK-F	Environmental Specialist/ Industrial Hygiene Supervisor	Corrective actions, tracking, trending
I-FP-16	10/28/92	P. Lindehl	R. Lawrence	MK-F	Project Director	Corrective actions
I-FP-17	10/28/92	P. Lindehl	A. Vollmer	JEG	Environmental Protection Specialist	Formality of operations, procedures

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-FP-18	10/29/92	P. Lindahl	M. Alewine	JEG	Senior Quality Assurance Specialist	Document control
I-FP-19	10/29/92	P. Lindahl	J. Steimach	UMTRA PO	Site Manager	Corrective actions
I-FP-20	10/29/92	P. Lindahl	L. Ulland	JEG	Group Leader, Environmental Services	Procedures
I-FP-21	10/29/92	P. Lindahl V. Crawford	N. Lindas	UMTRA PO	Project Planning Officer	Procedures
I-FP-22	11/2/92	P. Lindahl	R. Bliel	CNG	Environmental Services Representative	Document control
I-FP-23	11/2/92	P. Lindahl	K. Douglas	AL	Quality Assurance Engineer	Document control
Internal and External Communication (IC)						
I-IC-1	10/18/92	G. Williams	D. Mathes	EM-451	Offsite Program Division	Organizational structure
I-IC-2	10/18/92	G. Williams	R. Lightner N. Larson	EM-45	Director S.W. Programs Deputy Director S.W. Programs	Organizational structure
I-IC-3	10/21/92	G. Williams	J. Beublitz	EM-40	Deputy Director	Organizational structure
I-IC-4	10/26/92	G. Williams	L. Ulland	JEG	Group Leader, Environmental Services	Organizational structure
I-IC-5	10/26/92	G. Williams	P. Mann	UMTRA PO	Project Site Manager	Organizational structure
I-IC-6	10/26/92	G. Williams	C. Esperza-Beca	UMTRA PO	ES&H Manager	Organizational structure
I-IC-7	10/26/92	G. Williams	F. Bosiljevac	UMTRA PO	Group Leader	Organizational structure
I-IC-8	10/27/92	G. Williams	C. Cormier	UMTRA PO	Deputy Project Manager	Organizational structure
I-IC-9	10/27/92	G. Williams	A. Chernoff	UMTRA PO	Project Manager	Organizational structure
I-IC-10	10/27/92	G. Williams	J. Virgona	GJPO	Site Manager	Organizational structure
I-IC-11	10/27/92	G. Williams	D. Leske	UMTRA PO	Project Site Manager	Organizational structure
I-IC-12	10/27/92	G. Williams	M. Madson	CNG	UMTRA Program Director	Organizational structure
I-IC-13	10/27/92	G. Williams	N. Norman	JEG	Deputy Project Manager	Organizational structure

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-C-14	10/28/92	G. Williams	C. Smythe	UMTRA PO	Group Leader	Organizational structure
I-C-15	10/28/92	G. Williams	L. Woodworth	EM-451	Environmental Scientist	Organizational structure
I-C-16	10/28/92	G. Williams	R. Lawrence	MK-F	Project Director	Organizational structure
I-C-17	10/28/92	G. Williams	W. Zebick	MK-F	Operations Manag	Organizational structure
I-C-18	10/28/92	G. Williams	J. Huff J. Isham	MK-F MK-F	ES&H Manager Assistant ES&H	Organizational structure
I-C-19	10/28/92	G. Williams	D. Mathes	EM-451	Offsite Program L	Organizational structure
I-C-20	10/29/92	G. Williams	J. Deckler	Colorado Dept. of Health	Manager, UMTRA	Organizational structure
I-C-21	10/29/92	G. Williams	R. Bucanen	BLM	Real Estate Specialist	Organizational structure
I-C-22	10/29/92	G. Williams	R. Lambeth	BLM	Wild Life Specialist	Organizational structure
I-C-23	10/29/92	G. Williams	D. Gillen	NRC	Section Leader	Organizational structure
I-C-24	10/29/92	G. Williams	D. Ling	Rifle, Colorado	Mayor	Organizational structure
I-C-25	10/29/92	G. Williams	D. Pettygrove	Mesa County Advisory	Chairman	Organizational structure
I-C-26	10/29/92	G. Williams	S. Harnp	UMTRA PO	Site Manager	Organizational structure
I-C-27	10/29/92	G. Williams	T. Crande	EM-451	Environmental Scientist	Organizational structure
I-C-28	10/29/92	G. Williams	C. Hundertmark	JEG	Acting Manager	Organizational structure
I-C-29	10/29/92	G. Williams	B. Franz	Colorado Dept. of Health	V. P. Manager	Organizational structure
I-C-30	10/29/92	G. Williams	J. Sink	GJPO	Administration and Support Branch Manager	Organizational structure
I-C-31	10/30/92	G. Williams	R. Detimmerman	ALO	Deputy Chief Counsel	Organizational structure
I-C-32	10/30/92	G. Williams	D. Mathes	EM-451	Director	Organizational structure
I-C-33	10/30/92	G. Williams	G. Tomsic	Gunnison County	County Manager	Organizational structure
I-C-34	10/30/92	G. Williams	J. Stelmach	UMTRA PO	Site Manager	Organizational structure
I-C-35	10/30/92	G. Williams	C. Soden	ALO	Director, Environmental Protection Division	Organizational structure
I-C-36	11/2/92	G. Williams	J. Deckler	CDH	Manager, UMTRA	Communications

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-C-37	11/2/92	G. Williams	J. Hams	CDH	Specialist	Communications
I-C-38	11/3/92	G. Williams	J. Deckler	CDH	Manager, UMTRA	Communications
I-C-39	11/3/92	G. Williams	D. Mathes	EM-451	Director	Communications & Staff Resources
Staff Resources, Training, and Development (SR)						
I-SR-1	10/26/92	C. Young	J. Virgone	Grand Junction	UMTRA Senior Program Manager	Staff, training and development
I-SR-2	10/26/92	C. Young	C. Cormier	UMTRA PO	Deputy Project Manager	Staff, training and development
I-SR-3	10/26/92	C. Young	C. Smythe	UMTRA PO	Group Leader	Staff, training and development
I-SR-4	10/27/92	C. Young	N. Norman	JEG	Deputy Project Manager	Staff, training and development
I-SR-5	10/27/92	C. Young	F. Bosiljevec	UMTRA PO	Group Leader	Staff, training and development
I-SR-6	10/27/92	C. Young	J. Solecki	GJPO	Manager	Staff, training and development
I-SR-7	10/27/92	C. Young	J. Gibb	JEG, Geraghty-Miller	Assistant Project Manager, Technical Services	Staff, training and development
I-SR-8	10/27/92	C. Young	C. Esparza-Baca	UMTRA PO	ES&T Manager	Staff, training and development
I-SR-9	10/27/92	C. Young	R. Nelson	JEG	Project Manager	Staff, training and development
I-SR-10	10/28/92	C. Young	L. Fahy	UMTRA PO	Administrative Officer	Staff, training and development
I-SR-11	10/28/92	C. Young	M. Smith	JEG	Personnel Assistant	Staff, training and development
I-SR-12	10/28/92	C. Young	D. Koch	Geotech	Environmental Compliance Manager	Staff, training and development

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-SR-13	10/28/92	C. Young	G. Hartman	JEG	Engineer	Staff qualifications, development
I-SR-14	10/28/92	C. Young	J. Blount	JEG	Geochemist	TAC training, professional development
I-SR-15	10/28/92	C. Young	A. Chernoff	UMTRA PO	Project Manager	Staff, training and development
I-SR-18	10/29/92	C. Young	R. Cooney	MK-F	Deputy Project Manager	Staff, training and development
I-SR-17	10/29/92	C. Young	D. Carlson	MK-F	Health Physics and Environmental Manager	Staff, training and development
I-SR-18	10/29/92	C. Young	J. Itham	MK-F	Assistant ES&H Manager	Staff, training and development
I-SR-19	10/29/92	C. Young	R. Short	MK-F	Training Coordinator	Training, professional development
I-SR-20	10/29/92	C. Young	W. Zebick	MK-F	Operations Manager	Oversight
I-SR-21	10/29/92	C. Young	M. Abrams	UMTRA PO	Site Manager	Training, tasks not performed
I-SR-22	10/29/92	C. Young	J. Sink	GJPO	Administration and Support Branch Manager	Training procedures
I-SR-23	10/30/92	C. Young	P. Monette	AL	Personnel and Industrial Relations	Training procedures
I-SR-24	10/29/92	C. Young	R. Edge	UMTRA PO	Site Manager	Training, tasks not performed
Program Evaluation and Reporting (PE)						
I-PE-1	10/26/92	P. Lindahl	D. Leska	UMTRA PO	Project Site Manager	Environmental oversight
I-PE-2	10/26/92	P. Lindahl	M. Scoutaris	UMTRA PO	Construction Oversight and Quality Assurance Manager	Quality assurance, oversight
I-PE-3	10/26/92	P. Lindahl	C. Esperza-Baca	UMTRA PO	ES&H Manager	Environmental oversight
I-PE-4	10/27/92	P. Lindahl	A. Chernoff	UMTRA PO	Project Manager	Environmental oversight

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-PE-5	10/27/92	P. Lindahl	C. Cormier	UMTRA PO	Deputy Project Manager	Environmental oversight
I-PE-6	10/27/92	P. Lindahl	B. Young	GJPO	ES&Q Specialist	Environmental oversight
I-PE-7	10/27/92	P. Lindahl	D. Koch	CNG	Environmental Compliance Manager	Environmental oversight
I-PE-8	10/27/92	P. Lindahl	P. Bonin	CNG	Self-Assessment Manager	Self-assessment
I-PE-9	10/27/92	P. Lindahl	J. Virgona	GJPO	UMTRA Senior Program Manager	Self-assessment
I-PE-10	10/27/92	P. Lindahl	F. Bosiljevac	UMTRA PO	Group Leader	Environmental oversight
I-PE-11	10/28/92	P. Lindahl	G. Heuquitz	JEG	Quality Manager	Self-assessment
I-PE-12	10/28/92	P. Lindahl S. Barisas	J. Huff J. Isham	MK-F	ES&H Manager Assistant ES&H Manager	Environmental oversight
I-PE-13	10/28/92	S. Barisas V. Crewford P. Lindahl	S. Mertz	MK-F	Project Quality Manager	Quality assurance, tracking, trending
I-PE-14	10/28/92	P. Lindahl	T. Manchesky	MK-F	Environmental Specialist/ Industrial Hygiene Supervisor	Self-assessment
I-PE-15	10/28/92	P. Lindahl	D. Carlson	MK-F	Health Physics and Environmental Manager	Lab quality assurance, lab oversight
I-PE-16	10/28/92	P. Lindahl	J. Isham	MK-F	Assistant ES&H Manager	Reporting, document control
I-PE-17	10/28/92	P. Lindahl	R. Lawrence	MK-F	Project Director	Environmental oversight
I-PE-18	10/29/92	P. Lindahl	J. Gibb	JEG	Assistant Project Manager	Environmental oversight
I-PE-19	10/29/92	P. Lindahl	A. Vollmer	JEG	Environmental Specialist	Environmental oversight
I-PE-20	10/29/92	P. Lindahl	M. Alewine	JEG	Senior Quality Assurance Specialist	LAB oversight
I-PE-21	10/29/92	P. Lindahl	M. Miller R. Seer	JEG	Radiological Services Manager, Hydrological Services Manager	Lab oversight

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-PE-22	10/29/92	P. Lindahl	J. Stelmach	UMTRA PO	Site Manager	Self-assessment
I-PE-23	10/29/92	P. Lindahl A. Sikri	W. Woodworth	UMTRA PO	Special Assistant	Self-assessment
I-PE-24	10/29/92	P. Lindahl	C. Esperza-Baca	UMTRA PO	ES&H Manager	Environmental oversight
I-PE-25	10/30/92	P. Lindahl	L. Ulland	JEG	Group Leader, Environmental Services	Environmental oversight
I-PE-26	10/30/92	P. Lindahl	C. Soden	AL		Environmental oversight
Environmental Planning and Risk Management (RM)						
I-RM-1	10/26/92	M. Goldberg	C. Cormier	UMTRA PO	Deputy Project Manager	Environmental planning
I-RM-2	10/26/92	M. Goldberg	N. Lindes	UMTRA PO	Project Planning Officer	Environmental planning, risk management
I-RM-3	10/26/92	M. Goldberg	L. Fahy	UMTRA PO	Administrative Officer	Risk management, budget
I-RM-4	10/27/92	M. Goldberg	J. Virgona	GJPO	UMTRA Senior Program Manager	Risk management
I-RM-5	10/27/92	M. Goldberg	M. Scoutaris	UMTRA PO	Construction Oversight and Quality Assurance Manager	Quality assurance
I-RM-6	10/27/92	M. Goldberg	R. Cornish	UMTRA PO	Radiological Specialist	Risk management, risk identification
I-RM-7	10/27/92	M. Goldberg	R. Nelson	JEC	Project Manager	Environmental planning, risk management
I-RM-8	10/27/92	M. Goldberg	J. Gibb	JEG	Assistant Project Manager, Technical Services	Environmental planning
I-RM-9	10/27/92	M. Goldberg	M. Leaf	JEG	Site Manager	Site activities
I-RM-10	10/28/92	M. Goldberg	N. Norman	JEG	Deputy Project Manager	Environmental planning, risk management
I-RM-11	10/28/92	M. Goldberg	D. Metzler	UMTRA PO	Groundwater Geohydrology Manager	Risk management, environmental planning

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-RM-12	10/28/92	M. Goldberg	N. Lindas	UMTRA PO	Project Planning Officer	Risk management, budgeting
I-RM-13	10/28/92	M. Goldberg	D. Langdon	Geotech	UMTRA Project Manager	Environmental requirements for contractors, risk identification
I-RM-14	10/28/92	M. Goldberg	M. Madson	CNG	UMTRA Program Director	Environmental requirements for contractors, risk identification
I-RM-15	10/28/92	M. Goldberg	C. Esperza-Baca	UMTRA PO	ES&H Manager	Review and integration with sites, TACs, RACs
I-RM-16	10/29/92	M. Goldberg	J. Isham	MK-F	Assistant ES&H Manager	Environment, design, and construction
I-RM-17	10/29/92	M. Goldberg	R. Cooney	MK-F	Deputy Project Director	Environmental issues in design and construction
I-RM-18	10/29/92	M. Goldberg	S. Mertz	MK F	Project Quality Manager	Quality assurance
I-RM-19	10/29/92	M. Goldberg	J. McBee	JEG	Site Manager	RAP development
I-RM-20	10/29/92	M. Goldberg	C. Esperza-Baca	UMTRA PO	ES&H Manager	Role of environmental function
I-RM-21	10/29/92	M. Goldberg	L. Leski	UMTRA PO	Site Manager	Lessons learned, staffing
I-RM-22	10/29/92	M. Goldberg	J. Sink	GJPO	Administration and Support Branch Manager	Environmental oversight
I-RM-23	10/30/92	M. Goldberg	C. Esperza-Baca	UMTRA PO	ES&H Manager	Long-range planning
I-RM-24	11/2/92	M. Goldberg	C. Smythe	UMTRA PO	Group Leader	Risk identification and management
I-RM-25	11/2/92	M. Goldberg	S. Hamp	UMTRA PO	Site Manager	Risk management at site level
I-RM-26	11/2/92	M. Goldberg	R. Cornish	UMTRA PO	Radiological Specialist	Risk management
I-RM-27	11/2/92	M. Goldberg	J. Virgona	GJPO	UMTRA Senior Program Manager	Risk identification
I-RM-28	11/2/92	M. Goldberg	C. Cormier	UMTRA PO	Deputy Project Manager	Risk identification

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Auditor	Contact	Organization	Position	Topic
I-RM-29	11/3/92	M. Goldberg	L. Fahy	UMTRA PO	Administrative Officer	Budget process
I-RM-30	11/4/92	M. Goldberg	F. Bosiljevac	UMTRA PO	Group Leader	Oversight

APPENDIX F

DEFINITIONS OF APPARENT CAUSAL FACTORS

DEFINITIONS OF APPARENT CAUSAL FACTORS

Causal Factor	Definition
Policy	Evaluate if ineffective, outdated, or nonexistent policies contributed to the finding.
Policy Implementation	Ascertain if written policies reflecting Federal, state, and local laws and regulations, codes, and standards were appropriately disseminated, implemented, and updated.
Risk	Evaluate if the site personnel responsible for a situation contributing to a finding have assessed and were aware of the relative degree of risk involved in the action.
Procedures	Identify if written procedures that have been prepared to effectively implement site policy, DOE Orders, and Federal, state, and local laws and regulations were a contributing factor to the finding. Determine if unfamiliarity with, or unavailability of those procedures contributed to the finding.
Personnel	Identify if the educational and work experience backgrounds for personnel holding responsible positions contributed to the finding. Determine if the level of personnel knowledge about the technical and safety aspects of their jobs contributed to the finding.
Resources	Ascertain if the number of personnel or extramural resources available to a job were a contributing factor to the finding. Evaluate if inadequacies in facilities and equipment were a contributing factor to the finding.
Training	Identify if adequate personnel training on implementing site policy, DOE Orders, and Federal, state, and local laws and regulations was a contributing factor to the finding.

DEFINITIONS OF APPARENT CAUSAL FACTORS

Causal Factor	Definition
Change	Evaluate if changes in site mission, function, operation, and established requirements, which rendered existing policies or procedures inadequate or inappropriate, were contributing factors to the finding. Evaluate if the timeliness and effectiveness of changes to site and DOE policy, and the implementing procedures, were a contributing factor to the finding.
Appraisals/Audits/Reviews	Determine if ineffective or insufficient appraisals/audits/reviews or oversight were contributing factors to the finding. The factor should only be used as a <u>secondary</u> contributing factor to the finding.
Design	Evaluate if inadequate design of a system was a contributing factor to the finding.
Human Factors	Ascertain if human factors, such as fatigue or deliberate circumvention of a safety system, were contributing factors to the finding.
Barriers and Controls	Determine if inadequacies in established barriers and controls, both administrative and physical, including operational readiness, routine inspection, and preventive maintenance, and/or a lack of these controls, contributed to the finding.
Supervision	Identify if ineffective supervisory controls for implementing policies, procedures, standards, laws, etc., were a contributing factor to the finding.
Quality Assurance/Control	Identify if inadequacies in the quality assurance/control program were causal factors to the identified finding. This includes inadequate followup to previously identified findings.

APPENDIX G

**DRAFT PROTOCOLS FOR CONDUCTING
ENVIRONMENTAL MANAGEMENT
AUDITS, DECEMBER 1991**

**PROTOCOLS FOR CONDUCTING LINE PROGRAM
ENVIRONMENTAL MANAGEMENT AUDITS, DECEMBER 1991**

EM.1 Organizational Structure

Performance Objective

The organizational structure should be established in such a manner that the functions, responsibilities, and authorities for environmental protection programs are clearly defined. Both oversight roles and line management responsibilities should be accommodated.

Key Evaluative Concerns

This portion of the protocol will review and analyze the structural integrity of the organization of environmental management functions. This evaluation will be based on the existence of clear lines of authority and accountability, well defined roles and responsibilities, and congruence of the environmental management organization with the larger DOE organization.

EM.1 is also designed to evaluate the formal and informal support systems that are in place to support the overall organizational structure. This part of the evaluation will determine if the environmental management function is reinforced through formal organization-wide systems. It will also evaluate the effectiveness of working relationships between headquarters and facility level environmental staff and relationships between key staff and line personnel whose functional responsibilities impact on environmental performance.

Criteria

Subcategory I: Structural Integrity

- A. Clear lines of organizational authority, responsibility and accountability for environmental management functions have been established.
- Compare organizational and management arrangements with Secretary of Energy Notices 6B-90 and 6D-91.
 - Which offices and individual(s) have authority and accountability for various environmental management functions? Is the answer consistent across interviews?
 - Check field office and facility-level organization charts, mission statements, and any other formal statements of organizational roles and responsibilities which impact directly or indirectly on the environmental management function. Are these functional/departmental missions/goals clearly defined? Are there any conflicts of interest?
 - Are the actual reporting arrangements for environmental management those which are shown on the existing organization charts? If not, how do these differ?

- Are the actual day-to-day reporting relationships consistent with those documented in the above described documents?
- B. The organizational structure of the roles and responsibilities associated with the environmental management function are consistent with the overall organizational structure (e.g., centralized versus decentralized).
- C. Authority to make decisions related to environmental protection, including stop-work authority, is assigned to the appropriate organizational levels that can provide the most timely response to mitigate potentially adverse impacts.
- Who has this authority and how quickly can they affect a necessary response?
- D. Units with responsibility for the development of internal environmental standards and oversight of compliance with those standards have sufficient independence, authority and management support to implement their responsibilities.
- What is the organizational placement of the environmental group(s)?
 - Any conflicts of interest or authority not in line with responsibility or defined objectives?
- E. The reporting "distance" between the person with primary responsibility for environmental management, and the highest manager in the organization is sufficiently short so that implementation of environmental policies, programs and procedures can be effectively mandated.
- How many reporting levels separate the environmental professional having the greatest knowledge of relevant environmental conditions prevailing within the facility and the Administrator?
 - Any physical or anecdotal evidence of the relative organizational "distance" between field office and facility-level management and their respective staff?

Subcategory II Roles and Responsibilities of Line and Support Staff

[Note: Linkage of this subcategory with EM.6]

- A. Roles and responsibilities relative to environmental management functions have been assigned to and defined for all of the line-organization units.
- Are individual jobs and responsibilities for environmental management clearly defined and well understood throughout the company?
 - Are they formally implemented and documented?
 - Where and how are these roles and responsibilities defined?

- B. Environmental support groups have been established with responsibility for defining facility-wide policies and procedures, and providing oversight and technical support for line organizations.
- Are responsibilities of these support groups clearly defined?
 - Who defines facility-wide environmental standards?
 - Who provides environmental oversight of line organizations?
 - Who provides technical support for line organizations?
 - How do these environmental support groups fit into the overall organizational structure?
- C. Functional relationships between the environmental support groups and the line units are formally defined and understood.
- What is the relationship between environmental support staff and line units?
 - How well defined and understood is this relationship? How effective is it?

Subcategory III: Formal and Informal Support Systems

- A. There are formal systems in place for the reinforcement of the environmental management function and for reporting of environmental concerns to higher levels of management.
- What types of systems are in place (regular meetings, reports, self audits, etc.)? [Note: This criterion may be linked to EM.4 and EM.7]
 - How are personnel with environmental responsibility routinely informed about relevant activities and developments?
- B. The effectiveness of the environmental organizational structure is periodically subjected to a formal review and revisions are made when warranted.
- How often is it reviewed and by whom?
 - Has the organizational structure of the environmental management function changed as a result of these reviews?
- C. There is a positive, open, and cooperative relationship between line and oversight groups. Effective working relationships exist between headquarters and field environmental staff as well as between staff and line personnel whose functional responsibilities impact environmental performance. [Note: Linkage with EM.5]
- Do environmental staff exhibit close working relationships with line management and other key functional specialists within the facility, e.g., engineering, legal?

- Any examples of where networking by environmental staff with these other professionals has resulted in decisions or actions which have increased the effectiveness of the environmental management function?
- Any evidence of lack of cooperation between line and oversight groups?

EM.2 Culture and Attitude

Performance Objective

The organization should exhibit a positive attitude and a culture committed to environmental excellence.

Key Evaluative Concerns

The focus of this category is the support for environmental protection from the top management all the way down through the line organization. Top management support is evaluated based on demonstration of commitment of environmental programs and performance. Line responsibility will be evaluated based on the sense of responsibility of managers and operating personnel at all levels for environmental protection.

The existence and content of environmental policy will also be evaluated in this category including issuance of formal environmental policy statements that reflect the organization's goals and the commitment of senior management.

Criteria

Subcategory II: Top Management Support

- A. Top management has demonstrated and clearly communicated its commitment to environmental protection through the issuance of formal statements, allocation of appropriate resources, and personal actions that demonstrate that commitment.
- Has top management's commitment to environmental protection been stated in mission statements, annual reports or other broadly disseminated materials?
 - Is top management support further evidenced by actions -- e.g., champion programs/projects, investments in environmental area, personal or company involvement in task forces, participation in professional associations, working with local community organizations, etc.
 - Does senior management have a clear set of goals and expectations regarding environmental performance and what are they? Do implicit goals seem to differ from explicit goals?
 - How does senior management communicate its environmental goals and expectations to employees? Typically, how frequently are the goals communicated?

C. Top management's commitment is demonstrated through the requirement of environmental reporting on an ongoing basis. [Note: This criterion may be linked to EM.1, Subcategory III]

- Are any formal reports routinely prepared for top management regarding (or including information on) the facility's environmental status or performance?
- If such formal reports are routinely prepared, to whom are they sent? What were the circumstances under which the report(s) were first prepared, i.e., why were they requested? By whom?
- If such formal reports are not routinely prepared, does top management utilize or rely upon any informal means for determining the facility's environmental status or performance? If yes, what is the means and how does it work?
- Check any periodic or onetime reports sent to top management, and any written reports from top management for information on environmental status or performance.

D. Top management encourages and readily accepts input on environmental issues from all employees.

- How has employee input been encouraged?
- Any evidence that employee input is considered in environmental decisionmaking?

Subcategory II: Line Management Support

A. Managers at all levels have formally stated their commitment to environmental excellence.

B. Managers at all levels are personally involved with the participate directly in environmental protection activities (e.g., participate in audits and self-assessments, write and review procedures, serve on ES&H advisory committees).

- Check internal memos relevant to environmental management and facility safety meeting minutes.

C. Both management and staff demonstrate an understanding and acceptance of the importance of environmental protection and a recognition of the environmental aspects of their job responsibilities.

- Do the attitudes and behavior of management reinforce the message that line operating personnel are primarily responsible for ensuring good environmental performance?

- Any specific instances observed while the audit team is on site which reveal line operating personnel attitudes or beliefs regarding the importance of their contribution to good facility environmental performance?
- What is line management's sense of personal responsibility for environmental performance? Are there any formal statements in the job descriptions or performance appraisals to promote this?
- What do they see as the relative importance of the roles of operating personnel and environmental staff in determining facility environmental performance?

D. Individuals demonstrate a sense of "ownership" of environmental protection.

- Relatively how strong is their individual sense of personal responsibility for ensuring that the facility complies with environmental requirements and achieves good environmental performance?
- Do line operating personnel believe that how they perform their individual jobs affects the facility's environmental performance? Do they make any specific connections between the two?
- Do you find any instances where line operating personnel behavior belies or undercuts professed belief that they are personally responsible for ensuring good facility environmental performance, e.g., waste treatment plant operator insisting that environmental staff sign off on the Discharge Monitoring Report rather than himself?

E. Management and staff are fully cooperative and open with internal and external oversight groups. [Note: Linkage with EM.I and EM.S]

- Compare management/staff cooperation and openness with requirements in Secretary of Energy Notice 20-90, Interaction with Internal and External Oversight Organizations.
- Do individuals interviewed have available to them a copy of the environmental policy statement? How does the facility handle distribution of the environmental policy within the organization?
- Based on interviews with environmental staff and external oversight organizations, is the relationship between the two cooperative or adversarial?

Subcategory III: Environmental Policy

- A. The organization has a formal statement of policy that places priority for environment, safety, and health above "production operations" mission. Environmental compliance, as the minimum acceptable standard, is an integral part of this policy.

- Does the facility have a formal written statement of its environmental policy?
 - By whom and at what level within the organization is the policy statement issued?
 - Has the facility issued any additional, issue-specific policies addressing more focused environmental concerns, e.g. underground storage tanks, PCBs, fisheries, groundwater protection, hazardous waste, air emissions? Are they consistent with the overall environmental policy?
 - Check environmental policy statement, environmental affairs manual, and additional issue-specific environmental policies, if they exist.
- C. The policy statement delineates the organization's environmental goals, and clarifies how they are to be met.
- Does the statement include implementation guidance, or other supplemental, subsidiary statements which clarify how the facility intends to meet its policy objectives?
 - How would you summarize the statement of environmental policy? What, if any, are its principal environmental goals or objectives?
- D. The statement is widely distributed, visible, and understood throughout the organization.
- Based on interviews, what is the awareness and understanding of the policy statement?

EM.3 Environmental Protection Programs

Performance Objective

Programs should be in place to ensure compliance with Federal, state, and local environmental protection laws and regulations, Executive Orders, and internal DOE policies and Orders that are designed to protect the environment and public health and welfare.

DOE 5400.1, General Environmental Protection Program, establishes environmental protection program requirements, authorities, and responsibilities for assuring compliance with applicable environmental protection laws and regulations, Executive Orders, and internal Department policies. The Order states that "it is DOE policy to conduct the Department's operations in compliance with the letter and spirit of applicable environmental status, regulations, and standards. In addition, DOE is committed to good environmental management of all its programs..." To this end, criteria are provided below that address programs to ensure compliance with the spectrum of environmental requirements. For a more extensive assessment of technical aspects, refer to PoC for specific technical regulatory requirements.

DOE 5400.2A, Environmental Compliance Issue Coordination, establishes requirements for coordination of significant environmental compliance issues to ensure timely development and consistent application of Departmental environmental policy and guidance.

DOE 5480.4, Environmental Protection, Safety, and Health Protection Standards specifies and provides requirements for the application of the mandatory environmental protection, safety, and health standards applicable to all DOE and DOE contractor operations; provides a listing of reference ES&H standards; and identifies the sources of the mandatory and reference ES&H standards.

Key Evaluative Concerns

The purpose of this category is to evaluate the extent to which the organization has developed and implemented specific environmental protection programs and plans which, if properly managed, should help maintain compliance and reduce its potential future legal and financial liabilities. This category will be evaluated based on the existence and effectiveness of specific programs, including all necessary program elements.

Criteria

Subcategory I: Specific Environmental Protection Programs

For each of the following programs determine the following:

- Does a program exist? How comprehensive is it?
 - Do these environmental programs include the following program elements?
 - identification and characterization of sources
 - identification/understanding of applicable regulatory requirements
 - assignment of responsibilities
 - regular monitoring of emission sources
 - prevention and minimization of environmental
 - regular inspections and maintenance
 - recordkeeping and reporting systems
 - training requirements
- A. Effective programs are in place to identify sources of pollutant emissions to the atmosphere, to control and monitor releases of atmospheric pollutants, to monitor meteorological conditions that influence pollutant transport, and to measure and assess the impact of air emissions on the environment and public health.
- B. The facility has a program for the protection of surface waters, including (1) identification of wastewater discharge points and sources, (2) existence of discharge permits with monitoring and surveillance to track compliance with permit requirements, (3) implementation of an effective Spill Prevention, Control, and Countermeasures Plan, and (4) reporting and recordkeeping stems.

- C. Protection of potable drinking water supplies is ensured through (1) an effective backflow prevention and crossconnection program, (2) monitoring and analysis, and (3) reporting and recordkeeping.
- D. A groundwater monitoring program, including a site-wide groundwater monitoring well network, has been established to determine the quality of groundwater entering and leaving the site so that the effects of operations can be determined and documented.
- E. Programs are in place for the proper management and control of toxic and chemical materials to prevent or minimize their release into the environment including programs for (1) procurement, handling, and storage of toxic and chemical materials, (2) management and control of polychlorinated biphenyls, (3) management and control of pesticides, and (4) management and control of petroleum, petroleum products, and chemicals in aboveground or underground storage tanks.
- F. The facility has a program for the management of solid and hazardous waste, including waste source identification, waste characterization, treatment, storage and disposal practices, contingency plans, recordkeeping systems, training, and waste minimization.
- G. Programs are in effect that provide for environmental radiation protection through incorporation of guidelines contained in General Design Criteria and adherence to ALARA principals. Additional programs are in place that require radiological environmental surveillance, evaluation of unplanned releases of radioactive materials, and evaluation of radiation exposure to the public.
 - Compare hazardous and radioactive mixed waste policies and requirements to those required in DOE 5400.3.

Subcategory II: Specific Program Plans

- A. The responsible field organization has prepared (not later than November 11, 1989), and updated annually, an Environmental Protection Implementation Plan.
 - Has a plan been prepared as required under DOE 5400.1? What does the plan consist of? Is it updated annually?
 - Has the environmental protection program implementation plan been sent to the PSO with the concurrence of EH-1, regarding its contents, by November 1989.
 - Has the long-range environmental protection plan report been prepared and submitted to EH-1, PSO, and MA-1?
- B. The responsible field organization has prepared special program plans for (1) a Groundwater Protection Management Program, (2) a Waste Minimization Program, and (3) a Pollution Prevention Awareness Program. These plans have been updated periodically, as required.

- Have special program planning requirements reports (submitted separately) been developed and updated every 3 years and submitted to the PSO and EH-I for ground water protection management? Waste minimization program? Pollution prevention awareness program?
- C. The organization has developed a monitoring plan as specified in DOE 5400.1.

Subcategory III: Other Programs Related to Environmental Protection

- A. A program is in place to plan and effectively implement all actions required to manage responses to releases of hazardous substances to the environment from inactive waste sites or to releases of reportable quantities of hazardous materials.
- Does the facility have formal written emergency response plans, e.g., Contingency Plan, Spill Prevention, Control, and Countermeasures (SPCC) Plan, etc.? If not, is the facility required to have them?
 - Are these plans clear, complete, and current as to who has the Emergency Coordinator responsibility? What emergency response equipment is available and where? Are the emergency response procedures site-specific? Which regulatory bodies and local community response agencies must be contacted?
 - Have facility staff received appropriate training in planned emergency response procedures? Does the facility hold periodic drills or other readiness exercises?
 - Check emergency response plan documents, internal records of emergency response drills, other readiness exercises conducted.
- B. The organization has developed and implemented preventive maintenance programs ensure proper operation of pollution control equipment.
- What has been the operating experience of this facility over the past year with respect to pollution control equipment outage, needed repairs?
 - Does the facility have preventive maintenance programs in place and functioning for any critical operating and pollution control equipment? For all such equipment?
 - Are preventive maintenance schedules automated? How do responsible personnel know when a particular planned maintenance activity is to be performed?

EM.4 Formality of Environmental Program

Performance Objective

Environmental protection activities should be conducted in accordance with formal programs supported by controlled documentation.

DOE 5480.19, Conduct of Operations Requirements for DOE Facilities, provides requirements and guidelines for the development of directives, plans, and procedures relating to the conduct of operations. This Order states that it is the policy of DOE that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities. The policy statement also addresses the use of procedures to control conduct of operations, review of programs, and assessment of program effectiveness.

DOE 5500.1A, Emergency Management System, establishes overall policy and requirements for an Emergency Management System that will provide for development, coordination, and direction of planning, preparedness, and readiness assurance for response to operational energy, and Continuity of Government emergencies involving DOE or requiring DOE assistance.

Key Evaluative Concerns

This category evaluates the formality of environmental programs and day-to-day systems for ensuring compliance. The four components of this category are regulatory tracking, procedures, inspections, and recordkeeping and reporting. The facility will be evaluated on its implementation of environmental programs through specific procedures and standards. The facility's system for the conduct of inspections to prevent and identify problems will also be evaluated. Finally, systems for the maintenance and retention of records as well as assurance of necessary reporting will be assessed.

Criteria

Subcategory I: Regulatory Tracking and Translation

- A. A formal system is in place to track and translate regulations and DOE Orders into internal policies, standards, and procedures.
- How does the facility stay current with new and emerging environmental regulations and trends? Who, if anyone, within the facility has this responsibility for regulatory tracking?
 - Analyze the translation of environmental, safety, and health regulations and standards described in DOE 5480.4, 5400.3, and 5400.4 into internal policies, standards, and procedures.
 - How are new regulations interpreted as to their applicability to the organization and by whom?

- Note the availability of regulatory reference material (compilations such as BNA, etc.) technical books, and other reference materials.
- B. Relevant regulatory information is effectively distributed to field organizations.
- How is regulatory information transmitted to the field? Do the right people learn of the developments with sufficient lead time to take appropriate action?
 - Any specific examples of distribution of regulatory developments information observed during the time of the visit? Regarding what issue(s)?
- C. Field organizations are given the appropriate guidance for compliance with new regulations.
- How is this guidance provided and by whom?

Subcategory II: Procedures

- A. Formal standards and procedures have been developed for the implementation of environmental protection programs.
- Does the facility have documentation as required under DOE 5480.19, Conduct of Operations? Are environmental procedures included in this document, or do they exist in a separate environmental procedures manual?
 - Does the facility have written procedures for environmental activities (e.g., inspections, reporting, emergency response)?
 - Are there any instances where the facility has chosen to adopt internal environmental management standards which supplement and/or are more stringent than existing applicable federal and state requirements?
- B. Procedures and standards applicable on a facility-wide basis are issued from an organizational level with the authority to mandate implementation.
- Who issues environmental standards and what authority do they have within the organization?
- C. There is a system in place to verify that procedures for any activities that might impact the environment contain environmental protection sections.
- Do standard operating procedures include environmental protection standards?
 - Who is responsible for this verification activity?
- D. Procedures are part of a formal, auditable document control system. The document control system is designed to ensure that personnel have ready access to current versions of procedures containing environmental requirements.

- Is the documentation centrally located, or at each individual operating site?
 - Check availability of environmental policy statement at the various locations, environmental affairs manual, if one exists, and additional issue-specific environmental policies, if documentation exists.
 - What environmental procedures are routinely accessible at the facility level? Available for on-line access?
 - How are environmental procedures updated? When?
- E. A review system is in place to ensure that procedures address all activities necessary to implement environmental policies, are technically correct and current, and have a level of detail appropriate for the activities to which they apply.

Subcategory III: Inspections

[Note: Linkage of this subcategory to EM.8]

- A. The facility has a program for routine site and equipment inspections and compliance checks, including appropriate documentation.
- Do environmental or other staff conduct occasional or routine comprehensive inspections to determine facility compliance with specific environmental legal and regulatory requirements? Which requirements? How? How frequently? Do these inspections also cover internal facility requirements?
 - Are regular tests and inspections performed on critical operating and pollution control equipment, e.g., electrostatic precipitators, scrubbers, air monitors, or the environmental measurement devices?
 - Do these inspections or other compliance checks follow a formal written protocol or checklist? Are the results documented and retained?
 - Any documentation of routine inspections? Any review of this documentation?
- B. The facility has specific procedures for follow-up of exceptions noted in inspections.
- How are exceptions followed-up? Is there a tracking process to ensure the corrective actions or repairs are taken in a timely manner?
- C. The organization has a "lessons learned" system in place to minimize repeated exceptions from inspections.

Subcategory IV: Recordkeeping and Reporting

- A. Systems are in place for the appropriate documentation and recordkeeping of environmental performance.

- To what extent is information management automated or manual regarding the following types of environmental information? Tracking of key regulatory schedules (e.g., permit renewals, report submissions, required training?) Maintenance of compliance records (e.g., inspection logs, source and/or ambient measurement data?) Preparation and submission of required regulatory reports (e.g., RCRA generator report, ASRA hazardous material inventory and release reports, PCB inventory and disposal report?)
- In general, what is the state of the facility files and recordkeeping practice regarding these environmental records? Are the files complete? Current? Readily accessible? Are the recordkeeping practices formal, systematic?

B. The facility has a document control system and record retention policy.

- Does the facility have a formal records retention policy which covers environmental compliance and other related environmental information? In lieu of a formal policy, does the company provide any guidelines to operating facilities and corporate staff regarding environmental records retention?
- Does the facility maintain appropriate documentation and records of its environmental performance, e.g., wastewater discharges? Air emissions? Hazardous waste management site inspections and employee training records? Superfund reportable quantity spill incidents? PCB inventory and disposal records? Toxic Substance Control Act Section 8(c) and 8(e) files?
- Where applicable, does the facility retain these records for the retention period specified by regulation?

C. There are systems in place to ensure that environmental reports required by federal and state regulations and DOE are routinely prepared and submitted on a timely basis.

- Are environmental reports required by federal or state regulation routinely prepared and submitted to the appropriate regulatory agencies in a timely manner, e.g., Discharge monitoring reports? Air emission exceedances? Hazardous waste generator reports? Underground storage tank notifications? Superfund reportable quantity spills? Superfund Amendment and Reauthorization Act Title III, inventory data and annual toxic emissions? PCB inventory and disposal reports? Toxic Substance Control Act Section 8(c) and 8(e) reporting?
- Does the facility provide notifications and reports regarding environmental occurrences via the requirements of DOE 5484, 5000.3, and 5500 Series (emergency management)?
- Has an "Annual Site Environmental Report" summarizing environmental occurrences been submitted to EH-1 by June 1 of each year (per Chapter II guidance)? Does the report format requirements?

- Has the Radiological Effluent and On-site Discharge Data Report been submitted to EG&G Idaho, Inc., by April 1 for the previous calendar year?
 - Check the availability and use of automated data management equipment and software, the state of corporate and facility-level environmental files, and the menu and examples of any environmental management reports generated from an automated database.
 - Are effluent and environmental monitoring reports submitted to appropriate offices (e.g., Information Systems Branch, EG&G Idaho, Inc.)?
 - Are environmental monitoring reports for the previous year submitted annually, by May 1, to the Operational and Environmental Safety Division program office and the DOE Technical Information Center in Attachment 5 format?
 - Are environmental summaries reports covering the previous year submitted annually, by May 1, to the Operational and Environmental Safety Division in Attachment 6 format?
 - Have field investigation reports been submitted to the Office of Operational Safety (EH-34), the Inspector General (IG-I), and appropriate headquarters officials (in accordance with change 3 of the Order, No. 6e(4))?
- D. Environmental status reports with the appropriate level of detail are routinely prepared for internal management purposes. [Note: Linkage with EM.1 and EM.2]
- What kind of reports are prepared? What is the content and frequency?
- E. There is a formal mechanism to report, track, investigate, monitor trends, and correct identified problems and "incidents." The types and magnitudes of the problems that should be reported are well defined. [Note: Linkage with EM.7]
- Does the facility have a formal written procedure for environmental incident investigation and reporting?
 - Compare the systems for occurrence reporting information processing with the requirements in DOE 5000.3A, 5484.1, and 5500.2A.

EM.5 Internal and External Communication

Performance Objective

Formal and informal channels of communication should be utilized to emphasize management commitment to environmental protection and engender a sense of environmental awareness throughout the organization.

Key Evaluative Concerns

The focus of this category is an evaluation of the existence and effectiveness of internal communication systems. The effectiveness of communication systems will be determined through an evaluation of the understanding of roles and responsibilities and the awareness of environmental policies, procedures, and programs throughout the organization. The extent and effectiveness of external communications will also be assessed.

Subcategory I: Internal Communications Channels

- A. Formal channels have been established for top-down, bottom-up, and lateral communication of environmental information. [Note: Linkage with EM.1 and EM.2]
- Do these formal channels exist? In what form?
 - Does a good flow of communication exist among heads of Field Organizations and field environmental officials? Among regulatory officials and field environmental officials? Among headquarters and field environmental staff?
 - Is information flow restricted to requirements or does it flow freely?
 - Are there regular line management and environmental staff meetings on environmental issues?
- B. There is a formal system in place to allow personnel to anonymously communicate environmental concerns to upper levels of management for resolution.
- Does a formal system exist? What does it consist of?
- C. Informal channels of communication are encouraged as a means of developing a commitment and positive attitude toward environmental protection.
- What are some examples of informal channels?
 - Are there common perceptions of information/communication flow (i.e., do management and staff have the same opinion)?
 - Do environmental staff across units share information, etc? Do they have a common understanding of the information?
- D. Environmental awareness is continually reinforced throughout the organization via the use of newsletters, bulletin boards, office recycling programs, or other means. [Note: Linkage with EM.2]
- What communication modes are used to promote environmental awareness?
 - Check use of newsletters, bulletin boards, existence and visibility of EHS logo that emphasize environmental awareness.

Subcategory II: Effectiveness of Internal Communications

- A. Formal communication of environmental protection directives is timely, and effectively reaches all responsible elements of the organization. [Note: Linkage with EM.1]
- In general, how would you characterize the flow of facility environmental status information to senior level facility and corporate management? Infrequent, exception basis only? Is it combined with other status information so that senior management receives only brief, heavily edited environmental information? Or, is it routine with periodic written reports showing accomplishments against goals?
- B. Employee environmental concerns are addressed, and both the concerns and responses are documented and tended.
- How are employee concerns addressed, documented and tended?
- C. The effectiveness of communication is demonstrated by a widespread awareness and acceptance of the corporate commitment to environmental protection. [Note: Linkage with EM.2]
- What is the general understanding and appreciation for facility environmental issues exhibited by facility employees?
 - To evaluate effectiveness of communications, note whether there are examples of turf battles, lingering disagreements, or the left hand not knowing what the right hand is doing.
- D. The organization periodically assesses the effectiveness of communications, makes changes as necessary, and documents the results of the evaluations and changes made.

Subcategory III: External Communication

- A. The facility has a good relationship and is open with external oversight organizations.
- Does the facility have frequent interaction with regulatory agencies and proactively keep them informed of the environmental status of the facility?
- B. A policy and program exists for communication and involvement of external parties such as regulatory agencies, environmental groups, and the local community.
- What kinds of communication programs does the organization have with the local community? (e.g., education, visitation of facilities, etc.)
 - How does the organization interact with environmental groups?

- Does the organization have any complaints from neighbors and how are they handled?
- What kind of public relations programs are in place that include environmental issues?

EM.6 Staff Resources, Training, and Development

Performance Objective

Programs should be in place to ensure that staffing and resources are sufficient. There should be a program in place to ensure that all personnel have received environmental protection training appropriate for their job responsibilities.

Key Evaluative Concerns

This category assesses whether environmental staffing resources are sufficient from a quantitative and qualitative perspective to meet the organization's environmental goals. It also evaluates the degree of formality, completeness, and appropriateness of the organization's systems for identifying and satisfying employee needs for environmental skills training and opportunities for career development. The assessment will include training requirements for all personnel, depth and coverage of training, and maintenance of environmental training records.

Criteria

Subcategory I: Environmental Staffing

- A. Environmental support group-and/or line management staffing levels are sufficient to achieve environmental performance goals.
- Are there enough environmental staff or line management staff with environmental duties to assure compliance?
 - Have any programs or projects been identified that have not been undertaken or completed because of insufficient staff?
 - Are people assigned to the following: Radiology, CAA, CWA, RCRA, CERCLA, FIFRA, TSCA, SDWA, Groundwater, QA, and Cultural and Natural Resources?
- B. Environmental support staff have the relevant background and training, as well as the time in their current positions, to carry out their responsibilities.
- What information is available on the backgrounds of environmental support personnel (e.g., resumes or "171" forms)?
 - Check their environmental management work experience and their educational training in environmental management.

- Note any diplomas, certifications, etc., of environmental training (internal and external), and measures of performance, e.g., that specify environmental goals.
- C. Support for environmental protection activities is provided in a timely, responsive manner.
- Are additional staff with environmental responsibilities added as the need arises or is there a significant delay?
 - Are environmental activities requiring immediate attention (e.g., a spill) responded to in a timely manner?
- D. A system is in place to identify both short-term and long-term staffing and resource requirements for both line and oversight units.
- How are long-term environmental support staffing requirements determined? Short-term?

Subcategory II: Job Descriptions and Performance Evaluations

- A. Appropriate job qualifications are established and maintained for environmental positions.
- Are there formal written job descriptions for environmental staff? Are these current, complete, and reflective of existing duties?
 - What other positions in each department include environmental responsibilities? Do formal written job descriptions exist for these other key line management and operating personnel? If so, do these job descriptions incorporate any statements regarding their environmental-related duties and responsibilities?
 - Check written job descriptions, formal measures of job performance, and performance review forms.
- B. Environmental protection factors are included in job descriptions and performance evaluations of both line and support management and staff, as appropriate.
- Have explicit measures of performance been identified for specific jobs? Have any been identified for environmental staff? Examples? For other line management and operating personnel?
 - Does management conduct periodic staff performance reviews? If yes, do these reviews utilize explicit measures of environment-related job performance?
 - Have environmental staff received such performance reviews? Examples of environmental performance criteria used? Examples of any environmental-

related performance measures used in reviews of other key line management and operating personnel?

- What reward, incentive or bonus systems are in place for environmental staff? How about for other personnel with environmental responsibilities?
- In individual performance standards, determine whether environmental criteria receive substantially less emphasis than other criteria such as productivity and safety.

Subcategory III: Environmental Training Programs

- A. Environmental training programs are defined in a set of controlled documents such as policies and procedures.
- B. There is a process in place to evaluate and establish environmental training needs for all personnel.
- Does a formal, organization-wide plan for environmental training exist?
 - Are environmental skill training requirements (e.g., regulatory hazardous materials handling, equipment test and inspection, emergency and spill response) identified for all job classifications where employees' work activities can affect facility environmental performance?
- C. Training needs are incorporated in professional development plans for environmental protection personnel and for any other personnel whose work activities can impact environmental performance. This training is in addition to RCRA requirements.
- D. The environmental training program has clearly defined requirements for the preparation of training materials, and the documentation of training content.
- How is it ensured that all pertinent DOE Orders and regulations are included in training?
 - Are the various materials used for the training (e.g., written, audiovisual) appropriate and adequate to the purpose?
 - Do the trainers have the appropriate educational background and experience for the particular training they deliver?
- E. There is a formal process to ensure that training courses are developed at an appropriate depth and provide adequate coverage of DOE Orders, regulations, and principles of environmental protection.
- How does the facility ensure that employees receive the necessary training at appropriate intervals?
 - Are facility employees given the appropriate environmental skills training in order to enable them to perform work-related duties in an environmentally

acceptable manner? With the training frequency required by regulation, if applicable?

- Check job classification-specific environmental training requirements, employee training records, available training materials, and resumes of individuals trainers.

F. All levels of personnel -- from operators to lower, middle and upper management -- undergo environmental awareness training. [Note: Linkage with EM.2]

- Does the facility use approximately comparable efforts to promote environmental and occupational safety awareness among its employees?
- Who receives environmental awareness training?
- Is appropriate environmental training given to all line personnel whose activities may impact environmental management and compliance, as well as to their supervisors?
- What environmental training and awareness activities, if any, does the company specifically direct toward middle and upper level operating management? Toward senior corporate management? Have they received any awareness training at all regarding the potential civil and criminal liabilities attendant upon their failure to meet their legal and regulatory environmental responsibilities?

G. An environmental portion is included in new employee and contractor orientation training, and environmental protection training requirements have been established for temporary employees and visitors.

- Does the facility routinely conduct a formal orientation program for all its new employees? If so, does this program contain material designed to increase employees' awareness of good environmental practice and its importance for achieving the company's environmental objectives and desired level of environmental performance?
- Do all new employees attend? All contractors?
- Check description of new employee orientation program, as well as specific training and awareness materials used in it, if available; newsletters; multimedia presentations used to convey environmental awareness messages to employees; and course outlines for any courses or seminars attended by middle and upper level operating management related to environmental awareness.

H. Is there a formal documented process for the periodic evaluation of the effectiveness of training programs.

- Is an evaluation of the training program conducted? How frequently?

- Who can provide the results of the latest evaluation?
 - Were changes made in response to the evaluation?
- I. The training recordkeeping system is auditable and has provisions to ensure completeness and currency.
- Does the facility maintain employee environmental training records where this is required by regulation? Are these records typically complete? Current? Readily accessible?
 - Check training records and attendance sheets.
 - Are "outside" courses that cover the same material consistently recorded with the same code, to minimize confusion?

Subcategory IV: Staff Development Opportunities

- A. Career opportunities and advancement are provided for environmental staff.
- What line positions would be considered at a comparable level in the organization's hierarchy to the various environmental support staff positions (i.e., what line positions are of the same government grade)?
 - Do environmental support staff members consider themselves equally valued with these "line peers" by the organization?
 - Are environmental support staff and line staff considered to have equal opportunity for advancement up the organization's management ladder? (Ask senior management, line management, supervisors of environmental support staff, line personnel, and environmental support staff.)
 - Check training records to see whether employees' training that can assist them in moving into management positions within the organization, regardless of whether they are in line or environmental support positions. (Examples of such training include managerial skills, supervisory competencies, presentation techniques, media relations, policy/program development, and negotiation skills.)
 - Are there well-established career paths within the environmental organization? What are these paths, and are there "dead-ends?"
 - Do middle and senior management staff have any environmental experience?
- B. In staff development efforts, environmental support staff are encouraged to acquire management and professional skills in order to build their supervisory and management potential.

EM.7 Program Evaluation, Reporting and Corrective Action

Performance Objective

The organization should have systems in place to effectively evaluate environmental protection activities, implement corrective actions, and report environmental concerns.

DOE 5480.19, *Conduct of Operations Requirements for DOE Facilities*, states that it is DOE policy that line organizations are to assess the effectiveness of corporate directives, plans, or procedures at facilities under their cognizance.

DOE 5480.1B, *Environment, Safety, and Health Program for Department of Energy Operations*, requires that program senior officials (PSO) perform program reviews to confirm effective implementation of DOE ES&H requirements by program and field organizations. This Order also requires that heads of field organizations appraise ES&H programs, projects, and facilities of subordinate field activities in accordance with DOE 5482.1B and other DOE Orders.

DOE 5482.1B, *Environment, Safety, and Health Appraisal Program*, establishes DOE policy and requirements for DOE's Environment, Safety, and Health Appraisal Program.

DOE 5700.6B, *Quality Assurance*, requires that internal quality assurance audits be conducted by DOE organizations, and that field organizations and project offices conduct external audits of operations under their direction.

On January 26, 1990, in a memorandum transmitting an analysis of trends from the first six Tiger Team assessments, Secretary of Energy, James D. Watkins directed all DOE line organizations to implement comprehensive self-assessment programs to identify and characterize ES&H concerns. A subsequent memorandum, *Guidance on Environment, Safety, and Health (ES&H) Self-Assessment*, provided guidance on implementation of such programs and performance objectives and criteria for their evaluation.

Key Evaluative Concerns

The purpose of this category is to evaluate programs that assess the adequacy and effectiveness of environmental protection programs as well as the reporting and follow up activities associated with these appraisals. The self-assessment program will be evaluated on the basis of its design and implementation. Reporting and followup will be assessed for its completeness.

Criteria

Subcategory I: Oversight Programs

- A. Programs for facility self-assessments, internal assessments, surveillances, and other oversight activities are defined in controlled documents, and are comprehensive in scope.

- Does the organization have a formal, documented environmental audit program? If so, does it cover compliance with internal company policies and procedures as well as with applicable governmental laws and regulations?
 - Do field organizations and individual facilities conduct self-assessments such as regular inspections and walk-arounds to ensure compliance?
 - Do these programs include a review of all environmental programs, including air, surface water, drinking water, groundwater, hazardous and solid waste, etc.?
- B. The design of self-assessment programs include identification of the purpose, scope, approach, organization, coverage, and
- Does the audit program prescribe formal company standards and procedures regarding audit scope? Frequency? Period of review? Protocols and questionnaires? Auditor training? Working papers? Report preparation and distribution? Corrective action planning and follow-up?
- C. Responsibilities, authorities, and accountabilities for oversight activities are clearly defined.
- is the audit program functionally independent from operations?
 - Is staff specifically dedicated to environmental auditing? If not, how are facility audits typically staffed?
- D. Evaluation programs are conducted periodically in accordance with a formally defined frequency or schedule that meets DOE requirements.
- E. Issue-specific environmental evaluations are being conducted wherever relevant, in order to reduce the organization's long-term environmental liabilities.
- Consider the requirements in DOE 2321.1A, Auditing of Programs and Operations.
- F. As required under DOE 5400.1, an effective environmental quality assurance program and organization is in place to assure that environmental programs provide adequate protection to the environment and to public health, and that environmental data are representative and defensible. As part of that program, audits, appraisals, and surveillances are conducted to verify the effectiveness of the environmental protection activities and adherence to the quality assurance program.
- Are environmental measurement activities conducted following EPA-approved methods and procedures? Documentation requirements? QA/QC check?
 - Are there established procedures for handling and reporting identified exceedances of permit limitations? For determining causes and taking corrective actions?

- Are there any outstanding notices of violation or any other citations against the facility for environmental regulatory noncompliance? If so, what were the circumstances and what is the current status of the response?
- Check facility environmental permits, inspection reports or logs, inspection procedures, environmental measurement data files, environmental sampling and analysis procedures, internal records for proposed and completed corrective actions, and any notices of violation or other environmental regulatory citations.

Subcategory II: Reporting and Follow-up

A. The results of assessments are documented in formal reports distributed to cognizant managers and staff.

- Are past Environmental Surveys, Compliance and/or Audit Reports available and referred to by facility environmental staff and management?
- Do heads of Field Organizations send management and functional appraisal reports to the appropriate PSO and to EH-1 for each facility at least once every three years as required by No. 8e(3) of DOE 5482.1B?
- Has an annual appraisal scheduled report denoting the management and functional appraisals planned for the following fiscal year been submitted to the cognizant PSO and EH-1 by August 1 of each year, as required by No. 8e(7) of the DOE 5482.1B?
- Has the field organization head submitted, in accordance with requirement No. 8e(8) of DOE 5482.1B, a list of contractors (under their purview) and dates that they received management and functional appraisals, to the PSO and EH-1 by November for the previous fiscal year?
- Was the performed management appraisal submitted as a report within 45 days to the appraised organization? Did the appraised organization respond to this report within 30 days of receipt, stating corrective actions (if any) planned?
- Did the appraised organization provide quarterly updates on intended corrective actions, until they are completed, to the appraising organization?
- Was the performed technical function appraisal submitted as a report within 30 days to the appraised organization?
- Did the appraised organization respond to this report within 30 days of receipt, stating corrective actions planned? Did the organization provide quarterly updates to the appraising organization?
- Did the field organization respond within 30 days to the EH-24 environmental audit report, which must include a discussion of planned

corrective actions with requisite scheduled dates? Are quarterly status reports sent to EH-24 officials?

- B. Findings and corrective actions are tracked and trended in a formal system.
- Are formal systems in place and functioning to record deficiencies found and to direct appropriate management response? To ensure follow-up that corrective action(s) have been implemented? Recorded?
 - Does a review of a sample of these reports indicate a trend by the facility that environmental noncompliance items are being reduced in quantity and severity?
- C. Performance indicators for environmental protection have been defined and are tracked and trended.
- What are the performance indicators? Meeting SEN 29 requirements? Lessons learned analysis? Root cause analysis? How are they tracked and trended?
- D. The systems used for environmental program evaluations are periodically subjected to documented reviews and revisions are made as necessary.
- What system is in place to review environmental program evaluations?
 - How often are these programs evaluated?

EM.8 Environmental Planning and Risk Management

Performance Objective

The organization should have developed and implemented a formal system for identifying environmental hazards, assessing the resulting environmental risks of those hazards, establishing criteria for risk acceptability, and addressing the risks.

Key Evaluative Concerns

This category focuses on the environmental planning and risk management process. It evaluates the extent to which technical and financial planning related to environmental management is conducted and integrated with overall organizational planning. In addition, this category evaluates the organization's system for identifying, assessing and addressing potential environmental hazards, including risk management program design and approach, issues identification, and management involvement.

This category will also assess the systems that are in place to ensure sufficient human and financial resources are provided for the support of environmental management programs. It will evaluate the consistency between environmental staffing levels and the organization's environmental performance goals.

Subcategory I: Environmental Planning

A. Environmental planning is conducted with comparable formality to planning for other business functions.

- How are staffing and budgetary requirements for the environmental management function determined?
- To what extent do these decisions result from a formal, organized planning process? Conducted by whom? Using what typical planning horizon?
- Does priority setting (i.e., choosing projects to spend money on) reflect environmental excellence goals? Does this activity include input from senior environmental staff?
- Do the resulting plans for environmental management take into account and adequately reflect the implications of proposed business and financial plans and initiatives? Do they do so before or after the fact?
- Have there been any recent instances where concerns raised through an environmental planning process have influenced proposed business plans or otherwise caused them to be modified?
- Check strategic and/or business plans, annual budget documents, environmental reviews or proposed major capital projects, and property acquisitions.

B. Longer range environmental planning is included in the process.

Subcategory II: Financial and Technical Resources

A. Commitment of funds for environmental-related initiatives is satisfactory to serve the organization's environmental performance goals, through both capital and maintenance projects.

- Check capital budget requests to determine whether environmental compliance is a factor in budget decisions, measures of performance or job descriptions to determine whether environmental duties are a full or part-time assignment, and annual budget to determine whether environmental concerns are explicitly addressed.

B. Environmental protection is an integral part of the budget and planning process.

- Are environmental concerns taken into consideration in general budget decisions?
- Have environmental items (including staff resources) been identified in budget requests? Have the requests been granted?

C. The organization's selection of pollution control technologies is adequate to achieve its performance goals.

- How does the organization determine if pollution control technologies are adequate? How do facility staff assure themselves that the facility employs the best available technology to maintain compliance and reduce risks?
- What programs does the facility have in place to keep updated on the latest pollution control technology? To review the technology for its application at the facility?
- What new technologies has the facility employed to maintain compliance and reduce risks?
- Are environmental excursions and noncompliances analyzed to determine whether technology exists to eliminate or reduce similar episodes in the future? Is the new control technology promptly installed?

D. There is a system in place for the control and oversight of purchased materials, equipment, and services supporting environmental protection activities to ensure that they meet requirements .

- How does the organization ensure that new chemicals, equipment or contractors meet regulatory requirements and comply with organizational policies on environmental protection?

Subcategory III: Risk Management

A. The organization looks beyond compliance with environmental regulatory and DOE requirements, to actively assess environmental risks.

- How does the organization accomplish this?

B. A formal, systematic review of the organization's operations/activities is periodically conducted to identify the primary sources of environmental risks.

- How often are these review conducted and by whom?

C. The formal risk assessment management system includes procedures and assigned personnel.

- Are there written procedures for risk management?
- Does the facility have any internal guidelines, quantitative or qualitative, regarding whether any particular environmental risk arising out of operations would be deemed "unacceptable"? If so, how would such a determination be made and what would be done in the event a specific environmental risk was judged unacceptable? Any specific instances where this has occurred?

- D. The system sets priorities, handles any crises, tracks performance, conducts risk assessments, establishes risk acceptability criteria, and manages risks.
- What programs are in place for environmental, problem and risk identification? For correction of problems identified and follow-up?
- E. All activities that may impact the environment are carefully reviewed for those impacts. [Note that this does not include NEPA Compliance]
- Besides NEPA, for what types of projects are environmental reviews performed? Are they done for capital projects? For R&D projects? For facility-level maintenance modifications?
 - What are the criteria for deciding which projects to review?
 - Are these reviews performed only under certain circumstances? Routinely for all projects?
 - What is the focus of the reviews? Are they done primarily to determine whether a permit (or permit modification) is required? Whether the project may raise any significant environmental compliance issues? Whether the project may lead to any potentially significant environmental risks, whether regulated or not?
 - What are the criteria for assessing the impacts of a project?
 - When are projects reviewed? Once only? At several stages of their development prior to implementation, e.g., at the conceptual design stage? At the piping and instrumentation drawings stage? At the pre-startup stage? (Note that this does not include NEPA Compliance)
 - Check records or files indicating that environmental reviews were performed for selected specific projects, facility capital budgets, and maintenance work order records.
 - Do project environmental reviews typically follow a standard approach, e.g., Are there well-documented procedures available to those performing the reviews? or, in lieu of specific procedures, is there any formal corporate guidance on the topic?
 - Who performs the project environmental review? Is a member of the environmental staff routinely involved in the reviews? Who else?
 - Do project environmental reviews typically generate a written record of findings and recommendations? Is the record typically signed by those who performed the review?
 - Check written environmental review procedures or guidance, records or files for selected specific project reviews, and maintenance work order records.

APPENDIX H

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

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Acronym	Definition
ADL	Arthur D. Little, Inc.
AL	DOE Field Office, Albuquerque
ALOESP	Office of Energy and Special Programs
ANL	Argonne National Laboratory
BMP	Best Management Practice
BMPF	Best Management Practice Finding
CCB	Change Control Board
CDH	Colorado Department of Health
CF	Compliance Finding
CNG	Chem-Nuclear Geotech
CR/PIP	Cost Reduction/Productivity Improvement Program
DOE*	U.S. Department of Energy
DP	Defense Programs
EC	Environmental Commitment
EH	Office of Environment, Safety and Health
EH-1	Office of the Assistant Secretary for Environment, Safety and Health
EH-24	Office of Environmental Audit
EM	Office of Environmental Restoration and Waste Management
EM-40	Office of Environmental Restoration
EM-451	Office of Southwestern Area Programs, Off-Sites Remediation Division
EML-QAP	Environmental Measurements Laboratory Quality Assessment Program
EP	Environmental Protection Programs
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act

* Indicates acronym is not defined or spelled out after the first usage in the body of the report.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
EPIP	Environmental Protection Implementation Plan
ES&H	Environment, Safety and Health
FAR	Federal Acquisition Regulation
FP	Formality of Environmental Programs
FTE	Full-Time Equivalent
FY	Fiscal Year
GJPO*	Grand Junction Projects Office
GWPMPP	Groundwater Protection Management Program Plan
HQ	Headquarters
IC	Internal and External Communication
ID	DOE Field Office, Idaho
JEG	Jacobs Engineering Group, Inc.
LTCP	Long-Term Care Program
LTSM	Long-Term Surveillance and Maintenance
MK-F	Morrison Knudsen-Ferguson
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NRC	Nuclear Regulatory Commission
OESP	Office of Energy and Special Programs
ORNL	Oak Ridge National Laboratory
ORPS	Occurrence Reporting and Processing System
OS	Organizational Structure
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PE	Program Evaluation, Reporting, and Corrective Action

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
PLCC	Pre-Licensing Custodial Care
QA	Quality Assurance
QAPP	Quality Assurance Program Plan
RAC	Remedial Action Contractor
RFW	Roy F. Weston, Inc.
RM	Environmental Planning and Risk Management
ROCS	Regulatory Oversight Compliance Support
RRM	Residual Radioactive Materials
SARA	Superfund Amendments and Reauthorization Act
SEN	Secretary of Energy Notice
SOP	Standard Operating Procedure
SR	Staff Resources, Training, and Development
TAC	Technical Assistance Contractor
TAILS	Technical Assistance Contractor Action Implementation Logging System
TSP	Total Suspended Particulate
UMTRA *	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act of 1978, PL 95-604
UMTRA PO *	Uranium Mill Tailings Remedial Action Project Office, Albuquerque, New Mexico
VP	Vicinity Properties
WM/PPAPP	Waste Minimization/Pollution Prevention Awareness Program Plan

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