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URANIUM MILL TAILINGS REMEDIAL ACTION 1993 ROADMAP

October 1993

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**URANIUM MILL TAILINGS REMEDIAL ACTION
1993 ROADMAP**

OCTOBER 1993

**Prepared for
U.S. Department of Energy
UMTRA Project Office
Albuquerque, New Mexico**

**Prepared by
Jacobs Engineering Group Inc.
Albuquerque, New Mexico**

EXECUTIVE SUMMARY

The 1993 Roadmap for the Uranium Mill Tailings Remedial Action (UMTRA) Project Office is a tool to assess and resolve issues. The U.S. Department of Energy (DOE) UMTRA Project Office uses the nine-step roadmapping process as a basis for Surface and Groundwater Project planning. This is the second year the Roadmap document has been used to identify key issues and assumptions, develop logic diagrams, and outline milestones. This document is a key element of the DOE planning process.

New to the process is the emphasis on public participation. Input from the public was a basic step in formulating the 1993 Roadmap. Participating states, tribes, and regulators were sent copies of the 1992 Roadmap and asked to submit comments. These comments focused on policy, cost factors, human resource projections, acronyms, assumptions, and regulatory drivers. In addition, a plan outlining activities to involve stakeholders in the Roadmap process has been included under Section 3.0 of the 1993 document.

A multi-interest group used the nine-step process to focus on issues, root cause analysis, and resolutions. This group comprised representatives from the DOE; the Jacobs Engineering Group (JEG), Technical Assistance Contractor (TAC) to the DOE UMTRA Project; Morrison-Knudsen, Remedial Action Contractor (RAC) for the DOE UMTRA Project; Science Applications International Corporation; Chem-Nuclear Geotech (RAC for Grand Junction, Colorado, vicinity properties); and the DOE Grand Junction Projects Office (GJPO).

This core group updated and incorporated comments on the basic assumptions, then used these assumptions to identify issues. The list of assumptions was categorized into the following areas: institutional, regulatory compliance, project management, human resource requirements, and other site-specific assumptions.

The group identified 10 issues in the analysis phase. Of these issues, nine were listed in the 1992 Roadmap. One issue is new (number 2), and one issue (number 7) combines two issues from 1992. All of the issues are ranked according to importance. The number one issue from the 1992 Roadmap, "Lack of sufficient human resources," remained the number one issue in 1993. The issues and their ranking are as follows:

1. Lack of sufficient human resources.
2. Increasing regulatory requirements.
3. Unresolved groundwater issues.
4. Extension of UMTRCA through September 30, 1998.
5. Lack of post-UMTRA and post-cell closure policies.
6. Unpredictable amounts and timing of Federal funding.
7. Lack of regulatory compliance agreements.
8. Problem with states providing their share of remedial action costs.
9. Different interests and priorities among participants.
10. Technology development/transfer.

The issues are outlined and analyzed in detail in Section 8.0, with a schedule for resolution of these issues in Section 9.0.

The chief regulatory driver for the UMTRA Project continues to be Public Law (PL) 94-604, the Uranium Mill Tailings Radiation Control Act (UMTRCA). This act identified 24 inactive uranium mill tailings sites that were in need of remediation to protect public health and the environment. Regulatory requirements include: programmatic; health and safety; air, soils, sediments, and biota; surface water; groundwater; waste management; toxic and chemical materials; radiation; long-term care; and transportation. These are all further detailed in Section 5.0. A list of more than 700 regulations applicable to the UMTRA Projects has been compiled. However, only those that are primary regulatory drivers are included in the Roadmap. In addition, regulatory authorities, requirements, and status are given in Section 5.0.

Logic diagrams and milestones were defined for both the UMTRA-Surface and UMTRA-Groundwater Projects. These diagrams contain the primary steps to comply with UMTRCA requirements. The steps begin with defining the proposed remedial action, evaluating the proposed action under requirements of the National Environmental Policy Act (NEPA), performing the remedial action, and getting the site licensed by the U.S. Nuclear Regulatory Commission (NRC). Milestones show the time phasing of the project for each site.

The final sections include human resource projections, DOE Environmental Restoration and Waste Management (EM) activity data sheets linked to the Roadmap issues, and UMTRA Project site land use planning information. This information has been compiled for all 24 sites and is attached as addenda.

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1.0 INTRODUCTION

Mission

From the early 1940s through the 1960s, much of the uranium ore mined in the United States was processed by private companies under contract to the Federal Government. The uranium was used in national defense research, weapons development, and the nuclear energy industry.

In the 1970s, Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA or the Act) (Public Law 95-604) after the public expressed concern about potential health hazards posed by the tailings. This act directs the U.S. Department of Energy (DOE) to stabilize and control the tailings left from former uranium milling operations and to protect and/or clean up groundwater. This remedial action will minimize or eliminate potential health hazards resulting from exposure of the public to residual radioactive materials at the processing sites and at contaminated properties. The DOE established the Uranium Mill Tailings Remedial Action (UMTRA) Project Office (PO) to carry out the provisions of the Act. The mission is to comply with all applicable Federal, state, and local regulations to ensure that risks to the environment and to human health and safety are eliminated.

The DOE, through the UMTRA Project, is responsible for cleaning up contamination at 24 inactive uranium processing sites and more than 5000 vicinity properties (VP) in 10 states. Four of the sites are on Native American tribal lands. The sand-like tailings are the byproduct of the uranium milling operation. In many cases, these tailings were stockpiled on the milling sites. In some cases, because the hazards of using the tailings were not fully understood, tailings were used as fill and as a building materials component.

The UMTRA PO's mission is to achieve the UMTRCA standards established by the U.S. Environmental Protection Agency (EPA) while protecting public health and safety and the environment. The safety and health of workers must be ensured while complying with all Federal, state, and local laws, regulations, orders, and requirements. The UMTRA Project has two parts: surface remediation (UMTRA-S Project) and groundwater compliance (UMTRA-G Project). These are treated as one installation under the non-defense Environmental Restoration (ER) Program, and one Roadmap is developed.

Surface remediation is now complete at 10 sites. One of these completed sites was licensed in fiscal year (FY) 1993. Construction is under way at eight sites, and the remaining six are in the final stages of planning. The DOE acts as a partner with the affected states and Indian tribes. The states pay 10 percent of the remedial action costs for sites and VPs within the state, while the DOE pays 90 percent. Costs for the cleanup on tribal lands are funded 100 percent by the DOE.

Work began in FY1992 on the groundwater Programmatic Environmental Impact Statement (PEIS). A notice of intent (NOI) to prepare the PEIS was published in the *Federal Register*. The NOI contained the proposed action and notice of scoping meetings. The UMTRA Project reached a major milestone in FY1993 with the completion of the scoping activities for the PEIS and the completion of an implementation plan. Site characterization work and baseline risk assessment also began in FY1993.

Stabilizing and isolating tailings from the environment removes the primary potential source of contamination to the groundwater. Tailings remediation and groundwater compliance at each site requires a remedial action plan (RAP) approved by the state or tribe and the U.S. Nuclear Regulatory Commission (NRC); an environmental assessment (EA) or environmental impact statement (EIS); design/engineering, construction, surveillance, and maintenance; and licensing by the NRC.

Compliance with proposed EPA UMTRA groundwater standards will require groundwater remedial action at some sites. Upon completion of remedial action at all the UMTRA Project sites, the NRC will issue the DOE a license for the continued maintenance of the materials in the disposal cell.

An important component of the UMTRA Project is the cleanup of VPs—those residences, businesses, and open lands where uranium mill tailings blew onto the property or were used as part of construction materials. The DOE is responsible for more than 5000 VPs.

Roadmap methodology

The DOE Program Office of Environmental Restoration and Waste Management (EM) directed that all projects under its authority develop roadmaps for their activities. The UMTRA PO prepared a single roadmap for both the UMTRA-S and UMTRA-G Projects with input from contractors, states, tribes, regulatory agencies, and DOE-EM management. These environmental cleanup goals will be reached through cooperative efforts involving the public, states, tribes, government agencies, industry, and other stakeholders.

Roadmap development is a planning process that focuses on issue identification, root-cause analysis, and issues resolution. The methodology is divided into three phases: assessment, analysis, and issues resolution (Figure 1.1). Key to the process is stakeholder involvement. Additional requirements include the nine-step process, human resource projections, land use planning, an increased emphasis on technology, safety, and health, and an issues priority system.

Groundwork for the 1993 Roadmap included core group planning, strategy, and requests for comments on the 1992 Roadmap from UMTRA Project stakeholders. An assessment brainstorming session followed involving approximately 10 participants. Individual components included assumption lists, regulatory drivers, committed milestones, and opportunities for public participation. These are provided in Sections 3.0 through 7.0 of this document. The additional information requested by DOE-Headquarters on human resource requirements, linkage of roadmaps to activity data sheets (ADS), and land use planning have been attached as addenda.

UMTRA Project decisions are responsive to the needs of a wide number of stakeholders. The public has an interest in learning about the UMTRA Project and providing comments about the activities and costs of environmental restoration. In addition to individuals, UMTRA Project stakeholders include states and tribal governments. Each seeks to maintain a degree of control and oversight of UMTRA activities. The UMTRA Project values this input and recognizes that all decisions and actions must be responsive to stakeholder needs. The Project works as a team with Federal agencies, government organizations, and individual stakeholders to pursue our goal to eliminate risks to human health, safety, and the environment.

FROM DOE, 1993.

2.0 LIST OF DEFINITIONS AND ACRONYMS

2.1 DEFINITIONS

Colorado Department of Health (CDH) – The state regulatory body carrying out the state's responsibilities for the nine Colorado UMTRA sites.

Commingled wastes – A combination of residual radioactive materials and hazardous or toxic wastes. In addition to UMTRCA, Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA) regulations may apply to commingled wastes.

Disposal site – The location where the permanent disposal cell is constructed. In cases where the tailings are stabilized in place or stabilized on the site, it will be the same as the processing site, though the legal boundaries may still be changed. It was originally planned that most tailings piles would be stabilized at the mill site; however, changing regulations have necessitated relocating many of the piles to new sites. This has resulted in significant new scope and cost growth in the project.

Federal Facilities Compliance Agreement (FFCA) – A negotiated agreement between the DOE and the appropriate EPA region, which can include the affected state or tribe if it chooses to participate. The FFCA covers the DOE's commitment to comply with environmental regulations enforceable by the EPA or by the state for the EPA.

Grand Junction Projects Office (GJPO) – The DOE office in Grand Junction, Colorado, that is responsible for the Grand Junction VP remediation and the long-term maintenance of all UMTRA Project disposal cells.

Hazardous waste – A solid waste or combination of solid wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may contribute to mortality or serious illness or pose a substantial risk to human health or the environment.

National Emission Standards For Hazardous Air Pollutants (NESHAP) – EPA standards for air pollutants that may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible or incapacitating reversible illness.

National Environmental Policy Act (NEPA) – A national law passed to evaluate the effects on the environment (including human environment) of proposed projects that would take place on Federal land or use Federal money.

Out years – Budget years beyond the current budget planning year, which for FY1993 is FY1995.

Post-cell closure plan – A plan for the disposal of VP materials that are discovered or identified as in need of disposal after the local UMTRA Project disposal cell is closed.

Processing or mill sites – The locations where uranium ore was milled to remove the uranium. For the purposes of this document, these terms refer to the 24 inactive UMTRA Project sites designated by Congress. Most of the milling processes removed only about 2 percent of the volume of ore entering the mill; the rest remained as tailings. The milling process often used either sulfuric or nitric acid to reduce the ore, resulting in large quantities of nitrates and sulfates in the tailings piles and sometimes in groundwater.

Remedial Action Contractor (RAC) – The contractor responsible for the final design and construction (through subcontractors) of the UMTRA-S work. No RAC has been selected for the UMTRA-G. The current RACs are RUST-Geotech for the VPs located in Grand Junction, Colorado, and MK-Ferguson for all other surface remediation.

Residual radioactive materials (RRM) – As defined in UMTRCA, radioactive materials resulting from the milling of uranium ore; these materials are principally tailings as well as windblown or waterborne soil contamination.

Resource Conservation and Recovery Act (RCRA) – A regulatory statute designed to provide control of hazardous wastes.

Stabilized in place (SIP) – A process in which the tailings piles are reshaped and encapsulated at their current location, the designated former processing or mill site.

Stabilized on site (SOS) – A process in which the tailings piles may be moved from their current position but remain within the designated former mill site boundaries.

Supplemental standards – An alternate cleanup standard that legally permits regular cleanup standards to be set aside in cases where remedial action poses an excessive risk to humans or the environment, or costs too much relative to long-term benefits. An example would be to apply supplemental standards to steep slopes or heavily wooded riverbanks.

Technical Assistance Contractor (TAC) – The contractor responsible for preparing conceptual designs, NEPA documentation, remedial action plans, and various programmatic documents. The same contractor is responsible for both the UMTRA-S and UMTRA-G Projects. The incumbent team comprises Jacobs Engineering Group Inc. (JEG); Roy F. Weston; Sergeant, Hauskins, and Beckwith; and Geraghty and Miller.

Toxic Substances Control Act (TSCA) – The Federal law covering the disposal of polychlorinated biphenyls and dioxins.

Tribes – The Hopi tribe in Arizona and the Navajo Nation in Arizona, New Mexico, and Utah, both of which have UMTRA Project sites on their tribal lands. The Riverton, Wyoming, site is surrounded by the Arapaho-Shoshone reservation.

Uranium Mill Tailings Radiation Control Act (UMTRCA) – The legislation, PL 95-604, directing the cleanup of certain designated inactive uranium mill sites. The DOE is responsible for the 24 Title I sites, those that have ceased operation; the mill owners are responsible for Title II sites, which are still licensed to operate.

Vicinity properties (VP) – Properties outside of the designated former mill site boundary contaminated by mill tailings, whether through wind distribution or through use of tailings as construction or fill materials. These frequently present a greater health hazard than the processing sites, since radon gas migrates into potentially occupied, confined spaces in homes or other structures.

Water rights – The right to use or consume water. The rights differ substantially from state to state. The DOE may have to acquire water rights on the open market for some groundwater cleanup activities.

2.2 ACRONYMS

ACL	alternate concentration limit
ADS	activity data sheet
AL	DOE Operations Office, Albuquerque
ALUM	activity data sheet designation for Albuquerque Operations Office, UMTRA
BMP	best management practice
CDH	Colorado Department of Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CP	DOE-HQ Office of Congressional and Intergovernmental Affairs
CPD	Contracts and Procurement Division, DOE-AL
CR	DOE-HQ Chief Financial Officer
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy Headquarters
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
EA	environmental assessment
EM	DOE-HQ Assistant Secretary for Environmental Restoration and Waste Management
EPA	U.S. Environmental Protection Agency
ES&H	Environment, Safety and Health, DOE-HQ
FFCA	Federal Facilities Compliance Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FM	Office of Field Management, DOE-HQ
FY	fiscal year
GJPO	U.S. DOE Grand Junction Projects Office, Grand Junction, Colorado
LLW	low-level waste
MOU	memorandum of understanding
NDSHD	North Dakota State Health Department
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards For Hazardous Pollutants
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List (Superfund)
NRC	U.S. Nuclear Regulatory Commission
OCC	Office of Chief Counsel, DOE-AL
ORNL	Oak Ridge National Laboratory
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement (for UMTRA-G Project)

PL	Public Law
PMS	Project Management System
PO	Project Office
RAC	Remedial Action Contractor
RADCON	radiological control
RCRA	Resource Conservation and Recovery Act
RID	regulatory identification document
RRM	residual radioactive materials
SAIC	Science Applications International Corporation
SAR	safety analysis report
SARA	Superfund Amendments and Reauthorization Act
SIP	stabilized in place
SOS	stabilized on site
TAC	Technical Assistance Contractor
TSCA	Toxic Substances Control Act
T/S/D	transportation, storage, and/or disposal (of hazardous waste)
UMTRA	Uranium Mill Tailings Remedial Action
UMTRA-G	UMTRA Groundwater Compliance (Project)
UMTRA PO	U.S. DOE UMTRA Project Office
UMTRA-S	UMTRA Surface Remediation (Project)
UMTRCA	Uranium Mill Tailings Radiation Control Act
VP	vicinity property
WIPP	Waste Isolation Pilot Project

3.0 PUBLIC PARTICIPATION, COMMUNICATION, AND INVOLVEMENT

3.1 OBJECTIVE

This plan provides a framework for maintaining two-way communication about the UMTRA Project 1993 Roadmap with key audiences for 24 UMTRA Project site communities. The Roadmap develops issue-based planning activities necessary for successful project completion. It is the DOE's goal to create an open and accessible decision-making process that results in decisions that are technically and economically feasible, environmentally sound, and health and safety conscious. Decisions must also address public values and concerns and must be able to be implemented.

3.2 AUDIENCE

- Concerned state agencies.
- Concerned Federal agencies.
- Navajo, Hopi, Arapaho, and Shoshone tribal government representatives.
- Members of UMTRA Project site communities.
- Landowners in the vicinity of UMTRA Project sites.
- Interested members of Congressional delegations in UMTRA Project site communities.
- Interested officials in UMTRA Project site communities, including mayors and city council members.
- News media in UMTRA Project site communities.
- National and international organizations with an interest in uranium mill site cleanup.

3.3 STRATEGY

The overall strategy is to use a variety of communications tools to keep the public informed of Roadmap activities and to listen responsively to public concerns through each step of the process. A successful program will build trust; provide time for the public to help shape the DOE's decisions; educate the public as to specific requirements, risks, and alternatives; and solicit questions, concerns, and suggestions so they can be incorporated in the DOE decision-making process before a decision is made.

Public participation activities for the Roadmap will be combined with other public participation efforts. During this process, the communications methods outlined in Section 3.5 will be implemented.

A two-way communication format will be adopted for meetings, maximizing interaction between the DOE and the public. Strategies employed for communications with the public by the UMTRA Project will focus on building goodwill.

3.4 MESSAGE

The following messages are elements of the continuing public participation program for the UMTRA Project. These messages will be incorporated in written materials and in oral presentations concerning roadmapping.

- Public participation is critical in identifying to decision-makers the key concerns and issues that may affect Project success.
- Public involvement is essential to the Roadmap process.
- Roadmaps, with their emphasis on issue identification, offer a good means for public involvement.

3.5 METHODS

3.5.1 Written materials

- Letters as appropriate will be developed and distributed periodically to interested target audiences with updated information on DOE activities.
- News releases concerning DOE activities will be released to individuals on the UMTRA Project mailing lists.
- Display ads will be placed in appropriate publications prior to public meetings listing the dates, times, and locations of the meetings.
- Visual aids will be developed as needed to inform and educate the public.

3.5.2 Public meetings

- Regular public meetings will be held in UMTRA Project site communities. These meetings will be conducted in conjunction with media briefings and news release distribution to maximize interaction opportunities between the DOE and the public.
- In communities where citizens' advisory groups are active, Roadmap progress and issues will be discussed at these meetings. In communities where there is no active advisory group, an assessment will be made of the need to form one.
- Two-way dialogue meetings will be held in UMTRA Project site communities with members of the advisory groups and other interested citizens.

3.5.3 Governmental relations

- Briefings will be held with community leaders during the process.
- The DOE Headquarters Assistant Secretary for Congressional Intergovernmental and International Affairs will notify Congressional offices in Washington, D.C., of schedules and meetings.
- The DOE Albuquerque Operations Office's Office of Intergovernmental and External Affairs and DOE-EM will be informed regularly of planned attendance from any of the above-referenced offices.

3.5.4 Media relations

- Media briefings will be conducted to keep interested members of the press current on DOE activities.
- Public service announcements will be sent to the electronic media informing the public of the release of documents, meetings, and milestones.
- On-air media interviews will be scheduled when and where appropriate.
- News releases will be prepared and distributed to announce milestones and meetings.

3.5.5 Public comment opportunities

- The UMTRA Project toll-free 800 telephone lines will be used to solicit and answer questions from the public. In New Mexico, the public can call 1-800-423-2539. In other states, the public can call 1-800-523-6495.
- The public will be given opportunities to comment on the Roadmap at public meetings at UMTRA Project sites. All comments will be considered and addressed in the next Roadmap.
- Public requests for information will be handled promptly.

3.5.6 Other strategies

- Translations of materials intended for use by the Navajo Nation will be provided on audiocassette tapes.
- Copies of the Roadmap will be distributed to all Project participants, regulatory agencies, states, and tribes and on request. Copies will be sent to DOE reading rooms.

4.0 ASSUMPTIONS

4.1 INTRODUCTION

The assumptions list in Section 4.2 was first generated during a brainstorming session attended by the RAC, TAC, and GJPO in 1992. They were reorganized and revised in 1993 to conform to the standard DOE-HQ categories and subcategories.

4.2 UMTRA ROADMAP ASSUMPTIONS

4.2.1 Institutional

A. Federal government

1. An amendment to the UMTRCA to extend the UMTRA-S Project authorization through FY1998 will become law by September 30, 1996.
2. Cleanup of UMTRA-S VPs beyond FY1998 will be the responsibility of a program other than UMTRA.

B. Department of Energy

1. General policies (from DOE-EM Strategic Plan)
 - a) DOE-EM will continue to place the highest priority on protecting the health and safety of DOE employees, contractors, and the general public and is committed to complying with all applicable environmental regulations, standards, and agreements.
 - b) Activities that will significantly affect the evolution of the DOE-EM program include the following:
 - The reconfiguration of the weapons complex that will occur during the next decade.
 - The DOE-EM PEIS.
 - The Defense Program PEIS for Complex-21.
 - Implementation of the FFCA requirements.
 - Development of site-specific land use plans and the establishment of cleanup standards.
 - c) DOE-EM will continue to operate in a resource-constrained environment. Given the size and scope of the DOE-EM mission, the demand for funding, personnel, and equipment may exceed what is available to meet program commitments.
 - d) Over the long term, DOE-EM will develop technically adequate, managerially sound, and publicly acceptable solutions to the DOE's environmental problems.

2. Transportation, storage, and/or disposal (T/S/D) policies
 - a) Commercial T/S/D facilities will continue to be used for DOE hazardous waste.
 - b) Radioactive waste will be disposed of only at DOE sites.
3. UMTRA-specific policies
 - a) The UMTRA-G Project will be supported at the highest level of DOE management.
 - b) There will be further programmatic reviews, audits, and self-assessments.

C. UMTRA Project Office

1. As stakeholders in the UMTRA Projects, the DOE, states, tribes, NRC, EPA, and Congress all influence Project policy and conduct.
2. Roles and responsibilities as defined for UMTRA-S are applicable to UMTRA-G.
3. The UMTRA PO does not have responsibility for long-term custody of UMTRCA Title II (active) sites.

D. Third party/public

1. As UMTRA stakeholders, communities near the UMTRA Project sites expect timely compliance with the UMTRCA standards and equitable treatment.
2. Access to adjacent private properties underlain by groundwater contamination plumes will be negotiated, as required, for UMTRA-G.
3. The UMTRA PO will seek public participation in the development of the risk-based assumptions for the UMTRA-G Project before environmental options are selected for the sites.
4. It is expected that the existing agreements among the UMTRA PO, Federal, state, tribal, or local governmental agencies will remain the same. The public will continue to be represented through the cooperative agreements, state/tribal participation, and local agreements.
5. The level of public, press, and Congressional interest in UMTRA Project activities will not decrease. The UMTRA Project will fully implement all DOE-EM public participation guidance and procedures.

E. States/tribes

1. State and tribal agencies will continue to take an active role in ensuring site cleanup.
2. State, local, and tribal governments will enforce agreed-upon institutional controls.
3. Existing and future cooperative agreements represent commitments to complete the UMTRA-S and UMTRA-G Projects.
4. Final determination for cost-shared items will be made by the DOE-AL Contracting Officer.
5. States and tribes will participate in groundwater activities as specified in the UMTRCA.
6. The UMTRA PO will encourage states and tribes to participate in the UMTRA-G PEIS, as well as the site-specific UMTRA-G NEPA processes.
7. Acquisition of water rights will require cooperation among Federal, state, and tribal governments.
8. There will be no major reorganization or restructuring of state agencies requiring revision of UMTRA Project plans and reporting standards.
9. Changes in state administration will not result in significant reinterpretation of clauses in existing agreements.

4.2.2 Regulatory compliance

A. General

1. The UMTRA Project will comply with applicable Federal, state, tribal, and local laws and regulations and DOE Orders.
2. New laws and regulatory requirements will be addressed in Roadmap updates.
3. The UMTRCA will continue to be the primary regulatory driver.
4. No UMTRA Title I sites will appear on the National Priorities List (NPL) or state Superfund lists.
5. Federal groundwater protection standards (40 CFR 192) will take precedence over state groundwater standards.
6. The NRC, EPA, states, and tribes will continue to accept the Secretary's determination of what constitutes residual radioactive materials (RRM).

7. The UMTRA Project will continue to adhere to regulations governing regulated wastes.
8. Compliance with current laws, orders, regulations, audit findings, and site policies will continue to drive current budget planning and activities.
9. Reviews of current agreements will not result in drastically different interpretations or legal precedents.
10. No future audit teams or regulators will generate significant new compliance requirements.

B. Federal

1. U.S. Department of Energy
 - a) DOE-EM will complete site remediation of contaminated areas identified as of 1989 by the year 2019.
 - b) Permission from DOE-HQ to enter into FFCAs will be timely.
 - c) UMTRA Project sites are classified as nonreactor nuclear facilities.
 - d) The UMTRA PO proposed the appropriate level of compliance with DOE Order 5480.23 concerning safety analysis reports (SAR) to DOE-HQ in FY1994.
 - e) NEPA documents will be prepared, as required.
2. U.S. Nuclear Regulatory Commission
 - a) Supplemental standards will be approved in accordance with EPA regulations.
 - b) UMTRA-S and UMTRA-G actions will continue to be planned, budgeted, and performed as separate, but complementary and supporting, activities.
 - c) Maximum concentration limits (MCL), supplemental standards, and alternate concentration limits (ACL) for groundwater constituents are viable compliance alternatives.
 - d) Decisions related to active processing sites under Title II of the UMTRCA will have no impact on the UMTRA Project.
 - e) The primary regulator for UMTRA-G will be the NRC.
 - f) It will be possible to modify the NRC memorandum of understanding (MOU) to accommodate UMTRA-G.

3. U.S. Environmental Protection Agency

- a) The UMTRA Project will continue to perform remedial actions according to the proposed groundwater protection standards (52 FR 36000, September 24, 1987) until the final standards are issued.
- b) The final UMTRA groundwater protection standards will not significantly affect either UMTRA-S or UMTRA-G.
- c) The UMTRA-S Project will enter into compliance agreements with EPA Regions VI, VIII, and IX on National Emission Standards for Hazardous Pollutants (NESHAP) Subpart T as soon as possible. States and tribes owning the affected sites will be encouraged to participate in the agreements.

4. Other Federal agencies

- a) UMTRA-S will continue to operate under the existing exemptions to U.S. Department of Transportation (DOT) hazardous materials and hazardous substance transportation regulations.
- b) UMTRA-G program can comply with DOT regulations without additional exemptions.
- c) U.S. Department of Interior (DOI) and other Federal agencies will participate in accordance with the UMTRCA.

C. UMTRA Project Office

- 1. UMTRA-G will tier site-specific EAs off of the groundwater PEIS.
- 2. The UMTRA Project will not be required to pay any significant fines or penalties.

D. State/tribal

- 1. DOE policies relevant to the cleanup and control of RRM (e.g., post-UMTRA policy, commingled waste policy, and the definition of RRM) will be accepted by state, tribal, and local governments in accordance with the UMTRCA.
- 2. Participating states and tribes will not impose new regulations restricting the shipment or disposal of UMTRA RRM; existing regulatory mechanisms will continue to be used.
- 3. States, tribes, and the DOE will voluntarily sign FFCAs for sites affected by NESHAP.

4. The DOE will manage commingled waste consistent with the RCRA and TSCA and state hazardous waste regulations for the UMTRA-S and UMTRA-G programs.
5. Cleanup of VPs will not go beyond the EPA requirements.
6. The states or the EPA will enforce hazardous waste regulations.
7. State, tribes, and local governments will cooperate in obtaining the permits for construction in a timely manner.
8. States and tribes will ensure that the DOE has access to those processing sites from which tailings have been removed for as long as monitoring is required.

E. Third party/public

1. The UMTRA Project will follow all DOE guidance concerning public participation and will comply with all NEPA public participation requirements.

4.2.3 Project management

A. Resources

1. Until the UMTRCA is extended through FY1998, UMTRA-S contracts cannot be let beyond FY1996.
2. No disruption of work will occur as a result of contracting activities.

B. External support

1. Waste disposal capacity will be available when needed (from DOE-EM Strategic Plan).
2. The procedure for obtaining MCLs, ACLs, and supplemental standards will be agreed upon by the states, tribes, DOE, and NRC before the groundwater remedial action plans are prepared.
3. The UMTRA-G cooperative agreements will be in place in time for scheduled groundwater compliance activities.
4. State funding will be available in a timely manner and at the level required. Contingency plans will be used if this is not the case.

C. Technical support

1. Appropriate technologies will be available to handle waste generated by environmental restoration and waste management activities (from DOE-EM Strategic Plan).
2. Technologies will be developed in the private sector wherever possible (from DOE-EM Strategic Plan).
3. Oak Ridge National Laboratory's (ORNL) VP inclusion work on the UMTRA-S project will be completed by June 1997.
4. The minimal wastes generated by the UMTRA Project are disposed of cost-effectively.
5. Technology exists to successfully achieve UMTRA-G.
6. The UMTRA PO will choose cost-effective technologies to meet standards while remaining protective of human health and the environment.

D. Budget process

1. Annual funding will be constrained to increases for inflation plus 3 percent for real growth (from DOE-EM Strategic Plan).
2. The UMTRA PO must carry over into each new fiscal year enough funds to prevent contractor or subcontractor termination if Federal funding is not received in a timely manner.

E. Project baselines

1. UMTRA-S construction will be completed by the end of FY1996, with the possible exception of keeping the disposal cell at Grand Junction, Colorado, open.
2. A post-UMTRA VP cleanup plan will be completed by FY1995 (with the possible exception of commingled wastes).
3. The Subpart A phase of site licensing will be completed for all surface remedial actions by the end of FY1998. The Subpart B phase of licensing for stabilized-in-place (SIP) and stabilized-on-site (SOS) sites will be accomplished at the end of the UMTRA-G program.
4. The UMTRA-G PEIS will be successfully completed and approved by the end of FY1994.
5. The transfer of long-term custodial care responsibility for the UMTRA Project disposal sites to the GJPO will be completed by the end of FY1998.

6. UMTRA-S and UMTRA-G schedules contain sufficient lead time for the necessary review and concurrence process for the site-specific NEPA documents.
7. Work planned for the out-years will be accomplished on schedule, utilizing all approved funds.
8. Site remediation currently in process will be completed.

F. Site-related

1. Completed sites will not have to be significantly reworked.
2. No substantial new volumes of RRM will be identified.
3. Present UMTRA-S site characterization data are adequate to estimate surface remedial action budgets and define cleanup requirements.
4. Present UMTRA-G site characterization data are adequate for a preliminary planning of UMTRA-G and environmental options.
5. Groundwater restoration may be required at some VPs.
6. No new substantial volumes of commingled wastes will be identified during UMTRA-S.

4.2.4 Human resource requirements

- A. The UMTRA PO will have sufficient staffing to manage the Projects with the work being carried out by the contractors.
- B. The DOE will continue to pursue enhanced staffing levels to carry out increased Project responsibilities.

4.2.5 Other site-specific assumptions

- A. CDH will approve the National Pollutant Discharge Elimination System (NPDES) permit extension at Durango, Colorado.
- B. Flood control construction at Belfield, North Dakota, will not affect UMTRA Project remedial action.
- C. All Grand Junction, Colorado, VP tailings included as of February 1993 were in the state repository June 30, 1993, except for commingled waste. VPs identified after that date will have the associated RRM taken directly to the Cheney disposal cell.

- D. CDH and NRC will not determine whether to apply supplemental standards to Grand Junction utility lines until a post-UMTRA plan is accepted by all parties.
- E. VPs will be cleaned up under existing UMTRCA standards.

5.0 REGULATORY DRIVERS

5.1 INTRODUCTION

The UMTRA Project is directly driven by the UMTRCA, its amendments, and EPA standards mandated by UMTRCA (40 CFR 192) (refer to Section 1.0 for a brief description). The Project must adhere to many other regulatory requirements as well.

The UMTRA Project has an *Environment, Safety, and Health (ES&H) Operating Envelope* that determines the applicability of several thousand regulations to the UMTRA Project. In turn, each UMTRA site will have its own regulatory identification document (RID) describing the applicable regulations specific to that site.

The regulations listed below are the major regulatory drivers on the UMTRA Project. The list is not intended to be exhaustive; rather, it specifies the key regulatory requirements, broken into subject matter categories. A complete list of Federal, state, and local regulations is too lengthy to be included in this document but is available through the UMTRA PO.

5.2 REGULATORY REQUIREMENTS

5.2.1 Programmatic

10 CFR 1021, *DOE Implementation Regulations*

40 CFR 192, *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings*

40 CFR 280, *Underground Storage Tanks*

40 CFR 370 and 355, *Superfund Amendments and Reauthorization Act (SARA) Requirements*

DOE Order 4700.1, *Project Management System*

DOE Order 5400.1, *General Environmental Protection Program*

DOE Order 5000.3B, *Occurrence Reporting and Processing of Operations Information*

DOE Order 5400.2A, *Environmental Compliance Issues Coordination*

DOE Order 5440.1D, *National Environmental Policy Act Compliance Program*

DOE Order 5480.1B, *Environmental Safety, and Health Program for DOE Operations*

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*

DOE Order 5480.4, *Environmental Protection, Safety, and Health Standards*

DOE Order 5482.1B, *DOE ES&H Appraisal Program*

DOE Order 5484.1, *Environmental Program, Safety and Health Protection Information Reporting Requirements*

DOE Order 5500.2B, *Emergency Categories, Classes, and Notification and Reporting Requirements*

DOE Order 5480.23, *Nuclear Safety Analysis Reports*

DOE Order 5700.6C, *Quality Assurance*

5.2.2 Health and safety

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

29 CFR 1926, *Safety and Health Regulations for Construction*

49 CFR 370/372, *Reporting Requirements for Hazardous and Toxic Releases, Community Right-to-Know*

DOE Order 5400.5, *Radiation Protection*

DOE Order 5480.9, *Construction Safety and Health*

DOE Order 5480.10, *Contractor Industrial Hygiene Program*

DOE Order 5480.11, *Radiation Protection for Occupational Workers*

DOE Order 5480.17, *Site Safety Representatives*

5.2.3 Air

40 CFR 50 and 61, *Clean Air Act Implementing Regulations*

40 CFR 763, *Asbestos/Asbestos Hazard Emergency Response Act*

5.2.4 Soils, sediments, and biota

40 CFR 300, *National Oil and Hazardous Substances Pollution Contingency Plan*

DOE/EH-073-T, *DOE Guidance for Radiological Effluent Monitoring and Environmental Surveillance*

5.2.5 Surface water

40 CFR 112, *Oil Pollution Prevention*

40 CFR Parts 122, 123, 124, and 125, *NPDES Permit Requirements*

5.2.6 Groundwater

40 CFR 264, *Hazardous Waste Management Regulations for T/S/D.*

52 FR 36000, *Proposed Groundwater Protection Standards for UMTRA*

DOE Order 5400.4, *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Requirements*

5.2.7 Waste management

40 CFR 260-268, *Hazardous Waste Management Regulations*

DOE Order 5400.3, *Hazardous and Radioactive Mixed Waste Program*

DOE Order 5820.2A, *Radioactive Waste Management*

5.2.8 Toxic and chemical materials

29 CFR 1910, *Occupational Safety and Health Administration (OSHA) Regulations*

40 CFR 112, *Oil Spill Prevention*

40 CFR 165, *Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Regulations*

40 CFR 370 and 372, *Reporting Requirements for Hazardous and Toxic Releases, Community Right-To-Know*

40 CFR 761, *TSCA-PCB Regulations*

DOE Order 5480.4, *Environmental Protection, Safety and Health Standards*

5.2.9 Radiation

40 CFR 61 Subpart T, *National Emission Standards for Radon Emissions from the Disposal of Uranium Mill Tailings*

49 CFR 173, *General Requirements for Shipments and Packages*

5.2.10 Long-term care

10 CFR 40, *Custody and Long-Term Care of Uranium and Thorium Mill Tailings Disposal Sites*

5.2.11 Transportation

49 CFR Parts 100-178

49 CFR 383-399

5.3 REGULATORY AUTHORITIES

DOE, EPA, NRC, DOT, states, and tribes

5.4 REQUIREMENTS

1. Comply with applicable regulations, orders and policies.
2. Protect human health and the environment.
3. Develop and implement environmental protection plans.
4. Minimize any unavoidable environmental impacts.
5. Monitor facilities and the environment.

5.5 STATUS

The Project is in substantial compliance with its regulatory requirements. The Project is also implementing corrective actions resulting from environmental audits conducted by DOE's Office of Environmental Audit in the summer of 1991 and fall of 1992.

6.0 LOGIC DIAGRAMS

A generic sequence of required activities to accomplish the UMTRA-S and UMTRA-G missions from initial characterization through cleanup and licensing are provided in the logic diagrams in Figures 6.1 and 6.2.

PROCESSING SITES

VICINITY PROPERTIES

FIGURE 6.1
UMTRA SURFACE LOGIC DIAGRAM

FIGURE 6.2
UMTRA GROUNDWATER LOGIC DIAGRAM

7.0 MILESTONES

Figure 7.1 presents the major milestones for the UMTRA-S and UMTRA-G Projects. The milestones shown for the UMTRA-S Project are contingent on the extension of UMTRCA through 1998. The UMTRA-S milestones are those monitored by DOE-HQ. The only committed milestones for the UMTRA-G Project are Key Decision 0, which approved the mission need, and the completion of the PEIS.

8.0 ISSUES DEFINITION, ANALYSES, AND ACTIVITIES

The UMTRA Project FY1993 Roadmap process has identified 10 primary issues and 19 secondary issues. Some issues can be resolved within the UMTRA PO; some will require action on the part of DOE-HQ; and one issue, the extension of UMTRCA, requires legislative action.

The issues were identified by a team representing the same organizations that assembled the assumptions list. A brainstorming session was held with the UMTRA Project Manager, DOE, and contractor representatives. Comments on the 1992 Roadmap issues were considered by the team and incorporated as appropriate. Changes from the issues identified in the FY1992 Roadmap included the combining of two issues (UPO92-7.0 and UPO92-9.0); the formal incorporation of issue UPO92-10.0; the addition of a single new FY1993 issue (UPO93-1.0); and the reprioritization of all of the issues.

The UMTRA issues have been given unique identifications that link the installation (UPO = UMTRA PO), the fiscal year (FY1992, 1993, etc.), the issue (primary issues 1 through 10), and the sub-issue level. Issues identified in 1992 retain their UPO92 identifier but have been updated and have new priority designations (8.1, 8.2, etc.). For example, issue UPO92-3.A1 refers to the first secondary issue related to UMTRA Project FY1992 primary issue number 3. When the issues were reexamined or identified for FY1993, FY1992's number 3 priority moved to FY1993 priority number 6. This numbering system provides a cross-walk to track the changes in priorities from year to year. The order in which the issues are presented in Table 8.1 and Section 8.0 reflect the current year's issue priority ranking.

The issues have all been tied to the ADSs that they affect or that include the activities necessary to resolve the issue. Most of the remaining surface remedial actions are subject to at least one issue.

The UMTRA-G Project continues in its early stages of formulation. The issues that affect it are therefore not extremely specific but reflect the uncertainty as to the roles various organizations will take.

The issues were prioritized based on DOE-EM's Five-Year Plan prioritization. All UMTRA-S ADSs are priority 1 because the UMTRA-S Project is ongoing and currently funded. The UMTRA-G Project is priority 3 because it is needed to comply with existing Federal laws and regulations, but not necessarily to prevent near-term adverse impacts to the public or the environment, as is the case with the UMTRA-S Project. The issues are further listed in priority order. Primary Issue 1 is the UMTRA PO's top priority.

Al Chernoff, UMTRA Project Manager (505-845-5762), and Nancy Lindas, UMTRA Project Planning Officer (505-845-5666), are the primary contacts for all of the UMTRA PO issues.

Table 8.1 Issues summary

FY1993					
Priority No.	Primary	Secondary	Tertiary	Issue	
1	UPO92-1.0			LACK OF SUFFICIENT HUMAN RESOURCES: The UMTRA Project Office lacks sufficient human resources to perform a top-quality, effective, and efficient job of completing the UMTRA-S Project by September 1998 and to initiate the UMTRA-G Project effectively and efficiently, while ensuring compliance with all applicable regulations and DOE Orders.	
		UPO92-1.A1		Personnel ceilings for DOE-EM Program field personnel are limiting ability to hire adequate numbers of DOE personnel to perform the independent evaluation and assessment of all ES&H activity, as required by the letter and spirit of DOE Order 5400.1 and by findings in the FY1991 Environmental Audit (DOE/EH-0209), the FY1992 Environmental Management Audit, and the investigation of the fatal accident at the Grand Junction site.	
		UPO92-1.A2		Trained, experienced DOE personnel leave the Project because of workload demands and pressures brought about by the small Project staff and because of limited career opportunities.	
		UPO92-1.A3		Matrix support from DOE-AL, especially legal and contracts, is frequently not available in a timely manner to support the UMTRA PO because there is not enough ceiling for DOE-AL's increased DOE-EM workload. Defense Program ceiling decreases at DOE-AL contribute to the problem since matrix positions are under DP ceiling.	

Table 8.1 Issues summary (Continued)

FY1993					
Priority No.	Primary	Secondary	Tertiary	Issue	
		UPO92-1.B1		Trained contractor and DOE personnel are required to support and respond to an increasing number of audits and regulatory and administrative requirements while carrying out the primary UMTRA mission of environmental restoration (see also next issue).	
2	UPO93-1.0			INCREASING DOE AND REGULATORY REQUIREMENTS: Increasing number of DOE and regulatory requirements interpreted to apply to both UMTRA Projects restrict flexibility, create redundancy in compliance and reporting activities, and increase costs on the Project. New compliance requirements potentially delay remedial action.	
		UPO93-1.A1		The UMTRA Project is currently classified as a "nonreactor nuclear facility," which dictates compliance with many inappropriate, costly regulations. Remediation projects classified as such must follow many health and safety regulations, in addition to those required by DOE Orders, which are not appropriate for remediation projects.	
		UPO93-1.B1		Implementation of the radiological control (RADCON) manual will require a substantial increase in funding for implementation, training, and compliance activities.	
		UPO93-1.C1		Implementation of DOE Order 5483.XX, (Draft) Occupational Safety and Health program for DOE contract employees, will require additional staffing, increase costs, and delay progress of the UMTRA Project.	

Table 8.1 Issues summary (Continued)

FY1993 Priority No.	Primary	Secondary	Tertiary	Issue
3	UPO92-5.0			UNRESOLVED GROUNDWATER ISSUES: Project cooperative agreements have to be revised or initiated for UMTRA-G with respective states and tribes. Some augmentation or revisions to current UMTRA-S cooperative agreements are required for the UMTRA-G Project.
		UPO92-5.A1		Application of proposed EPA groundwater standards to VPs has not been addressed. Detailed assessment, monitoring, identification of listed constituents, and establishment of groundwater standards will be required at those VPs that have a significant potential for groundwater contamination.
4	UPO92-6.0			EXTENSION OF UMTRCA THROUGH SEPTEMBER 30, 1998: The UMTRA-S Project cannot be completed by the Congressionally mandated September 30, 1996, termination date.
		UPO92-6.A1		Conditions that have developed since passage of UMTRCA raise issues the current law does not resolve.
5	UPO92-4.0			LACK OF POST-UMTRA AND POST-CELL CLOSURE POLICIES: Some states have concerns for safe and economical tailings disposal after expiration of UMTRA-S Project authority or closure of a local cell.
		UPO92-4.A1		There is a lack of a post-UMTRA disposal plan for RRM in VPs after UMTRA-S expires.

Table 8.1 Issues summary (Continued)

FY1993 Priority No.	Primary	Secondary	Tertiary	Issue
		UP092-4.A2		Lack of a post-UMTRA plan is delaying agreement to apply supplemental standards to tailings, including those used to line 70 miles of utility lines in Grand Junction, Colorado.
		UPO92-4.A3		Responsible authority and sites for disposal of RRM after the expiration of UMTRA-S Project authority are not determined.
		UPO92-4.B1		There is no comprehensive agreement between the DOE and the states for the cleanup and disposal of RRM after a local disposal cell is closed.
		UPO92-4.B2		Because an agreement is not in place, an adequate range of acceptable remedial action alternatives is not available to the states and the DOE; therefore, appropriate regulatory, engineering, and economic decisions cannot be completed for some VPs where supplemental standards may otherwise be appropriate.

Table 8.1 Issues summary (Continued)

FY1993 Priority No.	Primary	Secondary	Tertiary	Issue
6	UPO92-3.0			UNPREDICTABLE AMOUNTS AND TIMING OF FEDERAL FUNDING: Unpredictable amounts and timing of Federal funding may cause delays in remediation schedules and jeopardize completion of the UMTRA-S Project within the Congressionally authorized end date; result in continued public exposure to health and environmental risks; cause increased costs related to escalation; and affect UMTRA's ability to fulfill the expectations of the public, states, and tribes. Budgeting and funding is further complicated by the need to provide contingency for the risk of increase of tailings quantities and changes to regulatory requirements.
		UPO92-3.A1		Failure to maintain required funding levels may delay remedial action startup or terminate ongoing remedial actions.
		UPO92-3.A2		Uncertainty of Federal funding makes the required dates and amounts of the states' shares of funding unpredictable.
		UPO92-3.B1		Volumes and types of contaminants can only be estimated during site characterization. During remediation, increased quantities of RRM and additional contaminants may result in increased costs and schedule delays.
		UPO92-3.B2		If Federal, state, tribal, or local regulations or DOE Orders change, additional funding may be required that exceeds the current approved baseline level.

Table 8.1 Issues summary (Continued)

FY1993 Priority No.	Primary	Secondary	Tertiary	Issue
7	UPO92-7.0 and UPO92-9.0			LACK OF REGULATORY COMPLIANCE AGREEMENTS: Regulations require new agreements between DOE, states, tribes and/or Federal agencies. These agreements could increase costs and delay remedial action.
		UPO92-7.A1		Some Grand Junction, Colorado, VPs are contaminated with RRM and RCRA- and/or TSCA-regulated waste (commingled waste). Disposal of these commingled wastes must be in accordance with applicable state and Federal regulations.
		UPO92-7.B1		The UMTRA Project is not in compliance with the NESHAP, Subpart T. The DOE and EPA Region VIII have been working on an FFCA for over a year and nothing has been signed.
8	UPO92-2.0			PROBLEM WITH STATES PROVIDING THEIR SHARES OF REMEDIAL ACTION COSTS: Remediation at the North Dakota sites has been delayed because of lack of state funding, as required by UMTRCA. The North Dakota State Legislature did not appropriate funds to cover the state's 10 percent share of surface remediation costs during the 1993 session. The legislature meets every other year. The 1995 legislative session is the last opportunity for the state to provide funds. It is possible that the state of North Dakota will not be able to provide its share of funding.

FY1993				
Priority No.	Primary	Secondary	Tertiary	Issue
9	UPO92-8.0			DIFFERENT INTERESTS AND PRIORITIES AMONG PARTICIPANTS: Different interests and priorities are inevitable among the participating states, tribes, local governments, and private citizens, as well as between the participants and the DOE. The UMTRA PO must satisfactorily address these differences to complete the UMTRA mission.
10	UPO92-10.0			TECHNOLOGY DEVELOPMENT/TRANSFER: Innovative technologies can substantially improve efficiency, costs, and the effectiveness of environmental cleanup.

8.1 ISSUE UPO92-1.0: LACK OF SUFFICIENT HUMAN RESOURCES

PRIMARY ISSUE:

The UMTRA Project Office lacks sufficient human resources to perform a top-quality, effective, and efficient job of completing the UMTRA-S Project by September 1998 and to initiate the UMTRA-G Project effectively and efficiently, while ensuring compliance with all applicable regulations and DOE Orders.

SECONDARY ISSUE A:

- A.1 Personnel ceilings for DOE-EM Program field personnel are limiting ability to hire adequate numbers of DOE personnel to perform the independent evaluation and assessment of all ES&H activity, as required by the letter and spirit of DOE Order 5400.1 and by findings in the FY1991 Environmental Audit (DOE/EH-0209), the FY1992 Environmental Management Audit, and the investigation of the fatal accident at the Grand Junction site.
- A.2 Trained, experienced DOE personnel leave the Project because of workload demands and pressures brought about by the small Project staff and because of limited career opportunities.
- A.3 Matrix support from DOE-AL, especially legal and contracts, is frequently not available in a timely manner to support the UMTRA PO because there is not enough ceiling for DOE-AL's increased DOE-EM workload. Defense Program ceiling decreases at DOE-AL contribute to the problem since matrix positions are under DP ceiling.

PROPOSED RESOLUTION APPROACH:

- 1. DOE-EM – Grant additional DOE personnel ceiling for the UMTRA PO and the DOE-AL matrix organizations that support UMTRA.
- 2. DOE-AL – Allocate additional positions to the UMTRA PO and for UMTRA support.
- 3. DOE-EM and DOE-AL – Develop career ladders and recognition for DOE-EM personnel equivalent to those of longer established programs.
- 4. UMTRA PO – Continue to request additional UMTRA DOE personnel at every opportunity.
- 5. UMTRA PO – Provide any additional justification necessary for DOE-AL to support additional UMTRA DOE personnel and additional DOE-EM matrix support.
- 6. UMTRA PO – Continue to use methods of increasing personnel without increasing ceiling, such as temporary assignments, student hires, Intergovernmental Personnel Act, and others.

7. DOE-AL Personnel Division and UMTRA PO – Work to expand career ladder position descriptions.

SECONDARY ISSUE B:

- B.1 Trained contractor and DOE personnel are required to support and respond to an increasing number of audits and regulatory and administrative requirements while carrying out the primary UMTRA mission of environmental restoration (see also next issue).

PROPOSED RESOLUTION APPROACH:

1. DOE-HQ – Determine whether benefits outweigh the costs of requiring the UMTRA PO to use scarce resources on administrative work that does not directly support UMTRA's primary mission.
2. DOE-HQ – Exempt the UMTRA Project from new requirements when costs of implementation outweigh the benefits to safety, health, and the environment.
3. DOE-EM and DOE-AL – Allocate additional personnel ceiling to the UMTRA PO to meet requirements.
4. UMTRA PO – Justify exemption from requirements that do not enhance safety, health, or the environment or which do so at a cost that cannot be justified to the taxpayers.
5. DOE-HQ – Prioritize all requirements.
 - Provide reasonable time to respond to requirements.
 - Provide sufficient guidance so that the UMTRA PO can meet requirements the first time rather than continuously reworking.
6. UMTRA PO – Continue to request additional UMTRA DOE personnel.

ADSs:

All.

AFFECTED MILESTONES:

All.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

July 1994

8.2 ISSUE UPO93-1.0: INCREASING DOE AND REGULATORY REQUIREMENTS

PRIMARY ISSUE:

Increasing number of DOE and regulatory requirements interpreted to apply to both UMTRA Projects restrict flexibility, create redundancy in compliance and reporting activities, and increase costs on the Project. New compliance requirements potentially delay remedial action.

SECONDARY ISSUE A:

- A.1 The UMTRA Project is currently classified as a "nonreactor nuclear facility," which dictates compliance with many inappropriate, costly regulations. Remediation projects classified as such must follow many health and safety regulations, in addition to those required by DOE Orders, which are not appropriate for remediation projects.

PROPOSED RESOLUTION APPROACH:

1. DOE-EM – Reclassify UMTRA from a "nonreactor nuclear facility" to a "radiological facility."
2. UMTRA PO – Pursue the reclassification of UMTRA to a "radiological facility" to exempt the Project from complying with irrelevant DOE Orders and regulatory requirements.

SECONDARY ISSUE B:

- B1. Implementation of the radiological control (RADCON) manual will require a substantial increase in funding for implementation, training, and compliance activities.

PROPOSED RESOLUTION APPROACH:

1. DOE-AL and DOE-EM – Provide guidance for implementation schedule of RADCON to the UMTRA Project.
2. UMTRA PO – Determine UMTRA-specific applicability of RADCON manual.
3. UMTRA PO – Oversee the training of all staff to perform new duties in accordance with the RADCON manual.
4. DOE-AL CPD – Prepare contract modifications for RADCON scope.
5. UMTRA PO – Request funding for new scope.
6. DOE-HQ – Provide required funding.

SECONDARY ISSUE C:

- C1. Implementation of DOE Order 5483.XX, (Draft) Occupational Safety and Health program for DOE contract employees, will require additional staffing, increase costs, and delay progress of the UMTRA Project.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Monitor status and begin taking an active stance in implementing best management practices.

ADSs:

All.

AFFECTED MILESTONES:

All.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

September 1994

8.3 ISSUE UPO92-5.0: UNRESOLVED GROUNDWATER ISSUES

PRIMARY ISSUE:

Project cooperative agreements have to be revised or initiated for UMTRA-G with respective states and tribes. Some augmentation or revisions to current UMTRA-S cooperative agreements are required for the UMTRA-G Project.

PROPOSED RESOLUTION APPROACH:

1. DOE-AL and UMTRA PO – Determine changes needed to incorporate UMTRA-G or if new cooperative agreements need to be made.
2. UMTRA PO, DOE-AL, AL-OCC, and CPD – Develop cooperative agreements strategy for the UMTRA-G Project. Negotiate modified or new cooperative agreements with states/tribes.

SECONDARY ISSUE A:

- A.1 Application of proposed EPA groundwater standards to VPs has not been addressed. Detailed assessment, monitoring, identification of listed constituents, and establishment of groundwater standards will be required at those VPs that have a significant potential for groundwater contamination.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Establish an evaluation criteria framework for inclusion/exclusion of VPs for consideration.
2. DOE and NRC – Concur on VP sites chosen for groundwater characterization.
3. UMTRA PO – Conduct detailed assessment, characterization, and monitoring for those VP sites chosen by DOE and NRC.
4. UMTRA PO and NRC – Determine UMTRA-G remediation strategy for VPs.

ADSS:

All ALUM 2000.

AFFECTED MILESTONES:

Not yet established.

PRIORITY:

3

DATE BY WHICH RESOLUTION SOUGHT:

September 1994

8.4 ISSUE UPO92-6.0: EXTENSION OF UMTRCA THROUGH SEPTEMBER 30, 1998

PRIMARY ISSUE:

The UMTRA-S Project cannot be completed by the Congressionally mandated September 30, 1996, termination date.

PROPOSED RESOLUTION APPROACH:

1. DOE-HQ Office of Congressional and Intergovernmental Affairs (DOE-CP) – Support legislation authorizing the extension.
2. DOE-EM – Continue to pursue Project requirement for the extension with DOE-CP and Congress.
3. UMTRA PO – Continue to urge action and provide information supporting the legislation as needed.
4. Congress – Extend the UMTRCA (PL 95-604 as amended by the Energy Policy Act of 1992) authority for surface remediation to at least September 30, 1998.

SECONDARY ISSUE A:

- A1. Conditions with respect to RRM and groundwater that have developed since passage of UMTRCA raise issues the current law does not resolve.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – define potentially resolvable issues and amendment language.
2. UMTRA PO – discuss proposed amendments with DOE-EM, DOE-CP, states and tribes.
3. UMTRA participants – Provide input on amendment language and feasibility.
4. UMTRA PO – Determine with DOE-EM and DOE-CP whether amendments to UMTRCA would be the appropriate method to resolve some Project-level issues.

ADSs:

All surface ADSs.

AFFECTED MILESTONES:

Licensing.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

September 1994

8.5 ISSUE UPO92-4.0: LACK OF POST-UMTRA AND POST-CELL CLOSURE POLICIES

PRIMARY ISSUE:

Some states have concerns for safe and economical tailings disposal after expiration of UMTRA-S Project authority or closure of a local cell.

SECONDARY ISSUE A:

- A.1 There is a lack of a post-UMTRA disposal plan for RRM in VPs after UMTRA-S expires.
- A.2 Lack of a post-UMTRA plan is delaying agreement to apply supplemental standards to tailings, including those used to line 70 miles of utility lines in Grand Junction, Colorado.
- A.3 Responsible authority and sites for disposal of RRM after the expiration of UMTRA-S Project authority have not been determined.

PROPOSED RESOLUTION APPROACH:

- 1. DOE-EM and UMTRA PO – Identify viable post-UMTRA disposal alternatives to states.
- 2. UMTRA PO – Coordinate with states and tribes to develop alternatives for post-UMTRA legislation.
- 3. States/tribes – Develop consensus on support for post-UMTRA legislation.
- 4. Congress – Legislate post-UMTRA tailings disposal responsibilities and authorities.
- 5. DOE-EM, DOE-CP – Support legislation assigning post-UMTRA responsibilities.
- 6. UMTRA PO – Support DOE-CP efforts with information and draft language as needed.

ALTERNATIVE RESOLUTION APPROACHES:

- 1. States – Develop legislation to address post-UMTRA disposal responsibilities and authorities.
- 2. DOE – Remediate all RRM before the UMTRCA expires.

ADSs:

The issues will affect Project Management System (PMS), Grand Junction remedial action, and remedial action ADSs for the potentially affected states.

AFFECTED MILESTONES:

Grand Junction, Colorado, remedial action completion date and other remedial action completion dates.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

September 1996

SECONDARY ISSUE B:

- B.1 There is no comprehensive agreement between the DOE and the states for the cleanup and disposal of RRM after a local disposal cell is closed.
- B.2 Because an agreement is not in place, an adequate range of acceptable remedial action alternatives is not available to the states and the DOE; therefore, appropriate regulatory, engineering, and economic decisions cannot be completed for some VPs where supplemental standards may otherwise be appropriate.

PROPOSED RESOLUTION APPROACH:

- 1. UMTRA PO – Continue to work with states, tribes, and local communities to establish an acceptable post-cell closure RRM management plan.
- 2. States and tribes – Accept a post-cell closure plan.

ADSs:

The issues will affect PMS, Grand Junction remedial action, and ADSs from the potentially affected sites.

AFFECTED MILESTONES:

Grand Junction, Colorado, remedial action completion date and other remedial action completion dates.

PRIORITY:

1

REQUIRED RESOLUTION DATE:

September 1994

8.6 ISSUE UPO92-3.0: UNPREDICTABLE AMOUNTS AND TIMING OF FEDERAL FUNDING

PRIMARY ISSUE:

Unpredictable amounts and timing of Federal funding may cause delays in remediation schedules and jeopardize completion of the UMTRA-S Project within the Congressionally authorized end date; result in continued public exposure to health and environmental risks; cause increased costs related to escalation; and affect UMTRA's ability to fulfill the expectations of the public, states, and tribes. Budgeting and funding is further complicated by the need to provide contingency for the risk of increase of tailings quantities and changes to regulatory requirements.

SECONDARY ISSUE A:

- A.1 Failure to maintain required funding levels may delay remedial action startup or terminate ongoing remedial actions.
- A.2 Uncertainty of Federal funding makes the required dates and amounts of the states' shares of funding unpredictable.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Continue to produce budgets and 5-year plan estimates; continue to produce justifications that support completion of the UMTRA-S Project by the proposed deadline, and the cost-effective remediation of groundwater.
2. UMTRA PO – Work with DOE-EM to prioritize site remediation within constraints of Federal funding and other Project participants.
3. UMTRA PO – Provide timely information on critical issues and state and tribal concerns to DOE-EM.
4. DOE-EM – Commit to obtaining adequate funding to complete the UMTRA-S Project by September 1998, once Congress authorizes that extension date.
5. DOE-EM – Support Energy System Acquisition Advisory Board-approved cost and schedule baselines.
6. DOE-EM – Work with the UMTRA PO to resolve schedule changes caused by funding.
7. DOE-EM – Commit to fund the UMTRA-G Project to ensure that it can cost-effectively meet expectations of states, tribes, and regulatory requirements.

ADSs:

The issues will affect all ADSs, Assistant Secretary for Environmental Restoration and Waste Management (EM), Office of the Associate Deputy for Field Management (FM), and Office of Chief Financial Officer (CR).

AFFECTED MILESTONES:

All FY1994 and future milestones.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

Continuously throughout the budgeting process for both projects.

SECONDARY ISSUE B:

- B.1 Volumes and types of contaminants can only be estimated during site characterization. During remediation, increased quantities of RRM and additional contaminants may result in increased costs and schedule delays.
- B.2 If Federal, state, tribal, or local regulations or DOE Orders change, additional funding may be required that exceeds the current approved baseline level.

PROPOSED RESOLUTION APPROACH:

- 1. DOE-HQ – Program Office and Chief Financial Officer – Support Project contingency at a sufficient level to cover the unpredictable quantities and types of contamination to clean up and the increasing regulatory requirements.
- 2. UMTRA PO – Continue to prepare high-quality estimates and justifications of baseline funding and contingencies in budgets and 5-year plans.

ADSs:

All UMTRA-S ADSs.

AFFECTED MILESTONES:

All ongoing and future remedial action milestones.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

Continuing through completion of the UMTRA-S Project.

8.7 ISSUE UPO92-7.0 and UPO92-9.0: LACK OF REGULATORY COMPLIANCE AGREEMENTS

PRIMARY ISSUE:

Regulations require new agreements between DOE, states, tribes and/or Federal agencies. These agreements could increase costs and delay remedial action.

SECONDARY ISSUE A:

- A1. Some Grand Junction, Colorado, VPs are contaminated with RRM and RCRA-and/or TSCA-regulated waste (commingled waste). Disposal of these commingled wastes must be in accordance with applicable state and Federal regulations.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Develop a consent agreement for managing RCRA characteristic waste commingled with RRM in coordination with DOE-AL/OCC; coordinate negotiation activities and approval with DOE-EM, GJPO, and CDH.
2. DOE-EM – Review and approve consent agreement.
3. GJPO and CDH – Negotiate and sign consent agreement (UMTRA PO has to concur).
4. GJPO and UMTRA PO – Develop and negotiate an amendment to the Mesa County conditional use permit to allow disposal of treated RCRA characteristic waste commingled with RRM in the Cheney UMTRA disposal cell.
5. Mesa County, CO – Approve disposal of RCRA characteristic waste commingled with RRM at the Cheney UMTRA disposal cell.
6. UMTRA PO – Develop a procedure, in coordination with NRC, for notifying and documenting to NRC those wastes that are disposed of in the Cheney UMTRA disposal cell.
7. NRC – Approve disposal of RCRA characteristic waste commingled with RRM at the Cheney UMTRA disposal cell.
8. GJPO – Provide an outline of viable management activities for RCRA-listed and TSCA wastes commingled with RRM.

ADSs:

The issues will affect the Grand Junction VP and site remedial action, 2201-GA and ALUM 1332.

AFFECTED MILESTONES:

Grand Junction site and VP remedial action completion dates.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

June 1994

SECONDARY ISSUE B:

- B1. The UMTRA Project is not in compliance with the NESHAP, Subpart T. The DOE and EPA Region VIII have been working on an FFCA for over a year and nothing has been signed.

PROPOSED RESOLUTION APPROACH:

1. DOE-EM/OGC – Get the EPA Region VIII FFCA signed to prevent future liability issues.
2. UMTRA PO – Establish compliance agreements between the DOE and the EPA for UMTRA Project sites. Encourage states and tribes owning the affected sites to participate in the agreements.
3. DOE-EM – Approve final compliance agreements between DOE, states, and EPA.
4. UMTRA PO – Comply with NESHAP on all sites by agreed date.

ADSs:

The issues will affect PMS and UMTRA-S Project remedial action ADSs.

AFFECTED MILESTONES:

All remedial action completion dates.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

September 1996

8.8 ISSUE UPO92-2.0: PROBLEM WITH STATES PROVIDING THEIR SHARES OF REMEDIAL ACTION COSTS

PRIMARY ISSUE:

Remediation at the North Dakota sites has been delayed because of lack of state funding, as required by UMTRCA. The North Dakota State Legislature did not appropriate funds to cover the state's 10 percent share of surface remediation costs during the 1993 session. The legislature meets every other year. The 1995 legislative session is the last opportunity for the state to provide funds. It is possible that the state of North Dakota will not be able to provide its share of funding.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Provide information and support to North Dakota State Department of Health (NDSHD) and/or state legislators to help facilitate appropriation of necessary funding.
2. NDSHD – Determine the source of funds for the state's share of remediation costs: from state appropriation, private land owners, and/or companies responsible for causing the contamination problem.
3. North Dakota State Legislature – Provide North Dakota's share of remediation costs in 1995

ALTERNATIVE RESOLUTION APPROACH:

1. State of North Dakota – recommend removal of North Dakota sites from UMTRCA designation list to U.S. Congress.
2. UMTRA PO – Determine whether recommending removal of the North Dakota sites from the UMTRCA designation list would be appropriate based on risk to public health.
3. Congress - Amend UMTRCA to remove the North Dakota sites.

ADSS:

The issue will affect the North Dakota remedial action, ALUM-1325.

AFFECTED MILESTONES:

Start and completion of Belfield and Bowman, North Dakota, remedial action, as well as site licensing.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

April 1995 (Legislature does not meet until 1995)

8.9 ISSUE UPO92-8.0: DIFFERENT INTERESTS AND PRIORITIES AMONG PARTICIPANTS

PRIMARY ISSUE:

Different interests and priorities are inevitable among the participating states, tribes, local governments, and private citizens, as well as between the participants and the DOE. The UMTRA PO must satisfactorily address these differences to complete the UMTRA mission.

PROPOSED RESOLUTION APPROACH:

1. UMTRA PO – Continue public involvement and public participation to promote good relations with citizens, state, tribal and local governments, state UMTRA agencies, state and Federal regulatory agencies, and others by consulting with UMTRA Project stakeholders. Use interactive methods of solving problems arising from the different regulations, agendas, and priorities among states, tribes, and local governments.
2. UMTRA PO – Increase the frequency of public information and site-specific outreach, and continue to upgrade public information and public participation plans and activities.
3. UMTRA PO – Work with DOE-EM to improve documents used in public participation, such as the site-specific plan.
4. DOE-EM – Aid the UMTRA PO in addressing issues and concerns of the state governments, whether they arise over UMTRA or non-UMTRA DOE issues.
5. UMTRA PO – Actively solicit early participation in the Groundwater PEIS process to support agreements including binding language between DOE and states/tribes on priorities and techniques for groundwater compliance program to prevent future disputes. Actively solicit and use input and assistance from states, tribes, and the public to complete site groundwater risk assessments and prioritization.

ADSs:

All active remediation ADSs, PMS, and groundwater.

AFFECTED MILESTONES:

All future milestones.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

Continuously throughout UMTRA-S and UMTRA-G Projects.

8.10 ISSUE UPO2-10.0: TECHNOLOGY DEVELOPMENT/TRANSFER

Innovative technologies can substantially improve efficiency, costs, and the effectiveness of environmental cleanup.

PROPOSED RESOLUTION APPROACH:

1. DOE-HQ EM-50 – Support investigations of the identified technologies for the groundwater compliance tasks where innovative technologies will be beneficial. These technologies principally support risk assessment, site characterization, monitoring, and aquifer cleanup.
2. UMTRA PO – Define probabilistic risk assessment (PRA) application areas and conditions for an evaluative study of the UMTRA Project.
3. UMTRA PO – Investigate experimental and existing technologies to enhance or expedite field identification of contaminants in groundwater, and three-dimensional depiction of aquifer stratigraphy and contaminant occurrence, to facilitate baseline risk assessment and characterization at each site.
4. UMTRA PO – Investigate developing groundwater compliance engineering and scientific processes to identify ancillary technologies that may be needed to support natural flushing processes in site-specific cases.
5. UMTRA PO – Investigate developing cost-effective groundwater monitoring technologies, such as down-well automated data recorders and ion-specific electrodes to document effectiveness of natural flushing through repetitive observation of indicator constituents identified during site characterization.
6. UMTRA PO – Investigate commingled waste disposal techniques and waste minimization activities. Technology developments in reducing wastes and in handling commingled wastes will be beneficial on UMTRA-S remedial action tasks.

ADSs:

All ALUM 2000, ALUM 1362, and ALUM 1332.

AFFECTED MILESTONES:

None directly; application of technology innovations could have positive milestone impacts.

PRIORITY:

1

DATE BY WHICH RESOLUTION SOUGHT:

Ongoing.

9.0 ISSUE RESOLUTION SCHEDULES

The activities and milestones to resolve the issues identified in Section 8.0 are scheduled in Figures 9.1 through 9.10. Many activities are ongoing and will continue through completion of the UMTRA Projects. Activities that require DOE-HQ, AL, or other participant input will be coordinated with the appropriate participant.

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-1.0
Lack of Sufficient Human Resources

FISCAL YEAR	92	FY1993				FY1994				FY1995				FY1996				FY1997			
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DOE-EM & DOE-AL INCREASE UMTRA CEILING																					
DOE-EM & DOE-AL DEVELOP CAREER LADDERS AND RECOGNITION																					
UMTRA PO JUSTIFY PLAN FOR ADDITIONAL PERSONNEL																					
EXPLORE ALTERNATIVE METHODS OF INCREASING PERSONNEL W/O INCREASING CEILING																					
DOE-HQ DECREASE NON-MISSION REQUIREMENTS WHERE COST IS GREATER THAN BENEFITS																					
UMTRA PO JUSTIFY EXEMPTIONS TO REQUIREMENTS WHEN COST IS GREATER THAN BENEFITS																					
DOE-HQ PRIORITIZE NON-MISSION REQUIREMENTS																					
DOE-HQ PROVIDE TIME & GUIDANCE FOR REQUIREMENTS																					

FIGURE 9.1
ISSUE UPO92-1.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO93-1.0
Increasing DOE and Regulatory Requirements

FISCAL YEAR	FY1993				FY1994				FY1995				FY1996				FY1997			
QUARTER	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DOE-EM RECLASSIFY UMTRA FROM A NON-NUCLEAR FACILITY TO A RADIOLOGICAL FACILITY																				
UMTRA PO PURSUE RECLASSIFICATION FROM NON-NUCLEAR TO RADIOLOGICAL																				
UMTRA PO MONITOR STATUS OF OSHA REFORMS																				
DOE-EM PROVIDE GUIDANCE AND FUNDING ON RADCON APPLICATION																				
UMTRA PO DETERMINE APPLICABILITY AND PROVIDE RADCON TRAINING																				
DOE-AL PROVIDE RADCON GUIDANCE AND CONTRACT MODIFICATIONS																				
INFORMAL REVIEW & IMPLEMENTATION OF DOE ORDER 5383.XX																				

FIGURE 9.2
ISSUE UPO93-1.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-5.0

Unresolved Groundwater Issues could delay the UMTRA-G Project

FISCAL YEAR QUARTER	FY1993				FY1994				FY1995				FY1996				FY1997				
	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DOE PO INFORM AND INVOLVE STATES, TRIBES, AND PUBLIC OF BENEFITS TO ENVIRONMENT																					
DOE-AL & UMTRA PO DETERMINE NEED FOR NEW OR MODIFIED COOPERATIVE AGREEMENTS																					
UMTRA PO, OCC & CPD DEVELOP & NEGOTIATE COOPERATIVE AGREEMENTS WITH STATES & TRIBES																					
STATES AND TRIBES REVIEW, NEGOTIATE AND SIGN COOPERATIVE AGREEMENTS																					
ESTABLISH VP EVALUATION CRITERIA																					

FIGURE 9.3
ISSUE UPO92-5.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-6.0
Extension of UMTRCA Through September 30, 1998

FISCAL YEAR	92	FY1993				FY1994				FY1995				FY1996				FY1997			
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
DOE AT ALL LEVELS PURSUE EXTENSION LEGISLATION																					
UMTRA PO AND PARTICIPANTS DETERMINE WHETHER AMENDMENTS WOULD BE APPROPRIATE																					

FIGURE 9.4
ISSUE UPO92-6.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-4.0
Lack of Post-UMTRA and Post-Cell Closure Policies

FISCAL YEAR QUARTER	FY1993				FY1994				FY1995				FY1996				FY1997			
	92	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
CONGRESS DETERMINE WHO HAS AUTHORITY/RESPONSIBILITY FOR POST UMTRA TAILINGS DISPOSAL																				
PO AND DOE-HQ SUPPORT CONGRESS AND STATES IN ESTABLISHING POST-UMTRA RESPONSIBILITIES																				
PO WORK WITH STATES, TRIBES, COMMUNITIES TO DEVELOP POST- CELL CLOSURE DISPOSAL PLAN																				

FIGURE 9.5
ISSUE UPO92-4.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-3.0

Unpredictable Amounts and Timing of Federal Funding

FISCAL YEAR	FY1993				FY1994				FY1995				FY1996				FY1997				
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DOE PO PRODUCE BUDGETS AND FIVE-YEAR PLAN ESTIMATES AND JUSTIFICATIONS																					
BUDGET																					
FIVE-YEAR PLAN																					
HQ SUPPORT																					
PO WITH PROGRAM OFFICE PRIORITIZE REMEDIATION WITHIN CONSTRAINTS OF FEDERAL FUNDING & OTHER PROJECT PARTICIPANTS																					
DOE PO DO HIGH-QUALITY ESTIMATES AND JUSTIFY CONTINGENCY IN FIVE-YEAR PLAN																					
HQ SUPPORT SUFFICIENT CONTINGENCY																					
PO KEEP HQ INFORMED OF CRITICAL ISSUES AND STATES AND TRIBAL CONCERNS																					

FIGURE 9.6
ISSUE UPO92-3.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-7.0
Lack of Regulatory Compliance Agreements

FISCAL YEAR	92	FY1993				FY1994				FY1995				FY1996				FY1997			
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UMTRA PO AND AL DEVELOP AND NEGOTIATE COMMINGLED WASTE CONSENT AGREEMENT WITH CDH																					
DOE-HQ REVIEW AND APPROVE CONSENT AGREEMENT																					
GJPO & CDH NEGOTIATE AND SIGN CONSENT AGREEMENT																					
NRC APPROVE RCRA WASTE DISPOSAL																					
GJPO WORK WITH LOCAL GOVERNMENTS TO ENSURE PERMITTING																					
UMTRA PO & GJPO RESEARCH TREATMENT/DISPOSAL OPTIONS FOR RCRA LISTED AND TSCA WASTES																					
PO & AL ESTABLISH FEDERAL FACILITY COMPLIANCE AGREEMENTS																					
UMTRA PO ENCOURAGE STATES TO SIGN																					
DOE-EM APPROVE FINAL COMPLIANCE AGREEMENTS																					
COMPLY WITH NESHAP AT ALL SITES																					

FIGURE 9.7
ISSUE UPO92-7.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-2.0

Problem with States Providing their Share of Remedial Action Costs

FISCAL YEAR	FY1993				FY1994				FY1995				FY1996				FY1997				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DOE PO IDENTIFY APPROPRIATION REQUIREMENTS TO STATES	<div></div>																				
	<div></div>																				
	<div></div>																				
	<div></div>																				
DOE PO IDENTIFY WHERE STATE FUNDING IS LACKING	<div></div>																				
NORTH DAKOTA PROVIDES FUNDING, OR	<div></div>																				
NORTH DAKOTA SOLICITS CONGRESS TO REMOVE UNFUNDED SITES FROM UMRCA	<div></div>																				
UMTRA PO DETERMINE, ON RISK BASIS, REMOVAL OF SITE FROM DESIGNATION LIST	<div></div>																				

FIGURE 9.8
ISSUE UPO92-2.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-8.0

Different Interests and Priorities among Participants

FISCAL YEAR QUARTER	92	FY1993				FY1994				FY1995				FY1996				FY1997			
		4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
PO CONTINUE PROACTIVE EFFORT TO PROVIDE PUBLIC INFORMATION																					
PO UPGRADE PUBLIC INFORMATION & PUBLIC PARTICIPATION TO PUBLIC AFFAIRS																					
PO CONTINUE TO USE INTERACTIVE METHOD OF SOLVING PROBLEMS																					

FIGURE 9.9
ISSUE UPO92-8.0

ISSUE RESOLUTION SCHEDULE

PRIMARY ISSUE: UPO92-10.0
Technology Development/Transfer

Technology Development/Transfer																							
FISCAL YEAR QUARTER	92	FY1993				FY1994				FY1995				FY1996				FY1997					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
DOE-EM SUPPORT TECHNOLOGICAL INVESTIGATIONS	4																						
UMTRA PO INVESTIGATE TECHNOLOGIES FOR GW, COMMINGLED WASTE AND WASTE MINIMIZATION																							

FIGURE 9.10
ISSUE UPO92-10.0

10.0 REFERENCES

DOE (U.S. Department of Energy), 1993. *Revised Roadmap Methodology Document*, July 1993, U.S. Department of Energy Office of Environmental Restoration and Waste Management, Washington, D.C.

APPENDIX A
UMTRA HUMAN RESOURCES PROJECTIONS

UMTRA HUMAN RESOURCES PROJECTIONS

The following general assumptions are used by the U.S. Department of Energy (DOE) and its contractors to develop the human resource projections for the Uranium Mill Tailings Remedial Action (UMTRA) Project:

- The projections include the UMTRA Surface (UMTRA-S) Major Systems Acquisition (MSA) and the UMTRA-Groundwater (UMTRA-G) Major Project (MP).
- The projections include prime contractors and subcontractors for both projects.
- The projections correlate with the fiscal year (FY) 1995 independent review budget submissions.
- The Uranium Mill Tailings Radiation Control Act (UMTRCA) will be amended to reflect FY1998 completion date for surface remediation.
- Cleanup of vicinity properties beyond FY1998 will be the responsibility of a program other than UMTRA. The states, tribes, and the public will support the program.
- The roles and responsibilities as defined for UMTRA-S remediation will apply to the UMTRA-G program.
- The use of supplemental standards will be acceptable to all concerned parties in the UMTRA-G Project.
- The UMTRA-G Project will tier site-specific environmental assessments off of the Programmatic Environmental Impact Statement.
- States and tribes will participate in UMTRA-G activities as specified in the UMTRCA.
- The UMTRA Project Office (PO) will work with DOE-HQ and DOE-AL to meet UMTRA PO human resource goals.

UMTRA EM HUMAN RESOURCE PROJECTION

MANAGERS:
FIRST LINE SUPERVISORS
GENERAL MANAGERS
PROJ/PROG MANAGERS
OTHER

ENGINEERS:
CHEMICAL
CIVIL
COMPUTER
ELECTRICAL
ENVIRONMENTAL
INDUSTRIAL
MECHANICAL
NUCLEAR
PETROLEUM/MINING
PLANT
QUALITY CONTROL
SAFETY
OTHER

SCIENTISTS:
CHEMISTS
ENVIRONMENTAL
GEOLOGISTS
LIFE SCIENTISTS
MATERIALS SCIENTISTS
MATHEMATICIANS
PHYSICISTS
SOCIAL SCIENTISTS
OTHER

TECHNICAL ASSISTANCE CONTRACTOR

FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY19
0	0	0	0	0	4	3	2	0
0	0	0	0	0	0	0	0	0
7	6	4	3	2	4	3	2	0
0	0	0	0	0	0	0	0	0
7	6	4	3	2				
0	0	0	0	0	12	8	17	0
5	8	13	15	17	7	6	14	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
7	4	1	1	1	3	0	2	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
5	4	3	2	2	2	1	1	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
16	15	17	19	20				
0	0	0	0	0	12	14	16	0
8	9	9	7	8	2	4	3	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
6	6	7	8	9	10	10	13	0
14	15	16	15	17				

TOTAL

TOTAL

TOTAL

UMTRA EM HUMAN RESOURCE PROJECTION

	TECHNICAL ASSISTANCE CONTRACTOR										
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY19		
ADMINISTRATIVE & PROFESSIONAL OCCUPATIONS:											
ACCOUNTANTS & AUDITORS	0	0	0	0	0	0	0	0	0		
ARCHITECTS	0	0	0	0	0	0	0	0	0		
BUYERS, PROCUREMENT & CONTRACTING SPECIALISTS	6	4	3	3	2	2	1	1	0		
COMMUNICATION SPECIALISTS	7	6	4	3	3	3	2	1	0		
COMPLIANCE INSPECTORS	0	0	0	0	0	0	0	0	0		
COMPUTER SYSTEMS ANALYST, COST	7	6	5	3	2	4	3	2	0		
ESTIMATORS, COST ESTIMATORS & PLANNERS & SCHEDULERS	20	18	11	9	7	10	7	5	0		
HEALTH PHYSICISTS	7	7	4	4	3	3	1	1	0		
INDUSTRIAL HYGIENISTS	0	0	0	0	0	0	0	0	0		
LAWYERS	0	0	0	0	0	0	0	0	0		
PERSONNEL & LABOR RELATIONS SPECIALISTS	6	6	5	4	3	4	3	2	0		
PHYSICIANS	0	0	0	0	0	0	0	0	0		
PHYSICIAN ASSISTANTS, NURSES & OTHER MEDICAL SUPPORT OCCUPATIONS	0	0	0	0	0	0	0	0	0		
SAFEGUARDS & OTHER SECURITY SPECIALISTS	0	0	0	0	0	0	0	0	0		
TRAINERS	0	0	0	0	0	0	0	0	0		
TECHNICAL WRITERS & EDITORS	2	2	1	1	1	1	1	1	0		
OTHER	5	5	3	3	3	3	2	1	0		
TOTAL	61	52	35	30	22						
GENERAL ADMINISTRATIVE, SECRETARIAL & CLERICAL SUPPORT STAFF:											
ADMINISTRATIVE ASSISTANTS	1	1	0	0	0	6	4	3	0		
OFFICE CLERKS (GENERAL)	0	0	0	0	0	0	0	0	0		
OFFICE CLERKS (SPECIFIC)	0	0	0	0	0	0	0	0	0		
SECRETARIES	13	11	8	7	4	6	4	3	0		
TYPISTS & WORD PROCESSORS	0	0	0	0	0	0	0	0	0		
OTHER	0	0	0	0	0	0	0	0	0		
TOTAL	14	12	8	7	4						

UMTRA EM HUMAN RESOURCE PROJECTION

OPERATORS:

CHEMICAL SYSTEM OPERATORS:
DRILLERS
LIGHT VEHICLE DRIVERS
MATERIAL MOVING EQUIPMENT OPERATORS
NUCLEAR PLANT OPERATORS
NUCLEAR WASTE PROCESS OPERATORS
UTILITIES SYSTEMS OPERATORS
OTHER

LABORERS:

FIRE FIGHTERS
FOOD SERVICE WORKERS
JANITORS & CLEANERS
LAUNDRY WORKERS
MATERIAL HANDLERS, HELPERS & LABORERS (GENERAL)
MATERIAL HANDLERS, HELPERS & LABORERS (SPECIALIZED)
SECURITY GUARDS
OTHER

TECHNICAL ASSISTANCE CONTRACTOR

	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY19
OPERATORS:									
DRILLERS	0	0	0	0	0	0	0	0	0
LIGHT VEHICLE DRIVERS	0	0	0	0	0	0	0	0	0
MATERIAL MOVING EQUIPMENT OPERATORS	0	0	0	0	0	0	0	0	0
NUCLEAR PLANT OPERATORS	0	0	0	0	0	0	0	0	0
NUCLEAR WASTE PROCESS OPERATORS	0	0	0	0	0	0	0	0	0
UTILITIES SYSTEMS OPERATORS	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0
LABORERS:									
FIRE FIGHTERS	0	0	0	0	0	0	0	0	0
FOOD SERVICE WORKERS	0	0	0	0	0	0	0	0	0
JANITORS & CLEANERS	0	0	0	0	0	0	0	0	0
LAUNDRY WORKERS	0	0	0	0	0	0	0	0	0
MATERIAL HANDLERS, HELPERS & LABORERS (GENERAL)	0	0	0	0	0	0	0	0	0
MATERIAL HANDLERS, HELPERS & LABORERS (SPECIALIZED)	0	0	0	0	0	0	0	0	0
SECURITY GUARDS	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0
GRAND TOTAL	119	108	85	76	67	63	50	52	0

UMTRA EM HUMAN RESOURCE PROJECTION

MANAGERS:
FIRST LINE SUPERVISORS
GENERAL MANAGERS
PROJ/PROG MANAGERS
OTHER

ENGINEERS:
CHEMICAL
CIVIL
COMPUTER
ELECTRICAL
ENVIRONMENTAL
INDUSTRIAL
MECHANICAL
NUCLEAR
PETROLEUM/MINING
PLANT
QUALITY CONTROL
SAFETY
OTHER

SCIENTISTS:
CHEMISTS
ENVIRONMENTAL
GEOLOGISTS
LIFE SCIENTISTS
MATERIALS SCIENTISTS
MATHEMATICIANS
PHYSICISTS
SOCIAL SCIENTISTS
OTHER

MK-FERGUSON										
FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17		
114	105	91	77	25	0	0	0	0		
0	0	0	0	0	0	0	0	0		
16	16	18	14	5	0	0	0	0		
0	0	0	0	0	0	0	0	0		
130	121	109	91	31						
TOTAL										
0	0	0	0	0	0	0	0	0		
58	41	33	27	7	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
46	42	27	27	5	0	0	0	0		
18	21	18	13	7	0	0	0	0		
0	0	0	0	0	0	0	0	0		
122	104	77	66	20						
TOTAL										
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
3	2	1	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
3	2	1	0	0	0	0	0	0		
TOTAL										

UMTRA EM HUMAN RESOURCE PROJECTION

MK-FERGUSON										
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17	
ADMINISTRATIVE & PROFESSIONAL OCCUPATIONS:										
ACCOUNTANTS & AUDITORS										
ARCHITECTS	6	6	6	5	4	0	0	0	0	0
BUYERS, PROCUREMENT & CONTRACTING SPECIALISTS	0	0	0	0	0	0	0	0	0	0
COMMUNICATION SPECIALISTS	4	4	4	3	1	0	0	0	0	0
COMPLIANCE INSPECTORS	0	0	0	0	0	0	0	0	0	0
COMPUTER SYSTEMS ANALYST, COST	1	1	0	0	0	0	0	0	0	0
ESTIMATORS, COST ESTIMATORS & PLANNERS & SCHEDULERS	0	0	0	0	0	0	0	0	0	0
HEALTH PHYSICISTS	8	6	4	4	0	0	0	0	0	0
INDUSTRIAL HYGIENISTS	24	23	19	17	8	0	0	0	0	0
LAWYERS	16	16	14	11	4	0	0	0	0	0
PERSONNEL & LABOR RELATIONS SPECIALISTS	0	0	0	0	0	0	0	0	0	0
PHYSICIANS	0	0	0	0	0	0	0	0	0	0
PHYSICIAN ASSISTANTS, NURSES & OTHER MEDICAL SUPPORT OCCUPATIONS	0	0	0	0	0	0	0	0	0	0
SAFEGUARDS & OTHER SECURITY SPECIALISTS	0	0	0	0	0	0	0	0	0	0
TRAINERS	2	2	2	2	2	0	0	0	0	0
TECHNICAL WRITERS & EDITORS	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0
TOTAL	60	59	49	41	19					
GENERAL ADMINISTRATIVE, SECRETARIAL & CLERICAL SUPPORT STAFF:										
ADMINISTRATIVE ASSISTANTS	0	0	0	0	0	0	0	0	0	0
OFFICE CLERKS (GENERAL)	2	3	0	0	0	0	0	0	0	0
OFFICE CLERKS (SPECIFIC)	17	18	18	15	3	0	0	0	0	0
SECRETARIES	2	2	0	2	0	0	0	0	0	0
TYPISTS & WORD PROCESSORS	17	15	16	13	4	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0
TOTAL	42	44	35	29	7					

TECHNICIANS:

TOTAL

CARPENTERS
ELECTRICIANS
HEATING, VENTILATING, AIR CONDITIONING (HVAC)
MACHINISTS
MASONRY
MILLWRIGHTS
PAINTERS
PLUMBER & PIPEFITTERS
STRUCTURAL & METAL WORKERS
VEHICLE & MOBILE EQUIPMENT MECHANICS
WELDERS
OTHERS

TOTAL

MK-FERGUSON									
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17
1	0	0	0	0	0	0	0	0	0
2	2	2	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
123	79	53	52	13	0	0	0	0	0
12	11	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
138	91	54	52	13	0	0	0	0	0
33	21	16	16	2	0	0	0	0	0
36	24	20	16	2	0	0	0	0	0
2	2	2	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
70	46	39	32	4	0	0	0	0	0

UMTRA EM HUMAN RESOURCE PROJECTION

MK-FERGUSON											
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17		
OPERATORS:											
CHEMICAL SYSTEM OPERATORS:											
DRILLERS	0	0	0	0	0	0	0	0	0		
LIGHT VEHICLE DRIVERS	0	0	0	0	0	0	0	0	0		
MATERIAL MOVING EQUIPMENT OPERATORS	132	104	109	105	5	0	0	0	0		
NUCLEAR PLANT OPERATORS	297	234	152	112	12	0	0	0	0		
NUCLEAR WASTE PROCESS OPERATORS	0	0	22	14	14	0	0	0	0		
UTILITIES SYSTEMS OPERATORS	0	0	0	0	0	0	0	0	0		
OTHER	0	0	0	0	0	0	0	0	0		
TOTAL	429	337	282	231	32						
LABORERS:											
FIRE FIGHTERS	0	0	0	0	0	0	0	0	0		
FOOD SERVICE WORKERS	0	0	0	0	0	0	0	0	0		
JANITORS & CLEANERS	0	0	0	0	0	0	0	0	0		
LAUNDRY WORKERS	0	0	0	0	0	0	0	0	0		
MATERIAL HANDLERS, HELPERS & LABORERS (GENERAL)	0	0	0	0	0	0	0	0	0		
MATERIAL HANDLERS, HELPERS & LABORERS (SPECIALIZED)	118	89	71	66	10	0	0	0	0		
SECURITY GUARDS	6	6	13	5	5	0	0	0	0		
OTHER	0	0	0	0	0	0	0	0	0		
TOTAL	124	95	85	70	15						
GRAND TOTAL	1118	898	730	614	141	0	0	0	0		

UMTRA EM HUMAN RESOURCE PROJECTION

GEOTECH

	FY83	FY84	FY85	FY86	FY87	FY92	FY97	FY12	FY17
						0.1	0	0	0
	0	0	0	0	0	0	0	0	0
	1	2	2	1	0	0	0	0	0
	13	4	4	3	1	0	0	0	0
	0	0	0	0	0	0	0	0	0
	13	6	6	3	1				
TOTAL						0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	7	2	2	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	1	1	1	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
TOTAL	9	3	3	0	0				
	0	0	0	0	0	0	0	0	0
	11	2	2	1	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
TOTAL	11	2	2	1	0				

UMTRA EM HUMAN RESOURCE PROJECTION

	GEOTECH										
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17		
ADMINISTRATIVE & PROFESSIONAL OCCUPATIONS:											
ACCOUNTANTS & AUDITORS	0	0	0	0	0	0	0	0	0		
ARCHITECTS	0	0	0	0	0	0	0	0	0		
BUYERS, PROCUREMENT & CONTRACTING SPECIALISTS	5	3	1	1	0	0	0	0	0		
COMMUNICATION SPECIALISTS	3	1	0	0	0	0	0	0	0		
COMPLIANCE INSPECTORS	25	2	8	3	0	0	0	0	0		
COMPUTER SYSTEMS ANALYST, COST	0	0	0	0	0	0	0	0	0		
ESTIMATORS, COST ESTIMATORS & PLANNERS & SCHEDULERS	5	2	3	1	0	0	0	0	0		
HEALTH PHYSICISTS	2	0	0	0	0	0	0	0	0		
INDUSTRIAL HYGIENISTS	1	1	1	0	0	0	0	0	0		
LAWYERS	0	0	0	0	0	0	0	0	0		
PERSONNEL & LABOR RELATIONS SPECIALISTS	0	0	0	0	0	0	0	0	0		
PHYSICIANS	0	0	0	0	0	0	0	0	0		
PHYSICIAN ASSISTANTS, NURSES & OTHER MEDICAL SUPPORT OCCUPATIONS	0	0	0	0	0	0	0	0	0		
SAFEGUARDS & OTHER SECURITY SPECIALISTS	0	0	0	0	0	0	0	0	0		
TRAINERS	7	5	2	1	0	0	0	0	0		
TECHNICAL WRITERS & EDITORS	0	0	0	0	0	0	0	0	0		
OTHER	0	0	0	0	0	0	0	0	0		
TOTAL	49	13	15	5	1						
GENERAL ADMINISTRATIVE, SECRETARIAL & CLERICAL SUPPORT STAFF:											
ADMINISTRATIVE ASSISTANTS	1	1	1	0	0	0	0	0	0		
OFFICE CLERKS (GENERAL)	7	4	8	1	0	0	0	0	0		
OFFICE CLERKS (SPECIFIC)	0	0	0	0	0	0	0	0	0		
SECRETARIES	8	2	1	1	0	0	0	0	0		
TYPISTS & WORD PROCESSORS	0	0	0	0	0	0	0	0	0		
OTHER	0	0	0	0	0	0	0	0	0		
TOTAL	17	7	10	2	1						

UMTRA EM HUMAN RESOURCE PROJECTION

GEOTECH

FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17
0	0	0	0	0	0	0	0	0
4	3	3	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
40	3	10	3	0	0	0	0	0
2	0	1	0	0	0	0	0	0
7	1	3	1	0	0	0	0	0
1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
54	7	17	4	0	0	0	0	0
10	4	0	0	0	0	0	0	0
6	2	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
28	12	0	0	0	0	0	0	0

TOTAL

TOTAL

UMITRA EM HUMAN RESOURCE PROJECTION

GEOTECH		FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17
OPERATORS:	CHEMICAL SYSTEM OPERATORS:									
	DRILLERS	0	0	0	0	0	0	0	0	0
	LIGHT VEHICLE DRIVERS	0	0	0	0	0	0	0	0	0
	MATERIAL MOVING EQUIPMENT OPERATORS	0	0	0	0	0	0	0	0	0
	NUCLEAR PLANT OPERATORS	82	15	0	0	0	0	0	0	0
	NUCLEAR WASTE PROCESS OPERATORS	0	0	0	0	0	0	0	0	0
	UTILITIES SYSTEMS OPERATORS	0	0	0	0	0	0	0	0	0
	OTHER	1	0	0	0	0	0	0	0	0
	TOTAL	83	15	0	0	0	0	0	0	0
LABORERS:	FIRE FIGHTERS	0	0	0	0	0	0	0	0	0
	FOOD SERVICE WORKERS	0	0	0	0	0	0	0	0	0
	JANITORS & CLEANERS	0	0	0	0	0	0	0	0	0
	LAUNDRY WORKERS	0	0	0	0	0	0	0	0	0
	MATERIAL HANDLERS, HELPERS & LABORERS (GENERAL)	0	0	0	0	0	0	0	0	0
	MATERIAL HANDLERS, HELPERS & LABORERS (SPECIALIZED)	86	25	0	0	0	0	0	0	0
	SECURITY GUARDS	0	0	0	0	0	0	0	0	0
	OTHER	0	0	0	0	0	0	0	0	0
	TOTAL	86	25	0	0	0	0	0	0	0
	GRAND TOTAL	341	90	52	15	2	0	0	0	0

OAK RIDGE NATIONAL LABS

[illegible]

TOTAL

SCIENTISTS:

CHEMISTS
ENVIRONMENTAL
GEOLOGISTS
LIFE SCIENTISTS
MATERIALS SCIENTISTS
MATHEMATICIANS
PHYSICISTS
SOCIAL SCIENTISTS
OTHER

UMTRA EM HUMAN RESOURCE PROJECTION

OAK RIDGE NATIONAL LABS										
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17	
ADMINISTRATIVE & PROFESSIONAL OCCUPATIONS:										
ACCOUNTANTS & AUDITORS	0	0	0	0	0	0	0	0	0	
ARCHITECTS	0	0	0	0	0	0	0	0	0	
BUYERS, PROCUREMENT & CONTRACTING SPECIALISTS	0	0	0	0	0	0	0	0	0	
COMMUNICATION SPECIALISTS	0	0	0	0	0	0	0	0	0	
COMPLIANCE INSPECTORS	0	0	0	0	0	0	0	0	0	
COMPUTER SYSTEMS ANALYST, COST	0	0	0	0	0	0	0	0	0	
ESTIMATORS, COST ESTIMATORS & PLANNERS & SCHEDULERS	1	0	0	0	0	0	0	0	0	
HEALTH PHYSICISTS	0	0	0	0	0	0	0	0	0	
INDUSTRIAL HYGIENISTS	0	0	0	0	0	0	0	0	0	
LAWYERS	0	0	0	0	0	0	0	0	0	
PERSONNEL & LABOR RELATIONS SPECIALISTS	0	0	0	0	0	0	0	0	0	
PHYSICIANS	0	0	0	0	0	0	0	0	0	
PHYSICIAN ASSISTANTS, NURSES & OTHER MEDICAL SUPPORT OCCUPATIONS	0	0	0	0	0	0	0	0	0	
SAFEGUARDS & OTHER SECURITY SPECIALISTS	0	0	0	0	0	0	0	0	0	
TRAINERS	0	0	0	0	0	0	0	0	0	
TECHNICAL WRITERS & EDITORS	0	0	0	0	0	0	0	0	0	
OTHER	1	0	0	0	0	0	0	0	0	
TOTAL										
GENERAL ADMINISTRATIVE, SECRETARIAL & CLERICAL SUPPORT STAFF:										
ADMINISTRATIVE ASSISTANTS	0	0	0	0	0	0	0	0	0	
OFFICE CLERKS (GENERAL)	0	0	0	0	0	0	0	0	0	
OFFICE CLERKS (SPECIFIC)	1	0	0	0	0	0	0	0	0	
SECRETARIES	0	0	0	0	0	0	0	0	0	
TYPISTS & WORD PROCESSORS	0	0	0	0	0	0	0	0	0	
OTHER	2	1	0	0	0	0	0	0	0	
TOTAL										

OAK RIDGE NATIONAL LABS

[illegible]

TOTAL

CRAFTS:

CARPENTERS
ELECTRICIANS
HEATING, VENTILATING, AIR CONDITIONING (HVAC)
MACHINISTS
MASON
MILLWRIGHTS
PAINTERS
PLUMBER & PIPEFITTERS
STRUCTURAL & METAL WORKERS
VEHICLE & MOBILE EQUIPMENT MECHANICS
WELDERS
OTHERS

OAK RIDGE NATIONAL LABS

[illegible]

* THE TOTAL FOR THE PROGRAM INCLUDES PRIME CONTRACTORS AND SUBCONTRACTORS

UMTRA EM HUMAN RESOURCE PROJECTION

MANAGERS:
FIRST LINE SUPERVISORS
GENERAL MANAGERS
PROJ/PROG MANAGERS
OTHER

ENGINEERS:
CHEMICAL
CIVIL
COMPUTER
ELECTRICAL
ENVIRONMENTAL
INDUSTRIAL
MECHANICAL
NUCLEAR
PETROLEUM/MINING
PLANT
QUALITY CONTROL
SAFETY
OTHER

SCIENTISTS:
CHEMISTS
ENVIRONMENTAL
GEOLOGISTS
LIFE SCIENTISTS
MATERIALS SCIENTISTS
MATHEMATICIANS
PHYSICISTS
SOCIAL SCIENTISTS
OTHER

DEPARTMENT OF ENERGY										
FY83	FY84	FY85	FY86	FY87	FY02	FY07	FY12	FY17		
0	0	0	0	0	0	0	0	0		
3	3	3	3	3	0	0	0	0		
2	2	2	2	2	0	0	0	0		
0	0	0	0	0	0	0	0	0		
5	5	5	5	5	5	4	4	4		
TOTAL										0
0	0	0	0	0	13	9	9	0		
7	9	9	8	8	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
1	2	3	3	3	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
1	2	2	2	2	0	0	0	0		
0	1	1	1	1	0	0	0	0		
2	2	2	2	2	0	0	0	0		
11	16	17	16	16	16	16	16	16		
TOTAL										0
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
1	2	3	3	3	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0		
1	2	3	3	3	0	0	0	0		
TOTAL										0

UMTRA EM HUMAN RESOURCE PROJECTION

DEPARTMENT OF ENERGY									
	FY93	FY94	FY95	FY96	FY97	FY02	FY07	FY12	FY17
ADMINISTRATIVE & PROFESSIONAL OCCUPATIONS:									
ACCOUNTANTS & AUDITORS	0	0	0	0	0	4	3	3	0
ARCHITECTS	0	0	0	0	0	0	0	0	0
BUYERS, PROCUREMENT & CONTRACTING SPECIALISTS	0	0	0	0	0	0	0	0	0
COMMUNICATION SPECIALISTS	0	0	0	0	0	0	0	0	0
COMPLIANCE INSPECTORS	0	0	0	0	0	0	0	0	0
COMPUTER SYSTEMS ANALYST, COST	0	0	0	0	0	0	0	0	0
ESTIMATORS, COST ESTIMATORS & PLANNERS & SCHEDULERS	1	1	2	2	2	0	0	0	0
HEALTH PHYSICISTS	0	0	0	0	0	0	0	0	0
INDUSTRIAL HYGIENISTS	0	0	0	0	0	0	0	0	0
LAWYERS	0	0	0	0	0	0	0	0	0
PERSONNEL & LABOR RELATIONS SPECIALISTS	0	0	0	0	0	0	0	0	0
PHYSICIANS	0	0	0	0	0	0	0	0	0
PHYSICIAN ASSISTANTS, NURSES & OTHER MEDICAL SUPPORT OCCUPATIONS	0	0	0	0	0	0	0	0	0
SAFEGUARDS & OTHER SECURITY SPECIALISTS	0	0	0	0	0	0	0	0	0
TRAINERS	0	0	0	0	0	0	0	0	0
TECHNICAL WRITERS & EDITORS	0	0	0	0	0	0	0	0	0
OTHER	2	2	2	2	2	0	0	0	0
TOTAL	3	3	4	4	4				
GENERAL ADMINISTRATIVE, SECRETARIAL & CLERICAL SUPPORT STAFF:									
ADMINISTRATIVE ASSISTANTS	0	0	0	0	0	2	2	2	0
OFFICE CLERKS (GENERAL)	0	0	0	0	0	0	0	0	0
OFFICE CLERKS (SPECIFIC)	0	0	0	0	0	0	0	0	0
SECRETARIES	2	2	3	3	3	0	0	0	0
TYPISTS & WORD PROCESSORS	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0
TOTAL	2	2	3	3	3

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APPENDIX B

ACTIVITY DATA SHEETS LINK TO ROADMAP

ACTIVITY DATA SHEETS LINK TO ROADMAP

This section provides the information needed to meet the requirements of Roadmap Addendum Submission 4.2, "Activity Data Sheets Link to Roadmap." It lists the issues identified in Section 8.0 of the Uranium Mill Tailings Remedial Action (UMTRA) Project Roadmap and identifies the appropriate linkage to the activity data sheets (ADS) developed for the fiscal year (FY) 1995-1999 DOE-EM five-year plan (FYP) in its current form. Because ADSs are dictated by the U.S. Department of Energy (DOE) Headquarters (HQ), they do not always clearly relate to the UMTRA issues. The FYP process is currently being revamped and could result in changes to next year's Roadmap, as directed by DOE-HQ.

PRIMARY ISSUES:

1. LACK OF SUFFICIENT HUMAN RESOURCES (UPO92-1.0)

ADS affected: All

Assumption: The FYP assumes that the UMTRA Project will have the necessary staff to complete all Project work. In either case, a continuous lack of DOE staff will increase contractor staff in ALUM-1362.

2. INCREASING DOE AND REGULATORY REQUIREMENTS (UPO93-1.0)

ADS affected: All

Assumption: Increasing and changing regulatory requirements will increase the cost of compliance and could affect remediation schedules.

3. UNRESOLVED GROUNDWATER ISSUES (UPO92-5.0)

ADS affected: ALUM-2000

Assumption: It is assumed that the states and tribes will support the UMTRA-G Project and will share costs.

4. EXTENSION OF UMTRCA THROUGH SEPTEMBER 30, 1998 (UPO92-6.0)

ADSs affected: ALUM-1362, ALUM-1363, and ALUM-1364, all remedial action ending in third or fourth quarters 1996, and all other UMTRA-S ADSs.

Assumption: According to the latest amendment to the Uranium Mill Tailings Radiation Control Act (UMTRCA), authority for surface work would terminate at the end of FY1996. Without an extension of UMTRCA through FY1998, all work must stop on the Project at the end of FY1996. This would leave at least six sites unlicensed and would require notifying the appropriate state and Federal agencies of out-of-compliance conditions in future UMTRA-S ADSs.

5. LACK OF POST-UMTRA AND POST-CELL CLOSURE POLICIES (UPO92-4.0)

ADSs affected: ALUM-1362, ALUM-1332, and remedial action ADSs for potentially affected states.

Assumption: If the DOE is required to clean up all residual radioactive materials (RRM), this may delay the closure of disposal cell(s). Current plans do not include contingency plans for this event. It was assumed that affected states would agree to supplemental standards and a post-UMTRA plan. This assumption was built into the target cases.

6. UNPREDICTABLE AMOUNTS AND TIMING OF FEDERAL FUNDING (UPO92-3.0)

ADSs affected: All

Assumption: The FY1995-1999 FYP ADSs were developed using two sets of criteria: the target and the above target level.

For the target case, the following guidelines were followed:

- The Project would be funded such that it would be completed in September 1998.
- Regulations currently in place would not change.
- Staff would be available to perform remedial action within the timeframe identified.

These assumptions are useful for planning. However, the UMTRA-S Project history shows several funding ups and downs, and years in which Federal funds were not received until well after the start of the fiscal year. The start of the fiscal year is during the construction season when Project costs are highest. The issue of how to plan for a 90-percent Federally funded project when that funding is unpredictable remains a major factor in working out the ADSs each year. While the issue affects the ADSs, they cannot resolve the issue.

7. LACK OF REGULATORY COMPLIANCE AGREEMENTS (UPO92-7.0 AND UPO92-9.0)

ADS affected: ALUM-1332; ALUM-1322, ALUM-1325 (two sites), ALUM-1330, ALUM-1337, ALUM-1341, ALUM-1344, ALUM-1346, ALUM-1349, ALUM-1351, ALUM-1354 (two sites), ALUM-1361 (two sites), and ALUM-1362

Assumption: Some Grand Junction vicinity properties (VP) are contaminated with commingled wastes (RRM and hazardous waste regulated by the Resource Conservation and Recovery Act). The remediation of commingled waste VPs is covered in ALUM-1332. However, the time required for remediation could affect the Grand Junction disposal cell (Cheney) closure and delay the transfer of the site to the Grand Junction Projects Office for long-term surveillance and maintenance. This work

and costs are not covered in the target or the above target level case.

National Emission Standards for Hazardous Air Pollutants compliance at the 15 sites where remedial action is not yet complete will be resolved as soon as remediation can be completed in either the target or the above target level case.

8. PROBLEM WITH STATES PROVIDING THEIR SHARES OF REMEDIAL ACTION COSTS (UPO92-2.0)

ADSs affected: ALUM-1325

Assumption: It is assumed that the affected states will appropriate the money in the year the work is performed to support cost-shared activities.

9. DIFFERENT INTERESTS AND PRIORITIES AMONG PARTICIPANTS (UPO92-8.0)

ADSs affected: ALUM-1322, ALUM-1325, ALUM-1330, ALUM-1332, ALUM-1337, ALUM-1341, ALUM-1344, ALUM-1346, ALUM-1349, ALUM-1351, ALUM-1354, ALUM-1361, ALUM-1362, and ALUM-2000

Assumption: It is assumed that the Technical Assistance Contractor Public Affairs Department, states and tribes meetings, scoping meetings, this Roadmap, the site-specific plan, and general meetings, which are funded through ALUM-1362 and ALUM-2000, will satisfactorily address the different participants' interests in the UMTRA mission.

10. TECHNOLOGY DEVELOPMENT/TRANSFER (UPO923-10.0)

ADSs affected: ALUM-2000, ALUM-1362, and ALUM-1332

Assumption: As new technology is developed and accepted, it will be implemented on the UMTRA Project if it provides for cost-effective compliance with the UMTRA Project standards and protection of human health and the environment.

APPENDIX C
UMTRA SITE LAND USE PLANNING

UMTRA PROJECT LAND USE PLANNING

The Uranium Mill Tailings Remedial Action (UMTRA) Project Office (PO) is a non-residual radioactive materials (RRM)-contaminated location in Albuquerque, New Mexico. It oversees the stabilization and control of uranium mill tailings, vicinity properties, other RRM, and groundwater compliance at the 24 Congressionally designated former mill sites in 10 states across the United States. As such, the UMTRA Project does not consist of a "site" in the classic sense. In fact, the U.S. Department of Energy (DOE) does not own these 24 sites.

Each designated former uranium mill site and/or disposal cell location is acquired for cleanup and/or use for the DOE by the affected state or tribe. Cooperative agreements specify responsibilities of the DOE and of the affected state or tribe. Where vicinity property cleanup is required, the DOE enters into a remedial action agreement with the individual vicinity property owners.

The RRM is stabilized at a disposal site, either in-place, on-site at the mill site location, or at a remote site selected for the tailings disposal. The decision to stabilize at the processing site or at a remote location is made after meetings held to gather public input, meetings with affected states and tribes, discussions with the NRC, and other public participation activities.

Many of the activities characterized as "land use planning" took place during the disposal site selection process and the National Environmental Policy Act (NEPA) process. During this phase of the UMTRA Project, the processing sites were characterized to determine their viability for stabilization in place (SIP) or stabilization on-site (SOS). DOE officials met with community leaders, elected officials, and concerned citizens to consider and discuss options. Concurrence from the NRC and state and tribal officials was also obtained. For those sites where SIP or SOS were determined not to be an option, an alternate site selection process was initiated. This process was documented in the site's comparative analysis of disposal site alternatives report (CADSAR). The preferred disposal alternative is then carried forward for analysis under NEPA.

The regulatory controlled areas and contamination areas are defined, characterized, and analyzed in greater and greater detail throughout the CADSAR and NEPA processes. These processes result in the selection and approval of a disposal site that will contain stabilized RRM, meet the UMTRCA standards, and avoid all areas of regulatory and public concern. Approval of the remedial action plan by the state or tribe, and NRC includes approval of the more detailed land use planning.

Land use and conditions before remedial action at the non-DOE-owned mill and disposal sites are presented in the site-specific CADSAR and NEPA documents. Land use at the DOE-owned, completely remediated disposal sites shows the disposal cell and any buffer areas. These detailed site maps are presented in the site-specific long-term surveillance plans. Therefore, composite current condition maps for the various UMTRA Project sites are not presented in this Roadmap.

Following remediation, the DOE will acquire title only to the disposal sites and any buffer areas. The DOE will obtain a general license from the NRC for all of the disposal sites, which provides for Federal custody and long-term surveillance and monitoring of the disposal

cells. The disposal cells are planned, engineered, and constructed to segregate the tailings from the environment for 200 to 1000 years. Long-term surveillance and monitoring will be carried out by the Grand Junction Projects Office, not the UMTRA PO.

Local task groups, the DOE, and affected states and tribes decide how a remediated mill site will be used after it has been released by the DOE. In some communities, parks and other public attractions are planned for the portions of the former mill sites that have been remediated.

Site selection has been completed for all the designated UMTRA Project sites. Remedial actions have been completed or are under way at all but six sites. These six sites are currently in the NEPA process.

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