DOE-EM/GJRAC1630

Moab UMTRA Project
Environmental Management System Manual

Revision 12

April 2023

U.S. Department of Energy

Office of Environmental Management

Prepared by the Remedial Action Contractor under contract number 89303322DEM000073
for the U.S. Department of Energy Office of Environmental Management, Grand Junction, Colorado.

Moab UMTRA Project
Environmental Management System Manual

Revision 12

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Revision History

Revision	Date	Description
0	October 2007	Initial issue.
1	September 2008	Updated to reflect document title change and to include integrated RAC and TAC Project activities.
2	April 2009	Updated to incorporate DOE Guide 450.1-1A requirements.
3	October 2011	Updated to incorporate July 2009 EMCBC report review comments.
4	December 2013	Updated to incorporate DOE Order 436.1, "Departmental Sustainability," requirements, document title change, and regulatory references.
5	May 2017	Periodic update.
6	February 2018	Periodic update.
7	September 2018	Comprehensive revision to update the manual to ISO 14001:2015 and address gaps identified in the 2018 self-assessment and gap analysis.
8	June 2019	Revision includes addition of Executive Summary.
9	September 2020	Revision includes updates to RAC and TAC Environmental Impacts and Mitigation tables in Attachment 2.
10	August 2021	Revision includes updates to RAC and TAC Environmental Impacts and Mitigation tables in Attachment 2.
11	April 2022	This revision addresses areas of improvement identified in the 2021 conformance audit review. Content changes include revision of Attachment 2, the Scope of the EMS Manual, and Section 6 details related to environmental aspects ratings, determination of compliance obligations, and establishment of environmental objectives. The plan has also been aligned with the Lines of Inquiry associated with the audit.
12	April 2023	Revision includes update to scope of work and removal of TAC references. Content changes include minor edits throughout the document, addition of revised Environmental Aspects Checklist (Attachment 1), clarifying of aspects scoring system (Section 7.1.2) and changes throughout Attachment 2. Addition of Attachment 3 consisting of the Environmental Objectives for FY2023. Addition of Appendix A, which includes a comprehensive list of applicable environmental laws and regulations and criteria for reportable incidents.

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Acronyms and Abbreviations

ALARA	As Low As Reasonably Achievable
ASER	Annual Site Environmental Report
BMPs	Best Management Practices
CA	Corrective Action
CA	Contamination Area
CR	Condition Report
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy
DOT	Department of Transportation
EM	Environmental Management
EMS	Environmental Management System
ET	Evapotranspiration
FAR	Federal Acquisition Regulation
FEIS	Final Environmental Impact Statement
H&S	Health & Safety
HRRM	Hazardous Residual Radioactive Material
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ISO	International Organization for Standardization
IWP/JSA	Integrated Work Plans/Job Safety Analysis
LL	Lessons Learned
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NOV	Notice of Violation
PWS	Performance Work Statement
RAC	Remedial Action Contractor
RBA	Radiological Buffer Area
ROD	Record of Decision
RRM	Residual Radioactive Material
SCWE	Safety Conscious Work Environment
SDS	Safety Data Sheet
SHRRM	Suspected Hazardous Residual Radioactive Material
SP	Special Permit
SPCC	Spill Prevention Control and Countermeasure
SSP	Site Sustainability Plan
SWPPP	Stormwater Pollutant Prevention Plan
TAC	Technical Assistance Contractor
TISK	Training Information System Knowledge
UDEQ	Utah Department of Environmental Quality
UMTRA	Uranium Mill Tailings Remedial Action
WOTUS	Waters of the United States

Executive Summary

This Environmental Management System (EMS) Manual for the Moab Uranium Mill Tailings Remedial Action Project (UMTRA) defines how the U.S. Department of Energy (DOE) Office of Environmental Management (EM), as implemented by the Remediation Action Contract (RAC), integrates environmental management controls into work activities, and oversees implementation of EMS within EM federal and contractor activities. The EMS dictates our environmental and sustainability values for ensuring protection of the environment, workers, and public health. Consistent with the requirements of the International Organization for Standardization (ISO 14001:2015), Environmental Management Systems (EMS), and DOE Order (O) 436.1 (Departmental Sustainability), this EMS describes how the Moab UMTRA Project conducts work following the Plan-Do-Check-Act model established in the ISO 14001:2015 guide.

The main objectives of the EMS are as follows:

- Execute conformance to ISO14001:2015 and continual development of the EMS.
- Establish roles and responsibilities for key management and EMS positions.
- Implement a standardized method to incorporate environmental concerns into the Moab UMTRA Project utilizing the ISO 14001:2015 EMS as a guide.
- Identify and comply with all applicable environmental laws, regulations and other requirements.
- Support and implement the Moab UMTRA Project Environmental Policy.
- Adhere to the DOE's Integrated Safety Management System (ISMS) with all work-related safety and compliance controls.
- Implement, maintain, and continually improve the EMS Manual.

To fulfill these objectives, this EMS Manual defines the environmental requirements that all employees and subcontractors working on behalf of DOE and EM are expected to follow. These requirements are designed to promote environmental stewardship, maximize site-wide sustainability practices, and ensure that environmental concerns are promptly reported and addressed.

1.0 Purpose

This Manual provides a "map" between the International Organization for Standardization (ISO) (2015) Environmental Management Systems (EMS) (ISO 14001:2015) requirements and the Department of Energy (DOE) Moab Uranium Mill Tailings Remedial Action (UMTRA) Project Environmental Management System (EMS) element that address the ISO EMS requirements. The Moab UMTRA Environmental Management System (EMS) Manual acts as an overarching document, directly addressing or pointing to Project elements that address the requirements of ISO 14001:2015.

Many of the ISO 14001:2015 EMS requirements are addressed through other programs, processes, or procedures (e.g., emergency response is addressed in the Moab UMTRA Project Emergency Management System). Therefore, for the purposes of this Manual, the term "Environmental Management System" and its acronym EMS, by themselves refer to the EMS, which is one of the Project's standards-based management systems.

The term ISO 14001:2015 EMS will be used to describe the collective set of management system elements, which meet the requirements of ISO 14001:2015. In many cases, references to other documents (e.g., implementing plans and procedures) are provided for additional information. This Manual will be reviewed periodically and revised when necessary.

2.0 Scope

This EMS Manual for the Moab UMTRA Project defines how the Remedial Action Contractor (RAC), on behalf of the U.S. Department of Energy (DOE) Office of Environmental Management (EM), integrates environmental management controls into work activities and oversees implementation of the EMS. The EMS dictates the Moab UMTRA Project's environmental and sustainability values for ensuring protection of the environment.

This EMS applies to the three facilities managed as part of the Project, which include: the Moab site, the Crescent Junction disposal site (including the Green River water supply line), and the Grand Junction (Colorado) administration office. This manual incorporates air, water, soil, land, and natural resources affected by work conducted on behalf of the DOE by the RAC and the subcontractors under their control. This manual is consistent with the requirements of the ISO 14001:2015, Environmental Management Systems, and DOE Order (O) 436.1 (Departmental Sustainability). The EMS describes how the Moab UMTRA Project conducts work following the Plan-Do-Check-Act model established in the ISO 14001:2015 guide.

3.0 Introduction

The scope of the Moab UMTRA Project is to remove more than 16 million tons of contaminated mill tailings and mill debris from the former Atlas Minerals Corporation uranium ore-processing site, remediate contaminated groundwater and vicinity properties in Moab, Utah. This is consistent with Title 42 United States Code Section 7914 (42 USC 7914), "Uranium Mill Tailings Radiation Control Act of 1978," and following 40 Code of Federal Regulations Part 192

(40 CFR 192) standards to protect the groundwater, the Colorado River, human health, and the environment.

In accordance with the DOE *Record of Decision for the Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah* (6450-01-P), the mission includes relocation of the mill tailings pile, predominantly by rail, from the former mill site, adjacent to the Colorado River to a DOE-constructed disposal facility near Crescent Junction, Utah. The extent of radiological contamination at the mill site has been determined. DOE monitors the construction of additional phases of the disposal cell, the excavation and removal of the tailings pile to the disposal cell, and the remediation of groundwater.

DOE has two prime contractors to perform the Project scope of work: the Remedial Action Contractor (RAC) and the Technical Assistance Contractor (TAC). The RAC is responsible for excavation, conditioning, and transportation of the tailings to Crescent Junction, construction of the disposal cell, placement of the tailings in the cell, radiological control, and handling day-to-day maintenance and operations at the Moab and Crescent Junction sites, including operating the groundwater interim remedial action system and conducting revegetation activities, air monitoring, and radiological surveys of vicinity properties. The TAC provides technical and administrative support services to DOE.

The Project is being executed in a Safety Conscious Work Environment (SCWE) consistent with Integrated Safety Management System (ISMS) and EMS requirements. The Project manages its organizational resources to operate efficiently with excellent performance in safety, quality, and environmental management and will maintain radiological exposures to the public, workers, and the environment as low as reasonably achievable.

4.0 Approach

The Project is committed to complying with legal and other applicable requirements; integrating pollution prevention into planning and decision-making; operating in a manner that protects and restores the environment; communicating appropriate EMS information to employees, subcontractor personnel, and other stakeholders; and providing and continually improving services, operations, and management systems of the highest quality consistent with the needs and expectations of the DOE.

The Project provides a systematic approach to integrating environmental considerations into every part of Project work and uses the ISO 14001:2015 EMS as a tool to identify, manage, monitor, and control environmental issues. The ISO 14001:2015 EMS is designed to help improve environmental performance, ensure compliance with legal and other requirements, improve effectiveness and efficiency, reduce costs, and earn and retain regulator and community trust.

The *Moab UMTRA Project Contractor Roles and Responsibilities* (DOE-EM/GJ3000) defines the approach to completion of work for the Moab Project that integrates both RAC and TAC activities in a safe, compliant, and efficient manner.

5.0 Context of the Organization

5.1 Understanding the Organization and its Context

The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its EMS. Such issues shall include environmental conditions being affected by or capable of affecting the organization.

Key documents include:

- *Moab UMTRA Project Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah, Final Environmental Impact Statement* (DOE/EIS-0355).

The Final Environmental Impact Statement (FEIS) evaluates the environmental consequences that may result from implementing the reasonable alternatives, including impacts to public health, groundwater and surface water, traffic, air quality, and other resource areas. The FEIS also analyzes a "No Action" alternative, under which DOE would not implement any surface or groundwater remedial actions. DOE's preferred alternatives are off-site disposal of the mill tailings at Crescent Junction, Utah, using rail transportation, and implementation of active ground water remediation at the Moab site.

The Project has identified a number of external and internal issues that are relevant to the EMS. These issues include Site specific environmental aspects (internal), compliance obligations (external), environmental sampling results (internal), potential emergency events (internal), public inquiries (external), and available resources (internal/external) and funding (external). These issues are monitored, and elements of the EMS are modified as necessary to ensure it delivers the intended outcomes.

5.2 Understanding the Needs and Expectations of Interested Parties

The organization shall determine:
1. The interested parties that are relevant to the EMS.
2. The relevant needs and expectations (i.e., requirements) of these interested parties.
3. Which of these needs and expectations become its compliance obligations.

Key documents include:
- Partnering Agreement; Mission, Vision, Goals.
- Moab UMTRA Project Environmental Policy.
- Moab UMTRA Project Safety Culture Policy.
- RAC Contract.
- Subcontracts (Statements of Work).
- *Moab UMTRA Project DOE Oversight Plan* (DOE-EM/GJF2089).
- *Moab UMTRA Project Public Participation Plan* (DOE-EM/GJ1542).
- *Moab UMTRA Project Employee Concerns Program* (DOE-EM/GJ2067).

The interested parties relevant to the Project include the DOE, the public, employees, suppliers, and regulators (e.g., State of Utah, Nuclear Regulatory Commission, United States Fish and Wildlife Service, United States Army Corp of Engineers).

Expectations

- The expectations of Moab UMTRA senior management are incorporated in the Project Partnering Agreement which includes commitment, mission, vision statements, and the Environmental and Safety Culture Policies. This Partnering Agreement provides a structured framework, championed by senior management, to effectively accomplish the Project mission.
- The needs and expectations of DOE are clearly communicated and understood via the RAC contracts, DOE's Oversight Plan, performance reviews, and frequent meetings.
- The needs and expectations of the public are solicited and understood by implementing the Public Information Plan and using avenues such as public meetings, a Grand County Liaison, and discussions with the Public Affairs Manager to ensure project management is aware of any environmental questions from public or media.
- Expectations of suppliers are communicated and documented via statements of work and ultimately reflected in contract language.
- Opportunities for employees to communicate needs and expectations include an Employee Concerns Program (including anonymous reporting) and a Safety Suggestion/Concern Box.
- The external needs and expectations that become compliance obligations are incorporated into RAC contracts and contract modifications. Requirements are then flowed down to staff via SharePoint, operating procedures, and meetings.

5.3 Environmental Management System Implementation

EMS is integrated into the business and operating processes of the Project through integrated work plans (IWPs), trainings, tailgate meetings, and site procedures. In addition to the EMS, a number of other integrated programs contain the elements necessary to demonstrate conformance to the ISO 14001:2015 standard. References to these key program documents are provided below, and individual sections of this Manual reference documents key to implementation.

NOTE: The purpose statement, found in the program documents listed below, provides a brief summary of their objectives.

Key documents include:

- *Moab UMTRA Project Environmental Management System Manual* (DOE-EM/GJ1630)
- *Moab UMTRA Project Integrated Safety Management System Description* (DOE-EM/GJ3001).
- Contractor Assurance System Description (included in *Project Integrated Safety Management System Description*).
- *Moab UMTRA Project Training Manual* (DOE-EM/GJ1533).
- *Moab UMTRA Project Electronic Document Production Procedure* (DOE-EM/GJ3020).
- *Moab UMTRA Project Records Management Manual* (DOE-EM/GJ1545).
- *Moab UMTRA Project RAC Quality Assurance Plan* (DOE-EM/GJRAC1766).
- *Moab UMTRA Project DOE Oversight Plan* (DOE-EM/GJF2089).
- *Moab UMTRA Project Transportation Plan* (DOE-EM/GJ1639).
- *Moab UMTRA Project Radiological Protection Program* (DOE-EM/GJ0610).
- *Moab UMTRA Project Worker Safety and Health Program Description* (DOE-EM/GJ3002).
- *Moab UMTRA Project Health and Safety Plan* (DOE-EM/GJ1038).
- *Moab UMTRA Project Emergency/Incident Response Plan* (DOE-EM/GJ1520).
- *Moab UMTRA Project Hazard Communication Program* (DOE-EM/GJ1605).

6.0 Leadership

6.1 Leadership and Commitment

Senior management shall demonstrate leadership and commitment with respect to the environmental management system by:

1. Taking accountability for the effectiveness of the EMS.
2. Ensuring that the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization.
3. Ensuring the integration of the EMS requirements into the organization's business processes.
4. Ensuring that the resources needed for the EMS are available.
5. Communicating the importance of effective environmental management and of conforming to the EMS requirements.
6. Ensuring that the EMS achieves its intended outcomes.
7. Directing and supporting persons to contribute to the effectiveness of the EMS.
8. Promoting continual improvement.
9. Supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

NOTE: Reference to "business" in this International Standard can be interpreted broadly to mean those activities that are core to the purposes of the organization's existence.

Key documents include:

- Moab UMTRA Project Environmental Policy.

Senior Project management are committed to conformance to ISO 14001:2015 and to the effectiveness and continual improvement of the EMS. Roles and responsibilities are documented for key management and EMS positions (see Section 6.3).

6.2 Environmental Policy

Senior management shall establish, implement, and maintain an environmental policy that, within the defined scope of its environmental management system:

- Is appropriate to the purpose and context of the organization, including the nature, scale, and environmental impacts of its activities, products, and services.
- Provides a framework for setting environmental objectives.
- Includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization.

NOTE: Other specific commitment(s) to protect the environment can include sustainable resource use, production efficiency improvements, climate change mitigation and adaptation, and protection of biodiversity and ecosystems.

- Includes a commitment to fulfill its compliance obligations.
- Includes a commitment to continual improvement of the EMS to enhance environmental performance.

The environmental policy shall:

- Be maintained as documented information.
- Be communicated within the organization.
- Be available to interested parties.

Key documents include:

- Moab UMTRA Project Environmental Policy.

The Moab UMTRA Project Environmental Policy includes commitments to protection of the environment, fulfillment of compliance obligations, and continual improvement of the EMS to enhance environmental performance. Employees are expected to familiarize themselves with the policy statements. The policy is approved and signed by the DOE Federal Cleanup Director, the RAC Project Manager, and the TAC Senior Program Manager. The environmental policy statements are communicated to staff in a variety of ways including workplace postings, training, and staff meetings, bulletin boards, the Site's SharePoint website, and the Project website.

6.3 Organizational Roles, Responsibilities and Authorities

Senior management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization.

Senior management shall assign the responsibility and authority for:

1. Ensuring the EMS conforms to the requirements of this International Standard.
2. Reporting on the performance of the EMS, including environmental performance, to senior management.

Key documents include:

- *Moab UMTRA Project Contractor Roles and Responsibilities* (DOE-EM/GJ3000).

Resources necessary for the EMS to be implemented, maintained, and improved are identified by the RAC Environmental Manager and the RAC Project Manager. EMS costs are tracked throughout the year.

The *Moab UMTRA Project Contractor Roles and Responsibilities* document describes the roles and responsibilities for key RAC and TAC personnel. *Contractor Roles and Responsibilities* documents general expectations associated with environmental, safety, and health issues. The majority of the key roles and responsibilities of the EMS are administered by a relatively small group of Project individuals; however, successful implementation of the EMS requires varying degrees of commitment from all employees and subcontractors.

The RAC Environmental Compliance Manager serves as the EMS interface for line organizations and is responsible for integrating the EMS requirements into organization activities. Position-specific roles and responsibilities specific to the EMS are described in the following subsections.

6.3.1 Senior Management

- Take accountability for the effectiveness of the EMS.
- Ensure the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization.
- Ensure the integration of the EMS requirements into the organization's business processes.
- Ensure the resources needed for the EMS are available.
- Communicate the importance of effective environmental management and of conforming to the EMS requirements.
- Ensure the EMS achieves its intended outcomes.
- Direct and support persons to contribute to the effectiveness of the EMS.
- Promote continual improvement.
- Support other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

6.3.2 RAC Environmental Compliance Manager

- Establish policies and procedures that meet regulatory standards and DOE requirements.
- Work with senior management to obtain necessary resources to support programmatic policies and procedures.
- Monitor overall EMS performance.
- Review and submit reports to regulatory agencies.
- Participate in audits of the EMS.
- Convene and facilitate Core Team meetings with support of the Sustainability Coordinator.
- Maintain this EMS Manual.
- Lead response to relevant communications on the EMS.
- Coordinate internal and external audits of the EMS.
- Oversee implementation of corrective actions from audits and reviews.
- Coordinate management reviews of the EMS.
- Develop strategy and measures to increase staff awareness of their environmental impacts.
- Liaise between Senior Management and the Core Team (defined below).
- Manage required EMS documents, including audit records and any resulting corrective actions in coordination with the RAC Quality Assurance Manager.

6.3.3 Core Team Members

The Core Team, consisting of representatives from the DOE and the RAC, meets quarterly to identify and review objectives and measures to track performance. At a minimum, the Core Team includes the RAC Environmental Compliance Manager, procurement staff as appropriate, and the Sustainability Coordinator.

Core Team Members:

- Participate in the evaluation that determines the set of significant environmental aspects.
- Develop objectives and targets for significant aspects.
- Prepare, coordinate, and monitor progress performance metrics.
- Review performance results and prepare recommendations on improvements.
- Review performance results and make recommendations to improve the EMS.
- Assist with continual improvement of the EMS.
- Attend training required to maintain comprehensive EMS awareness.
- Participate in audits of the EMS.

- Recommend and help develop any operational control that will be needed to achieve environmental objectives.

6.3.4 Sustainability Coordinator

- Leads development and implementation of the Site Sustainability Program.
- Maintains Sustainability Dashboard and prepares annual Site Sustainability Plan (SSP).
- Reports on pollution prevention, energy management, fleet management, and environmentally preferred purchasing activities in accordance with DOE Order 436.1, "Departmental Sustainability."
- Supports the Environmental Compliance Manager in facilitating the Core Team, and leading Core Team efforts for sustainability.

6.3.5 RAC Environment, Safety, Health, and Quality Manager

Administers the *Emergency Management Program,* which is designed to minimize the consequences from reasonably foreseeable man-made and natural emergencies.

- Communicate and periodically test essential aspects of the Emergency Management program to the Project.

7.0 Planning

7.1 Actions to Address Risks and Opportunities

7.1.1 General

The organization shall establish, implement, and maintain the processes needed to meet the requirements in Section 7.1.1 through 7.1.4. When planning for the EMS, the organization shall consider:

- The issues referred to in Section 5.1 (Understanding the Organization and its Context).
- The requirements referred to in Section 5.2 (Understanding the Needs and Expectations of Interested Parties).
- The scope of its EMS and determine the risks and opportunities, related to its:
  - Environmental aspects (see Section 7.1.2).
  - Compliance obligations (see Section 7.1.3).
  - Other issues and requirements, identified in Sections 5.1 and 5.2 that need to be addressed to:
    - Give assurance that the EMS can achieve its intended outcomes.
    - Prevent or reduce undesired effects, including the potential for external environmental conditions to affect the organization.
    - Achieve continual improvement.

Within the scope of the EMS, the organization shall determine potential emergency situations, including those that can have an environmental impact. Appendix A (Section A.2) lists the major criteria for reportable environmental incidents. The organization shall maintain documentation of the:

- Risks and opportunities that need to be addressed.
- Processes needed in Sections 7.1.1 through 7.1.4 to the extent necessary to have confidence they are carried out as planned.

Key documents include:

- *Moab UMTRA Project Federal Risk Management Plan* (DOE-EM/GJF1537).
- *Moab UMTRA Project Emergency/Incident Response Plan* (DOE-EM/GJ1520).
- *Moab UMTRA Project Incident Investigation and Reporting* (DOE-EM/GJ2265).

The Project considers internal and external issues, compliance obligations and the scope of our EMS when establishing the processes needed to meet Sections 7.1.1 through 7.1.4 of the Standard.

The Project's Emergency Management System provides comprehensive resources for emergency planning, preparedness, response, and recovery services in the event of an emergency (See Section 9.2 Emergency Preparedness and Response).

The documented processes used to identify environmental aspects and compliance obligations, and to evaluate the effectiveness of the EMS are described in Sections 7.1.1 through 7.1.4 of this Manual.

Risks and opportunities have been evaluated that could affect EMS outcomes, including the environmental aspects and compliance obligations. These are as follows:

- The Project's mission could be terminated in which case the EMS would terminate.
- The Project's mission could be changed, and this could entail personnel and operational changes, including changes to the significant environmental aspects that the EMS is designed to manage.
- The Project's funding could be cut, which would necessitate a reduction in operations. This would require further evaluation of the net environmental aspects associated with the work.
- The Project could be impacted by an act of nature (e.g., earthquake, flood, drought).
- Changes to the Project's mission or to its funding are not addressed in the EMS. Management believes that operations and the EMS can be readily adjusted to accommodate such potential changes in a timely manner and without fear of causing uncontrolled environmental impacts.

The EMS is designed to address the significant environmental aspects of Project activities and to ensure the achievement and maintenance of compliance with compliance obligations. Project programs and processes include the resources and operational controls to ensure the EMS can achieve its intended outcomes.

7.1.2 Environmental Aspects

Within the defined scope of the EMS, the organization shall determine the environmental aspects of its activities, products, and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective. When determining environmental aspects, the organization must take into account:

- Change, including planned or new developments, and new or modified activities, products, and services.
- Abnormal conditions and reasonably foreseeable emergency situations.

The organization must determine those aspects that have or can have a significant environmental impact by using established criteria. The organization must communicate its significant environmental aspects among the various levels and functions of the organization, as appropriate, and must maintain documentation of its:

- Environmental aspects and associated environmental impacts (Section 7.1.2 and Attachment 2 of this document).
- Criteria used to determine its significant environmental aspects (Attachment 2, Tables 1-3).
- Significant environmental aspects.

Key documents include:

- *Moab UMTRA Project Environmental Aspects Checklist* (Form 3000; File Index No. 018.008.03).
- *Moab UMTRA Project Remedial Action Plan* (DOE-EM/GJ1547).
- *Moab UMTRA Project Waste Management Plan* (DOE-EM/GJ1633).
- *Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan* (DOE-EM/GJRAC1830).
- *Moab UMTRA Project Used Oil Management Plan* (DOE-EM/GJ1919).
- *Moab UMTRA Project Site Sustainability Plan.*
- *Moab UMTRA Project Crescent Junction Site Fugitive Dust Control Plan* (DOE-EM/GJ1235).
- *Moab UMTRA Project Moab Site Fugitive Dust Control Plan* (DOE-EM/GJ2072).
- *Moab UMTRA Project Climate Change Vulnerabilities and Adaptation Plan* (DOE-EM/GJ2193).
- *Moab UMTRA Project Crescent Junction Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1238).
- *Moab UMTRA Project Moab Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1475).
- *Moab UMTRA Project Hazard Communication Pro*gram (DOE-EM/GJ1605).
- *Moab UMTRA Project Transportation Plan* (DOE-EM/GJ1639).
- *Moab UMTRA Project Transportation Procedure* (DOE-EM/GJ1639).
- *Moab UMTRA Project Spill Prevention, Control, and Countermeasures Plan* (DOE-EM/GJ1477).
- *Moab UMTRA Project Delivery and Dispensing of Petroleum Products Procedure* (DOE-EM/GJRAC2066).
- *Moab UMTRA Project Radiation Protection Program Manual* (DOE-EM/GJRAC1885).
- *Moab UMTRA Project TAC Environmental Air Monitoring Sampling and Analysis Plan* (DOE-EM/GJTAC2219).
- *Moab UMTRA Project Health and Safety Suspected Hazardous Residual Radioactive Material Response Procedure* (DOE-EM/GJRAC2160).
- *Moab UMTRA Project Integrated Work Planning and Control Procedu*re (DOE-EM/GJ1550).

The Project identifies environmental aspects associated with its activities at the activity level. By evaluating environmental aspects at the activity level, the analyses foster the development of work planning and controls associated with specific activities that will reduce all hazards to the lowest level achievable and then mitigate the impact of the remaining hazards.

On an activity level, the work control process described in the work planning and control procedure identifies the environmental aspects associated with work activities. The significant environmental aspects and associated controls are also integrated into task specific work control documents (e.g., Integrated Work Plans/Job Safety Analyses). In some cases, internal operating plans (e.g., Fugitive Dust Control Plans) have been developed to provide specific direction and best practice measures established for mitigation or environmental aspects.

The work control process also identifies additional resources, training, and controls associated with identified hazards. The work control process includes documented line management approval that hazards have been adequately identified and addressed. Managers have access to specialized disciplines, including EMS staff, who can provide work planning support and technical assistance. Workers are also responsible for participating in work control development, participating in task walk downs, and providing feedback during performance of work and post-job reviews.

The work control process also requires work to be reviewed when the scope changes and/or new hazards are identified. The Project developed an Environmental Aspects Checklist (see Attachment 1) to identify how organizational activities, products, and services may interact with the environment. For example, some activities can cause groundwater contamination as a result of spills; others may create habitats for flora and fauna. These potential interactions (e.g., spills, habitat creation) are environmental aspects (e.g., groundwater contamination, increased diversity of flora and fauna).

To determine environmental aspects and associated environment impacts of Project activities, environmental benefits (i.e., opportunities) or risks were evaluated using the following steps:

1. Project activities that may have environmental impacts and aspects were identified. Input was gathered from the responsible line supervisor that oversees the conduct of the activities as well as the project management staff.

2. A scoring system was designed to evaluate the environmental benefit(s) or risk(s) of each Project activity (e.g., revegetation, excavation, etc.). Criteria were based on 7 categories:

- People – Safety and Health (both on-site personnel and the public)
- Environment
- Compliance
- Quality
- Mission
- Financial
- Reputational

3. The scoring of 5 to 0 was determined for each category:

- **Positive numbers for environmental benefits**: Significant (+5), Major (+4), Moderate (+3), Minor (+2), Insignificant (+1) or Not Applicable (0) (See Attachment 2, Table 1 *Objective Benefit Evaluation Criteria*).
- **Negative numbers for environmental risks**: Significant (-5), Major (-4), Moderate (-3), Minor (-2), Insignificant (-1) or Not Applicable (0) (See Attachment 2, Table 2 *Objective Risk Evaluation Criteria*).

4. For each Project activity, each environmental aspect was given a score in each of the 7 categories as either an environmental benefit or risk using the scoring system established in previous step (not shown in this document).

5. A final score was added up for each environmental aspect and recorded on an Environmental Aspects and Impacts Registry for the Moab UMTRA Project activities (Attachment 2, Table 3):

- ≥ +20 = environmental benefit
- ≤ -20 = environmental risk

In the previous revision, Attachment 2 was separate for TAC and RAC activities due to respective contracts and scope of works. Due to a contract change starting fiscal year 2023, all environmental TAC activities were transferred to the RAC scope of work. The current Attachment 2 reflects all the activities under the revised RAC scope of work.

It is important to note that work control processes and activity/task planning along with all project requirements are flowed down to subcontractors. Communications with suppliers and subcontractors are conducted formally via subcontracts, purchasing documents, and IWP/JSA briefings. Environmental terms and conditions containing applicable requirements are included in the contracting documents.

Significant environmental aspects are taken into account when EMS objectives are established (see Section 7.2.1). Monitoring and measurement associated with significant environmental aspects is described in Section 7.0.

7.1.3 Compliance Obligations

The organization shall review compliance obligations against the context of the organization's scope, including activities, services and products that are a part of the Project's mission. The organization shall:

1. Determine and have access to the compliance obligations related to its environmental aspects.
2. Determine how these compliance obligations apply to the organization.
3. Take these compliance obligations into account when establishing, implementing, maintaining and continually improving its EMS.
4. Maintain documentation of its compliance obligations.

7.1.4 Identified Environmental Compliance Obligations

The first step used to determine compliance obligations is to review the RAC Contract. This contract specifies numerous elements that determine compliance obligations. Included in the list below is the first occurrence of each requirement, though the same requirement may occur in numerous locations throughout the contract. Note that there are other compliance obligations related to Radiation Protection, Quality, Transportation, Health and Safety, and others found in the Contract, however, the information below is intended to detail contractual environmental compliance obligations.

The following documents control one or more environmental obligations:

- Section C of the RAC Contract: Performance Work Statement (PWS)
  - Scope of Work (*C.2*)
  - Title 1 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) (*C.4.4.1*)
  - 40 CFR 192 (*C.4.4.1*)
  - NEPA requirements (*C.4.4.1 and C.2*)
  - Record of Decision (ROD) (*C.4.4.1*)
  - Amended Record of Decision (*C.4.4.1*)
  - Remedial Action Plan (*C.4.4.1*)
  - UDEQ Fugitive Dust Emissions (*C.4.4.1*)
  - UDEQ Stormwater Pollution Prevention Plan (SWPPP) Requirements (*C.4.4.1*)

- Operations Support to perform the PWS work scope *(C.4.4)*
- Comply with UMTRCA, the ROD, and all other applicable regulatory agreements, laws, and requirements *(C.4.4.1)*

- Section H: Special Contract Requirements
  - Risk Management and Insurance Program (*H.12*)
  - Contractor Acceptance of Notices of Violation or Alleged Violations, Fines, and Penalties (*H.13*)
  - Contractor Interface with Other Contractors and/or Government Employees *(H.20)*
  - Preservation of Antiquities, Wildlife, and Land Areas *(H.29)*
  - Department of Energy Directives(*H.37*)
  - Environmental Compliance *(H.48)*
  - Comply with permits, consent decrees, administrative orders, and settlement agreements between the DOE and federal and state regulatory agencies *(H.48)*
  - Laws, Regulations, and DOE Directives (*H.50*)
- Section I: Contract Clauses (Clause No. / Federal Acquisition Regulation (FAR)-U.S. Department of Energy Acquisition Regulation (DEAR) Reference)
  - I.90 / 52.223-2 Affirmative Procurement of Biobased Products Under Service and Construction Contracts
  - I.91 and I.92 / 52.223-3 Hazardous Material Identification and Material Safety Data
  - I.92 / 52.223-5 Pollution Prevention and Right to Know Information
  - I.96 / 52.223-10 Waste Reduction Program
  - I.97 / 522.223-12 Maintenance, Service, Repair, or Disposal of Refrigeration Equipment and Air Conditioners
  - I.98 / 52.223-13 Acquisition of EPEAT® – Registered Imaging Equipment
  - I.99 / 52.223-14 Acquisition of EPEAT® – Registered Televisions
  - I.100 / 52.223-15 Energy Efficiency in Energy Consuming Products
  - I.101 / 52.223-16 Acquisition of EPEAT®-Registered Personal Computer Products
  - I.102 / 52.223.17 Affirmative Procurement of EPA-Designated Items in Service and Construction Contracts
  - I.104 / 52.223-19 Compliance with Environmental Management Systems
  - I.105 / 52.223-20 Aerosols
  - I.106 / 52.223-21 Foams
  - I.221 / 952.223-78 Sustainable Acquisition Program
  - I.232 / 970.5223-1 Integration of Environment, Safety, and Health into Work Planning
- Section J: List of Attachments
  - J-1 Applicable DOE Compliance Directives:
    - DOE O 151.1D, Chg.1 Comprehensive Emergency Management System
    - DOE O 225.1B Accident Investigations
    - DOE O 231.1B, Chg.1 Environment, Safety, and Health Reporting
    - DOE M 435.1-1, Chg.3Radioactive Waste Management Manual
    - DOE O 436.1 Departmental Sustainability
    - DOE O 450.4A, Chg.1 Integrated Safety Management Policy
    - DOE P 451.1 National Environmental Policy Act Compliance Program
    - DOE O 460.1D Hazardous Materials Packaging and Transportation Safety
    - DOE O 460.2A Departmental Materials Transportation and Packaging Management
    - DOE M 460.2-1A Radioactive Material Transportation Practices Manual
  - J-2 List of RAC Permits & Agreements (applicable to environmental)

- Grand County License 29574, License to conduct environmental restoration at 2021 N. Hwy 191, Moab UT.
- Department of Transportation (DOT)-Special Permit (SP) 14283 Fourth Revision, Special Permit Authorization. This permit allows the transport of mill tailings from Moab to the CJ disposal site.
- US Fish & Wildlife Service (USFWS); Green River Pump Station; Biological Opinion (FWS/R6; 6-UT-06-F-014). USFWS issued Biological Opinion for Green River Pump Station based Wetlands Delineation and Biological Assessment reports; and has construction and operation stipulations.
- Utah Division of Water Quality, Stormwater Group. General Storm Water Utah Pollutant Discharge Elimination System (UPDES) Permit Coverage Number UTR359185. Storm water permit to address the control of storm water runoff and discharges resulting from DOE's construction activities at the Moab site.
- Utah Division of Water Quality, Stormwater Group. General Storm Water Permit UTR359187. Storm water permit for Crescent Junction, UT, Disposal Site; monthly inspections and report to DOE required.

o J-3 List of Deliverables (Deliverable Number; only those with potential environmental components)

6. Declaration of acceptance of responsibility for assigned scope, systems, and environmental/ regulatory conditions
8. Waste Management Plan
9. Transportation Plan
10. Lifecycle Baseline (LCB)
13. Weekly Project Status Report
16. Monthly Progress / Performance Report
20. Integrated Safety Management System (ISMS) Description
37. EMS Manual information
38. Site Sustainability Plan information
40. Annual Site Environmental Report (ASER) information
41. Permits and Agreements Lists

The next step in the evaluation is to analyze work scope items and the environmental aspects of those work elements. During this evaluation, the environmental compliance requirements are identified for the work element during the work planning process. This process is consistent with the Plan-Do-Check-Act and ISMS work cycles.

In addition, the Worker Safety and Health, ISMS, Quality Assurance, Transportation, and Radiological Protection Programs are also applicable to and play a role in managing specific significant environmental aspects. Internal operating procedures are also used to ensure certain requirements, such as groundwater sampling methods, are satisfied. As part of their roles and responsibilities, staff are required to comply with all policies and procedures. Managers are responsible for authorizing work and ensuring work is performed safely, securely, and in compliance with policies, standards, and procedures. EMS implementing documents are available on SharePoint and are accessible to all staff.

The RAC Environmental Compliance Manager serves as the EMS interface point with the respective line organizations and help their organization with requirements related to their environmental aspects. Internal operating procedures specify the applicable target audience, and

required reading and training is established using the Training Information System Knowledge base (TISK).

7.1.5 Process for Determining Environmental Compliance Obligations

The contract details the first direct round of applicable obligations and prescribes which organization is responsible for many of the environmental compliance obligations for the project. Next, the RAC conducts an evaluation of the operations associated with the prescribed work scope from the Contract. At this level, operations and environmental personnel discuss the means and methods to be employed to execute the various tasks associated with the scope of work. The means and methods are then broken down into an activity or task level. The Project Management Team, including the Environmental Manager, discuss the environmental components of each task.

Once all the work means and methods and the associated aspects (whether safety, environmental, or operational) are identified, an IWP is generated for the task. The IWP identifies the environmental aspects and associated controls to ensure compliance is maintained throughout the evolution of the work. Accompanying each IWP / JSA is an applicable Environmental Aspects Checklist (Section 7.1.2, Attachment 1).

The work scope, IWP, and Environmental Aspects Checklist is then communicated to other parties for concurrence and to ensure that each item has been accounted for and proper controls are identified. At this point, the applicability of higher level/project level requirements can be evaluated by other associated functional staff. This is accomplished during planning meetings and reviews, as personnel discuss the operational plan and the components related to that task. The updated IWP and Environmental Aspects Checklist is then posted to TISK for employee training purposes.

7.1.6 Planning Action

The organization shall plan:

1. To take actions to address its:
    a. Significant environmental aspects.
    b. Compliance obligations.
    c. Risks and opportunities identified in Section 7.1.1.
2. How to:
    a. Integrate and implement the actions into its EMS or other business processes.
    b. Evaluate the effectiveness of these actions.

The Project plans the actions necessary to address significant environmental aspects, compliance obligations, and the risks and opportunities that have been identified to achieve the intended outcomes of the EMS. The planned actions are included in business planning, objectives, and both operational and performance-based plans.

Beyond Task Planning, coordinated meetings between the RAC, TAC, and DOE occur every month, at a minimum. During these meetings, the Team discusses past and upcoming activities, compliance status and regulatory issues, such as newly issued Executive Orders or changes in laws that may affect the project's environmental aspects. Lastly, for the RAC, items that do not

fall into the RAC contract or an agreement, regulation, permit, etc., but are necessary for the project, are then discussed with TAC and DOE to determine responsibility for the identified environmental item.

7.2 Environmental Objectives and Plan for Achievement

7.2.1 Environmental Objectives

The organization shall establish environmental objectives at relevant functions and levels, considering the organization's significant environmental aspects and associated compliance obligations, and considering its risks and benefits (i.e., opportunities).

Section 7.1.2 and Attachment 2 provide details of the rating method for environmental aspects. An environmental aspect is considered significant if the final score is $\geq +20$ (equates to an environmental benefit) or ≤ -20 (equates to an environmental risk).

Upon identifying an aspect as significant, an environmental objective associated with the aspect is then formulated. The formulated environmental objective shall be:

1. Consistent with the Environmental Policy.
2. Measurable (if practicable).
3. Monitored.
4. Communicated.
5. Updated as appropriate.

After an objective has been formulated, a one-page action plan is established for each environmental objective (Attachment 3). This plan ensures the objective is consistent with the Environmental Policy, supportive of the Project mission, and is measurable (if practicable), monitored, communicated, and updated as appropriate. The review and progress tracking of the environmental objectives is completed by the Core Team, while the establishment and approval of the objective is authorized by the respective RAC Environmental Compliance Manager.

A sample Environmental Objective action plan can be found in Attachment 3 and is also a component of the Site Environmental SharePoint, allowing the plan to be used as a living document. As a living document, the action plan can be adjusted to accurately measure or account for an objective without the need to revise the entire EMS manual.

7.2.2 Planning Actions to Achieve Environmental Objectives

When formulating a one-page Environmental Objective action plan, the organization shall determine:

- What will be done.
- What resources will be required.
- Who will be responsible.
- When it will be completed.
- How the results will be evaluated, including indicators for monitoring progress toward achievement of its measurable Environmental Objectives (see Section 10.0).

The organization shall consider how actions to achieve its Environmental Objectives can be integrated into the organization's business processes.

Key documents include:
- Environmental Objective Action Plans (stored on SharePoint; Attachment 3)
- CORE Team documentation
- Annual Site Sustainability Plans
- Groundwater Program Reports
- Groundwater Semiannual Reports
- Quarterly Environmental Air Monitoring Reports
- Annual Site Environmental Reports
- Compliance Inspection Reports
- Environmental Management Assessments

The Project maintains a commitment to the integration of technical innovations into new and existing facilities, systems, and processes with a comprehensive approach to achieving DOE directives and Executive Orders. Flow down of and responsibility for achieving these environmental objectives are documented in the *Site Sustainability Plan*, and DOE Sustainability Dashboard. The Sustainability Coordinator develops the *Site Sustainability Plan,* maintains the Sustainability Dashboard, and performs status reviews periodically throughout the year.

8.0 Support

8.1 Resources

The organization shall determine and provide the resources needed for the establishment, implementation, maintenance, and continual improvement of the EMS.

Resources are assessed at least annually during management reviews and task order planning to ensure they are adequate for future needs, such as new personnel, training, equipment, improvement plans, permits and agreements, or changes in operations.

Senior management considers:
- Time needed from internal staff to evaluate operations, collect data, attend training, develop EMS processes, and coordinate EMS implementation.
- Specialized skills or services required to evaluate environmental aspects or compliance obligations, perform emergency functions, and perform assessments and audits.
- Information and technology systems used to store and analyze monitoring and measurement data or maintain and control EMS documentation.
- Equipment and supplies to facilitate environmental operations, such as storm water best management practices, waste storage containers, spill response supplies, and secondary containment.
- Financial resources needed for and availability of external subject matter expert support.

8.2 Competence

The organization shall:

1. Determine the necessary competence of person(s) doing work under its control that affects its environmental performance and its ability to fulfill its compliance obligations based on appropriate education, training, or experience.
2. Determine training needs associated with its environmental aspects and its environmental management system.
3. Where applicable, take actions to acquire the necessary competence and evaluate the effectiveness of the actions taken.

Key documents include:

- Employee qualification files.
- Certifications, resumes.
- Employee position descriptions.
- TISK training file.
- *Moab UMTRA Project Training Manual* (DOE-EM/GJ1533).

The Project's *Training Manual* provides guidance on the development, implementation, maintenance, and control of the Training Program and helps managers and supervisors ensure compliance with the training requirements of federal and state laws and regulations, DOE orders and policies, and Project procedures.

The *Training Manual*, in conjunction with the TISK database, helps managers and supervisors to determine and update company and individual training needs. Managers and supervisors review federal, state, and company laws, regulations, and policies to identify required training for their employees.

Individual training requirements are determined by the employee's manager and/or supervisor upon initial hire and revised as necessary due to changes in job responsibilities or job positions. An individual's training status is tracked by utilization of the assigned job codes. Job codes are considered a primary reference for identification of staff certification requirements.

Certifications are established as requirements that staff must fulfill based on the position(s) they hold. Training courses impart the required certifications/qualifications to staff upon successful completion. Status of staff compliance with these certifications/qualifications may then be readily assessed for management needs from TISK.

The EMS requires EMS Awareness Training (EC100) for all staff. This training is also required per scope of work, specifications, and terms and conditions of contract documents for nonemployees performing services on-site, except under either of the following circumstances:
1. Services are performed strictly in an office, conference room, or training room (performing administrative tasks, training or conference attendance, or servicing and maintaining computers and office machines).
2. It is determined, by the RAC Environmental Managers, that the services being performed have no potential for environmental impacts.

EMS Awareness Training includes the importance of conformance to policy and EMS requirements, how to determine the environmental aspects/impacts associated with work, environmental benefits of improved personal performance, EMS roles and responsibilities, emergency preparedness and response, and the consequences of not following EMS requirements.

Non-employees not required to take EMS Awareness Training are made aware of their EMS responsibilities through the terms and conditions of applicable subcontracts, agreements, or other contractual/legal mechanisms.

Additional environmental training is required for staff involved with certain environmental aspects. Examples of additional training are identified in the following subject areas:

- Groundwater sampling
- Data validation
- Environmental air monitoring
- Chemical safety (e.g., Hazard Communication)
- Spill prevention, control, and countermeasures (SPCC)
- Storm water (e.g., SWPPP, Compliance Inspector)
- Fugitive dust (e.g., EPA Method 9 opacity)
- Radiological control (e.g., Radiation Worker II)

8.3 Awareness

The organization shall ensure persons doing work under the organization's control is aware of:

1. Environmental Policy.
2. Significant environmental aspects and related actual or potential environmental impacts associated with their work.
3. Their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental performance.
4. Implications of not conforming to the EMS requirements, including not fulfilling the organization's compliance obligations.

Key documents include:

- Moab UMTRA Project Environmental Policy.
- *Moab UMTRA Project Integrated Work Planning and Control Procedure* (DOE-EM/GJ1550).
- *Moab UMTRA Project Environmental Aspects Checklist* (Form 3000; File Index No. 018.008.03).

The Project Environmental Policy contains the environmental commitments required by ISO 14001:2015. All staff are expected to be familiar with the policy and integrate it into their daily work.

Staff are made aware of the significant environmental aspects and related actual or potential environmental impacts associated with their work, their contribution to the effectiveness of the EMS (including the benefits of enhanced performance), and the implications of not conforming with EMS requirements through several mechanisms, including EMS Awareness Training, the work control process, aspect specific training (e.g., spill, prevention, control, countermeasure training), Environmental Aspects Checklist, and communications with their managers and supervisors.

References to appropriate controls for these significant aspects are also included in the work planning and control documentation. The work planning and control process requires:

1. Environmental hazards (including the significant environmental aspects) to be identified and evaluated.
2. Appropriate hazard controls to be developed and implemented.
3. Work be performed within the established controls.

The *Integrated Work Planning and Control Procedure* also requires management approval and authorization for all tasks. This authorization and approval indicate that hazards (including significant environmental aspects) and controls have been properly identified and that planned work execution will conform to environmental, safety and health, and quality assurance requirements. Stop work conditions are in place for any conditions or activities that have the potential to compromise the protection of the air, land, other natural and cultural resources. Employees are to stop work and immediately notify the Environmental Compliance Manager (or designee) and their supervisor.

8.4 Communication

8.4.1 General

The organization shall establish, implement, and maintain the processes needed for internal and external communications relevant to the EMS, including:
1. What it will communicate.
2. When to communicate.
3. With whom to communicate.
4. How to communicate.

When establishing its communication processes, the organization shall:
1. Take into account its compliance obligations.
2. Ensure environmental information communicated is dependable and consistent with information generated within the EMS.

The organization shall respond to relevant communications on EMS. The organization shall retain documented information as evidence of its communications, as appropriate.

8.4.2 Internal Communication

The organization shall:
1. Internally communicate information relevant to the EMS among the various levels and functions of the organization, including changes to the EMS, as appropriate.
2. Ensure its communication process enables persons doing work under the organization's control to contribute to continual improvement.

Key documents include:

- Moab UMTRA Project Environmental Policy.
- *Moab UMTRA Project Training Manual* (DOE-EM/GJ1533).
- *Moab UMTRA Project Environmental Aspects Checklist* (Form 3000; File Index No. 018.008.03).

Information on the EMS is communicated internally in several ways:

- Periodic Daily Tailgate Safety Meetings include EMS topics related to environmental aspects and compliance obligations.
- Monthly DOE Environment, Safety, Health and Quality Meetings include targeted EMS discussion and identify open corrective actions and their status.
- Monthly Environmental Managers' meeting with RAC, TAC and DOE environmental personnel.
- Project Management briefing on the Project's Environmental Policy.
- EMS Program documentation on the Project SharePoint website
- Environmental Aspects Checklists accompanying IWPs.
- ALARA Meetings include a review of quarterly environmental air monitoring results.
- Employees are provided training on EMS topics.

8.4.3 External Communication

The organization shall externally communicate information relevant to the EMS, as established by the organization's communication processes and as required by its compliance obligations.

Key documents include:

- *Moab UMTRA Project Moab UMTRA Project Public Participation Plan* (DOE-EM/GJ1542).
- Annual Site Environmental Reports (ASER).
- Groundwater Program Reports.
- Quarterly Environmental Air Monitoring Reports.
- FEIS.

DOE is committed to enhancing public trust through transparency, public participation, and collaboration. DOE actively solicits public opinions, perspectives, and values to enable better, more informed decisions. The Project complies with guidance on public participation provided in the National Environmental Policy Act (NEPA), the Uranium Mill Tailings Radiation Control Act (Title 42 United States Code Section 7901), and other federal requirements.

The Public Participation Plan identifies communication methods to facilitate stakeholder involvement in the Project. Public participation activities are conducted to inform the public about the Project and provide opportunities for open communication between DOE and its stakeholders.

Activities include:

- Public meetings (i.e., quarterly Moab Tailings Steering Committee meetings)
- Small group meetings
- Briefings for locals
- Newsletter, fact sheets, and information updates
- News releases
- Display ads/articles
- Kiosks
- Public website
- Email address
- Toll-free hotline
- Public reading room
- Educational programs and outreach activities
- Speakers' bureau

- Site tours

Information relevant to the EMS is communicated to the public on the Moab UMTRA Project website. Public website information includes the Project's Environmental Policy, site monitoring reports, compliance plans, and NEPA documentation including the Project's final environmental impact statement.

The *Annual Site Environmental Report* is one of the primary external communication tools used by the Project to convey environmental regulatory performance; it includes the results of environmental monitoring that is conducted in accordance with the regulations, environmental permits, and DOE Orders.

8.5 Documented Information

8.5.1 General

The organization's EMS shall include documented information:

1. Required by ISO 14001:2015.
2. Determined by the organization as being necessary for the effectiveness of the EMS.

NOTE: The extent of documented information for an EMS can differ from one organization to another due to:

- Size of organization and its type of activities, processes, products, and services.
- Need to demonstrate fulfillment of its compliance obligations.
- Complexity of processes and their interactions.
- Competence of persons doing work under the organization's control.

8.5.2 Creating and Updating

When creating and updating documented information, the organization shall ensure appropriate:

1. Identification and description (e.g., title, date, author, reference number).
2. Format (e.g., language, software version, graphics, paper and electronic media).
3. Review and approval for suitability and adequacy.

8.5.3 Control of Documented Information

Documented information required by the EMS and by ISO 14001:2015 shall be controlled to ensure it is:

a. Available and suitable for use, where and when it is needed.
b. Adequately protected (e.g., loss of confidentiality, improper use, loss of integrity).

For the control of documented information, the organization shall address the following activities as applicable:

- Distribution, access, retrieval, and use.
- Storage and preservation, including preservation of legibility.
- Control of changes (e.g., version control).
- Retention and disposition.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the EMS shall be identified, as appropriate, and controlled.

NOTE: Access can imply a decision regarding the permission to view the documented information only or the permission and authority to view and change the documented information.

Key documents include:
- *Moab UMTRA Project Electronic Document Production Procedure* (DOE-EM/GJ3020).
- *Moab UMTRA Project Records Management Manual* (DOE-EM/GJ1545).
- *Moab UMTRA Project Remedial Action Contractor Quality Assurance Pan* (DOE-EM/GJRAC1766).
- *Moab UMTRA Technical Assistance Contractor Quality Assurance Plan* (DOE-EM/GJ1525).

SharePoint serves as the vehicle for delivery, management, and distribution of Project policies, procedures, plans, manuals, and program descriptions. SharePoint maintains documents in electronic format that is readily available to staff. The revision history of each document describing changes made is identified within each document.

The *Electronic Document Production Procedure* provides a guide for developing, preparing, reviewing, revising, approving, and distributing documents. This procedure details requirements, responsibilities, and processes to ensure accurate, current documents that comply with pertinent regulations are being used. This procedure is consistent with Document Production requirements described in RAC Quality Assurance Plan.

9.0 Operation

9.1 Operational Planning and Control

The organization shall establish, implement, control, and maintain the processes needed to meet EMS requirements and to implement the actions identified in Sections 7.1 to 7.2 by:
1. Establishing operating criteria for the processes.
2. Implementing control of the processes in accordance with the operating criteria.

NOTE: Controls can include engineering controls and procedures. Controls can be implemented following a hierarchy (e.g., elimination, substitution, administrative), and can be used individually or in combination.

The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization shall ensure that outsourced processes are controlled or influenced. The type and extent of control or influence to be applied to the processes shall be defined within the EMS.

Consistent with a life cycle perspective, the organization shall:
1. Establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each stage of its life cycle.
2. Determine its environmental requirement(s) for the procurement of products and services, as appropriate.

3. Communicate its relevant environmental requirement(s) to external providers, including contractors.
4. Consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment, and final disposal of its products and services.

The organization shall maintain documented information to the extent necessary to have confidence that the processes have been carried out as planned.

Key documents include:

- *Moab UMTRA Project Integrated Work Planning and Control Procedure* (DOE-EM/GJ1550).
- *Moab UMTRA Project Environmental Aspects Checklist* (Form 3000; File Index No. 018.008.03).
- *Moab UMTRA Project Remedial Action Contractor Quality Assurance Plan* (DOE-EM/GJ1766).
- *Moab UMTRA Project Remedial Action Contractor Procurement Document Procedure* (DOE-EM/GJRAC1709).
- *Moab UMTRA Project Remedial Action Contractor Quality Levels Procedure* (Q-List) (DOE-EM/GJRAC1716).
- *Moab UMTRA Project Remedial Action Contractor Subcontract and Vendor Management Procedure* (DOE-EM/GJRAC1918).
- *Moab UMTRA Project Remedial Action Contractor Supplier Evaluation* (DOE-EM/GJRAC1703).
- *Moab UMTRA Project Remedial Action Contractor Acceptance of Items and Services Procedure* (DOE-EM/GJRAC1707).
- *Moab UMTRA Project Remedial Action Contractor Approved Supplier List* (DOE-EM/GJRAC3089).
- *Moab UMTRA Project Waste Management* Plan (DOE-EM/GJ1633).

The Project has established operational controls. Documented plans and procedures have been developed to control significant environmental aspects and to ensure consistency with environmental policy commitments and EMS objectives. When appropriate, the significant environmental aspects and associated controls are also integrated into the work control plans and procedures.

The *Integrated Work Planning and Control Procedure* describes the approach used by the Project to accomplish activity-level work conducted on the Project. Project Integrated Work Plans/Job Safety Analyses (IWPs/JSAs) and supporting documents, such as Environmental Aspects Checklists, radiological work permits and environmental permits and agreements, serve as the primary activity-level work control documents to ensure Integrated Safety Management (ISM) and environmental management are flowed down to the worker.

The IWP/JSA is used by the Project to capture work scope definition, identify hazards associated with each scope task, and develop and implement hazard controls for the tasks.

Project managers review work scope in accordance with applicable procedures to identify the potential hazards and risks and implement appropriate controls. Managers have access to environmental staff who can provide work planning support and technical assistance.

Communications with suppliers and contractors are conducted formally via the contracting documents. Environmental terms and conditions (e.g., environmentally preferred purchasing) containing applicable requirements are included in the contract documents. RAC Quality Assurance Program and implementing procedures identify processes to flow down quality requirements to subcontractors as quality requirements and technical specifications may directly or indirectly influence environmental aspects (i.e., an off-specification disposal cell construction product may affect cell integrity, or an improperly calibrated instrument may produce false groundwater readings and inaccurate reporting).

9.2 Emergency Preparedness and Response

The organization shall establish, implement, and maintain the processes needed to prepare for and respond to potential emergency situations identified in Section 7.0.

The organization shall:

1. Prepare to respond by planning actions to prevent or mitigate adverse environmental impacts resulting from emergency situations.
2. Respond to actual emergency situations.
3. Take action to prevent or mitigate the consequences of emergency situations appropriate to the magnitude of the emergency and the potential environmental impact.
4. Periodically test the planned response actions, where practicable.
5. Periodically review and revise the processes and planned response actions, in particular after the occurrence of emergency situations or tests.
6. Provide relevant information and training related to emergency preparedness and response, as appropriate, to relevant interested parties, including persons working under its control.
7. Maintain documented information to the extent necessary to have confidence that the processes are carried out as planned.

Key documents include:

- *Moab UMTRA Project Emergency/Incident Response Plan,* Appendix A, Incident Command System Procedure (DOE-EM/GJ1520).
- *Moab UMTRA Project Hazards Survey* (DOE-EM/GJ2055).
- *Moab UMTRA Project Spill Prevention, Control, and Countermeasures Plan* (DOE-EM/GJ1477).
- *Moab UMTRA Project Emergency Contact List* (DOE-EM/GJ1757).
- *Moab UMTRA Project Emergency Medical Response Program* (DOE-EM/GJ2071).

The Emergency Management Program provides the resources and capabilities to perform emergency preparedness services and, in the event of an accident, emergency response services. Emergency Management staff perform a hazard survey in accordance with the *Moab UMTRA Project Hazards Survey* (DOE-EM/GJ2055) to identify potential emergency situations. An *Emergency/Incident Response Plan* and implementing procedures have been developed to prepare for and respond to a wide variety of potential emergency situations.

Training is provided to ensure appropriate response and performance during emergency events. Frequent drills and an annual exercise are scheduled to ensure the effective performance of the plan and procedures.

The *Emergency/Incident Response Plan* and implementing procedures describes emergency preparedness and response responsibilities for staff and members of local emergency response organizations. The plan includes processes that provide direction to staff in the areas of spill response, notification, and reporting. Additionally, the *Spill Prevention, Control, and Countermeasures Plan* identifies sources and locations of potential spills. Appendix 2 includes a section for major reporting criteria for environmental incidents.

10.0 Performance Evaluation

10.1 Monitoring, Measurement, Analysis, and Evaluation

10.1.1 General

The organization shall monitor, measure, analyze, and evaluate its environmental performance.

The organization shall determine:

- What needs to be monitored and measured.
- Methods for monitoring, measurement, analysis, and evaluation, as applicable, to ensure valid results.
- Criteria against which the organization will evaluate its environmental performance and appropriate indicators.
- When the monitoring and measuring shall be performed.
- When the results from monitoring and measurement shall be analyzed and evaluated.

The organization shall ensure that calibrated or verified monitoring and measurement equipment is used and maintained, as appropriate.

The organization shall evaluate its environmental performance and the effectiveness of the EMS.

The organization shall communicate relevant environmental performance information both internally and externally, as identified in its communication processes and as required by its compliance obligations.

The organization shall retain appropriate documentation as evidence of the monitoring, measurement, analysis, and evaluation results.

Key documents include:

- *Moab UMTRA Project Remedial Action Contractor Control of Measuring and Test Equipment* (DOE-EM/GJRAC1672).
- *Moab UMTRA Project Remedial Action Contractor Quality Assurance Plan* (DOE-EM/GJRAC1766).
- *Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan* (DOE-EM/GJRAC1830).

Each operation or activity that can have a significant impact on the environment has one or more monitoring and measurement methods. This monitoring and measurement include performance data (e.g., tons of Residual Radioactive Material relocated), calibration data (e.g., groundwater

data collection), the effectiveness of operational controls, and progress towards the EMS objectives. Table 1 in Attachment 3 includes each environmental objective and associated monitoring progress and performance tracking methods.

Significant aspects are monitored by conducting periodic inspections (e.g., storm water, spill prevention, control, countermeasures) and observations (operational awareness oversight) or are directly measured (e.g., groundwater chemistry, radioparticulates, opacity, fuel and water use, tabulation of scale tickets, surveys).

Operational plans (e.g., *Storm Water Pollution Prevention Plan*) and performance-based plans (e.g., Groundwater Program Report, *Site Sustainability Plan*) are used to establish performance objectives, indicators, and targets that can be used to monitor progress.

In addition, RAC management assessment procedures require managers to conduct performance assessments to monitor progress and identify strengths and weaknesses in performance and areas for improvement. Independent oversight and external assessments also provide information that is used to monitor performance and the effectiveness of controls.

The *Moab UMTRA Project Control of Measuring and Test Equipment* (DOE-EM-GJRAC1672) and program-specific plans and procedures (e.g., *Groundwater Surface Water Sampling and Analysis Plan*) describe the requirements for calibrating equipment used to monitor and measure environmental performance, including the steps for identifying the need for calibration, determining who performs the calibration, documentation, and records maintenance requirements.

10.1.2 Evaluation of Compliance

The organization shall establish, implement, and maintain the processes needed to evaluate fulfillment of its compliance obligations.

The organization shall:

1. Determine the frequency at which compliance will be evaluated.
2. Evaluate compliance and take action as needed.
3. Maintain knowledge and understanding of its compliance status.

The organization shall retain documentation as evidence of the compliance evaluation result(s). Relevant implementing documents include:

- *Moab UMTRA Project Quality Assurance Plan for the Remedial Action Contractor* (DOE-EM/GJRAC1766).
- *Moab UMTRA Project Integrated Safety Management System Description,* Section 8.0*, Contractor Assurance System Description* (DOE-EM/GJ3001).
- *Moab UMTRA Project Remedial Action Contractor Audits Procedure* (DOE-EM/GJRAC1717).
- *Moab UMTRA Project Remedial Action Contractor Management Assessments Procedure* (DOE-EM/GJRAC1702).
- *Moab UMTRA Project Remedial Action Contractor Surveillances and Walkthroughs Procedure* (DOE-EM/GJRAC1706).

Several methods are used to evaluate compliance with legal and other requirements. Most of these compliance evaluation activities are implemented through established comprehensive and integrated Quality Assurance Programs and Contractor Assurance Systems that include line organization assessment activities. These programs and systems require management to continuously improve performance by assessing system performance and by addressing performance and implementation issues.

Quality Assurance Programs and Contractor Assurance Systems encompass multiple oversight processes including audits (see Section 10.2), surveillances, management assessments (see Section 10.3), and inspections. Annually, an *Integrated Assessment Schedule* is developed to document and schedule assessments that cover all major Project functional areas, including applicable EMS requirements.

The schedule includes third-party audits, independent assessments, external certifications, and self-assessments. The RAC develops, implements, and performs evaluations of their own operations, systems, and organizational elements, including subcontractors, on a recurring basis.

While surveillances are similar to audits and management assessments in that they are used to verify compliance to specified requirements, surveillances are generally conducted at a higher frequency and with less formality. All types of assessments may include direct observation and review of documentation, including sample analysis or test results; procedure, document or records reviews; and the results of past inspection or assessment reports.

In addition to assessments, staff perform environmental inspection activities. Compliance inspections are generally conducted by EMS staff, but may be performed by line management, employees, or regulators.

Assessment and inspection results are documented and communicated to senior management. By evaluating results and tracking corrective actions, senior management can maintain a clear and comprehensive picture of its compliance status.

10.2 Internal Audit

10.2.1 General

The organization shall conduct internal audits at planned intervals to provide information on whether the EMS:

1. Conforms to:
   a. Organization’s own requirements for its environmental management system.
   b. Requirements of this ISO 14001:2015.
2. Is effectively implemented and maintained.

10.2.2 Internal Audit Program

The organization shall establish, implement, and maintain an internal audit program(s), including the frequency, methods, responsibilities, planning requirements, and reporting of its internal audits.

When establishing the internal audit program, the organization shall take into consideration the environmental importance of the processes concerned, changes affecting the organization, and the results of previous audits.

The organization shall:
1. Define the audit criteria and scope for each audit.
2. Select auditors and conduct audits to ensure objectivity and the impartiality of the audit process.
3. Ensure the results of the audits are reported to relevant management.

The organization shall retain documented information as evidence of the implementation of the Audit Program and the audit results.

Relevant implementing procedures include:
- *Moab UMTRA Project Remedial Action Contractor Audits Procedure* (DOE-EM/GJRAC1717).
- *Moab UMTRA Project Remedial Action Contractor Quality Assurance Plan* (DOE-EM/GJRAC1766).

The RAC Quality Assurance Program and audit procedures contain the requirements for: planning; scheduling; conducting internal EMS audits, including auditor selection, and recording and reporting audit results.

10.3 Management Review

Senior management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy, and effectiveness.

The management review shall include consideration of:
- Status of actions from previous management reviews.
- Changes in:
  - External and internal issues that are relevant to the EMS.
  - Needs and expectations of interested parties, including compliance obligations.
  - Its significant environmental aspects.
  - Risks and opportunities.
- Extent to which environmental objectives have been achieved.
- Information on the organization's environmental performance, including trends in:
  - Nonconformities and corrective actions.
  - Monitoring and measurement results.
  - Fulfillment of its compliance obligations.
  - Audit results.
- Adequacy of resources.
- Relevant communication(s) from interested parties, including complaints.
- Opportunities for continual improvement.

The outputs of the management review shall include:
- Conclusions on the continuing suitability, adequacy, and effectiveness of the EMS.
- Decisions related to continual improvement opportunities.
- Decisions related to any need for changes to the EMS, including resources.
- Actions, as needed, when environmental objectives have not been achieved.

- Opportunities to improve integration of the environmental management system with other business processes.
- Any implications for the strategic direction of the organization.
  The organization shall retain documentation as evidence of the results of management reviews.

Relevant implementing procedures include:
- *Moab UMTRA Project Fiscal Year Integrated Assessment Schedule*.
- *Moab UMTRA Project Remedial Action Contractor Management Assessments Procedure* (DOE-EM/GJRAC1702).

On an annual basis, a review of the EMS is conducted by management. This review is designed to ensure the EMS remains suitable, adequate, and effective.

RAC management assessment procedures contain the requirements for conducting management reviews. Information on planning, scheduling, conducting, and documenting management reviews is included in these procedures. The manager or line supervisor that initiates the management review will keep the appropriate DOE line and support organization management informed of the on-going assessment results.

11.0 Improvement

11.1 General

The organization shall determine opportunities for improvement and implement necessary actions to achieve the intended outcomes of its EMS.

11.2 Nonconformity and Corrective Action

When a nonconformity occurs, the organization shall:
1. React to the nonconformity and, as applicable:
   a. Take action to control and correct it.
   b. Address any consequences, including mitigating adverse environmental impacts.

2. Evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by:
   a. Reviewing the nonconformity.
   b. Determining the causes of the nonconformity.
   c. Determining if similar nonconformities exist or could potentially occur.
   d. Implementing any actions needed.
   e. Reviewing the effectiveness of any corrective action taken.
   f. Making changes to the EMS, if necessary.

Corrective actions shall be appropriate to the significance of the effects of the nonconformities encountered, including the environmental impact(s).

The organization shall retain documented information as evidence of:

1. The nature of the nonconformities and any subsequent actions taken.
2. The results of any corrective action.

Key documents include:

- *Moab UMTRA Project Remedial Action Contractor Identification and Control of Nonconforming Items Procedure* (DOE-EM/GJRAC2049).
- *Moab UMTRA Project Remedial Action Contractor Condition Reports Procedure* (DOE-EM/GJRAC1671).
- *Moab UMTRA Project Cause Analysis Procedure* (DOE-EM/GJ1663).
- *Moab UMTRA Project Incident Reporting Procedure* (DOE-EM/GJ2265Moab).
- *Moab UMTRA Project Occurrence Reporting Procedure* (DOE-EM/GJ2135).
- *Moab UMTRA Project Remedial Action Contractor Suspect and Counterfeit Items* (DOE-EM/GJRAC1704).

Quality Assurance Programs and implementing procedures provide requirements for identifying and tracking non-conformities and corrective/preventive action development and management. Whenever a nonconformity in the EMS is identified by any means, such as a self-assessment, internal or external audit, inspection, or management review, it is critical to document the nonconformity and identify corrective actions. Corrective action plans include schedules for completing the corrective actions and allow regular reporting, as required, until all deficiencies are resolved.

The *Identification and Control of Nonconforming Items Procedure* establishes the nonconformance report process used by the RAC to identify, document, evaluate, segregate (when practical), disposition, notify (affected organizations), track, and trend items that do not conform to specified requirements that arise during work activities.

Condition Reports (CR) and Corrective Action (CA) Procedures establish the condition report process and provide the requirements for identification, control, corrective action determination, tracking, and closure of conditions adverse to Environmental, Safety, Health, and Quality Assurance. CRs and Cas are tracked to closure using SharePoint's Corrective Action Tracking System.

Incident and the Occurrence Reporting Procedures establish the requirements for incident identification, notification, evaluation, analysis, corrective action determination and tracking, and report preparation and submittal. Incident and occurrence corrective actions are tracked to closure using SharePoint's Incident Tracking System.

Nonconformance, condition, incident, and occurrence reporting processes allow detection and prevention of quality problems, verification of conformance to specified requirements, and documentation of the performance of quality improvement processes.

All issues require an analysis of the underlying causal factors performed using a graded approach in accordance with the *Cause Analysis Procedure*, which establishes the process for determining the cause(s) of events, issues, and conditions adverse to quality and determining CAs that, if implemented, will prevent or minimize the likelihood of recurrence of the event, issue, or condition.

After completion of a CA or set of CAs, an effectiveness review may be conducted using trained and qualified personnel who can validate the effectiveness of CA/plan implementation. These effectiveness reviews are captured on the annual *Integrated Assessment Schedule* and generally target CAs resulting from higher significance deficiencies, incidents, occurrences, or CAs associated with higher risk activities or processes.

11.3 Continual Improvement

The organization shall continually improve the suitability, adequacy, and effectiveness of the environmental management system to enhance environmental performance.

Key documents include:

- *Moab UMTRA Project Remedial Action Contractor Audits Procedure* (DOE-EM/GJRAC1717).
- *Moab UMTRA Project Operating Experience/Lessons Learned Procedure* (DOE-EM/GJ1568).
- *Moab UMTRA Project Remedial Action Contractor Management Assessments Procedure* (DOE-EM/GJRAC1702).
- *Moab UMTRA Project Remedial Action Contractor Surveillances and Walkthroughs Procedure* (DOE-EM/GJRAC1706).

The last piece of the Plan-Do-Check-Act model is continual improvement. The majority of opportunities for improvement of the EMS can be identified through each of the following activities of the management system:

1. Monitoring, measuring, analyzing, evaluating environmental performance, and fulfilling compliance obligations (see Section 10.1).
2. Internal and external audits and assessments (see Section 10.2.)
3. Management reviews (see Section 10.3).
4. Lessons learned (LL).

The Project *Operating Experience/Lessons Learned Procedure* establishes formal processes to communicate lessons learned during daily work activities, work planning development/review, event analyses, assessments, emergency drills/events, and occurrence and trending reports, and from the DOE corporate LL database. LL are derived from work activities and events, both positive and negative, that can be used to enhance or improve aspects of Project operations. RAC Quality Assurance and Contractor Assurance Programs provide oversight of management systems and operating processes to ensure compliance, best management practices, and continual improvement are achieved.

12.0 Records

All documentation created as a result of compliance with this manual is considered a Project record and will be managed in accordance with the Moab UMTRA Project Records Management Manual (DOE-EM-GJ1545), which follows DOE orders, policies, and regulations for retention and maintenance of records.

APPENDIX A.

Comprehensive List of Applicable Environmental Laws and Regulations
&
Major Criteria for Reportable Incidents

APPENDIX A.

Section A.1 Comprehensive List of Environmental Laws and Regulations Applicable to the Moab UMTRA Project

Table 1 is a comprehensive list of environmental laws and regulations applicable to the Moab UMTRA Project. The laws and regulations are divided into 6 major categories, including descriptions and applicable Projects document names and numbers:

1. Environmental Restoration & Waste Management
2. Air Quality & Protection
3. Water Quality & Protection
4. Flora & Fauna
5. Radiation Protection
6. Other

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project

LAWS & REGULATIONS	DESCRIPTION	PROJECT DOCUMENT NAME & NUMBER
Environmental Restoration and Waste Management		
RCRA (Resource Conservation and Recovery Act; EPA, 1976) FFCA (Federal Facility Compliance Act, 1992; evolved from RCRA)	RCRA governs the generation, storage, handling, and disposal of solid and hazardous wastes. RCRA gives EPA (Environmental Protection Agency) authority to control hazardous waste from "cradle-to-grave".	*Moab UMTRA Project Spill Prevention, Control, and Countermeasure Plan* (DOE-EM/GJ1477)
		Moab UMTRA Project Waste Management Plan (DOE-EM/GJ1633)
		Moab UMTRA Project Used Oil Management Plan (DOE-EM/GJ1919)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

NEPA (National Environmental Policy Act)	NEPA requires federal agencies to follow a prescribed process to anticipate impacts on the environment of proposed major federal actions and alternatives. DOE codified its implementation of NEPA in 10 CFR 1021, "National Environmental Policy Act Implementing Procedures." NEPA tasks CEQ (Council on Environmental Quality, Division of Executive Office of the President) with ensuring that federal agencies meet their obligations under the Act.	*Moab UMTRA Project* Environmental Management Systems Manual (DOE-EM/GJ1630)
		Various Project NEPA documents: - FEIS (Final Environmental Impact Statement) - ROD (Record of Decision) - SA (Supplemental Analysis) - Categorical Exclusions (Cat Ex)
TSCA (Toxic Substances Control Act; EPA)	TSCA was enacted to regulate the manufacturing and distribution of certain chemical substances and/or mixtures. TSCA specifically addresses the importation, use, and disposal of asbestos, polychlorinated biphenyls, radon, and lead-based paint.	*Moab UMTRA Project Waste Management Plan* (DOE-EM/GJ1633)
40 CFR 112 Oil Pollution Prevention	The prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities, to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil.	*Moab UMTRA Project Spill Prevention, Control, and Countermeasure Plan* (DOE-EM/GJ1477)
FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act, 1947, originally USDA now EPA)	FIFRA governs the distribution, sale, and use of pesticides. This act categorizes pesticides as either restricted or general use.	*Moab UMTRA Project Revegetation and Weed Control Plan* (DOE-EM/GJRAC1655)
Air Quality and Protection		
CAA (Clean Air Act, EPA)	CAA establishes the requirements for facility air quality and air emissions.	*Moab UMTRA Project Environmental Air Monitoring Sampling and Analysis Plan* (DOE-EM/GJTAC2219)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

UAC (Utah Administrative Code) 307-205-8, "Emission Standards; Fugitive Emissions and Fugitive Dust; Tailings Piles and Ponds"	Air entering the public domain must meet emission standards, for dust resulting from grading, excavating, depositing, natural erosion or other causes in association with such operation.	*Moab UMTRA Project Crescent Junction Fugitive Dust Control Plan* (DOE/EM/GJ1235)
		Moab UMTRA Project Fugitive Dust Control Plan (DOE-EM/GJ2072)
40 CFR 61, NESHAP (National Emission Standard for Hazardous Air Pollutants)	The CAA establishes emission standards for hazardous air pollutants associated with various industrial processes codified as NESHAP. Asbestos disposal may be covered under NESHAP. National Emission Standards for Hazardous Air Pollutants (NESHAP) are stationary source standards for hazardous air pollutants. NESHAP (40 CFR 61 Subpart T). Requirements are applicable to control radon emissions from the disposal of uranium mill tailings and apply to the final tailings disposal location after long-term stabilization of the disposal site has been completed as described at 40 CFR 61.221(a) and 40 CFR 61.223(e).	NESHAP requirements for radon emissions do not apply during periods of active remediation.
Water Quality and Protection		
33 USC 1251, CWA (Clean Water Act, 1948/1972) NPDES (National Pollutant Discharge Elimination System)	Under the CWA, the NPDES was designed to regulate and control pollutants from industrial wastewater and storm water discharges, both of which can have negative impacts on the quality of U.S. surface waters. The Utah Pollutant Discharge Elimination System (UPDES) is covered under the NPDES. The Moab Project maintains Storm Water Pollution Prevention Plans (SWPPP) for each site under a General Construction Permit and notifies the State of Utah annually with a Notice of Intent (NOI).	*Moab UMTRA Project Crescent Junction Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1238)
		Moab UMTRA Project Moab Site Storm Water Pollution Prevention Plan (DOE-EM/GJ1475)
		Moab UMTRA Project Spill Prevention, Control, and Countermeasure Plan (DOE-EM/GJ1477)
		Moab UMTRA Project Moab Wash Management Plan (DOE-EM/GJ3051)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

UAC (Utah Admin Code) 313, "Environmental Quality, Waste Management and Radiation Control, Radiation"	Establishes state standards for the protection of the general population from releases of radioactivity. Reasonable efforts should be made to maintain releases of radioactivity in effluents to the general environment as low as is reasonably achievable.	*Moab UMTRA Project Moab Wash Management Plan* (DOE-EM/GJ3051)
UAC R317-2-13 Water Quality Standards	Classifies the Colorado River and its tributaries as 1C, 2B, 3B, or 4 as found in R317-2-14.	*Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan* (DOE-EM/GJRAC1830)
		Moab UMTRA Project 2021 Groundwater Program Report (DOE-EM/GJTAC3078)
Utah Code Title 73 Water and Irrigation, Chapter 3 Appropriation, Section 29 Relocation of Natural streams.	Protect the natural resource value of the state's streams and protect the water rights and recreational opportunities associated with them. Requires any person, governmental agency, or other organization wishing to alter the bed or banks of a natural stream to obtain written authorization from the State Engineer prior to beginning work.	*Moab UMTRA Project Moab Wash Management Plan* (DOE-EM/GJ3051)
Section 438 of EISA (Energy Independence and Security Act, 2007)	Federal agencies have requirements to reduce storm water runoff from federal development projects to protect water resources.	*Moab UMTRA Project Crescent Junction Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1238)
		Moab UMTRA Project Moab Site Storm Water Pollution Prevention Plan (DOE-EM/GJ1475)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

Executive Order (EO) 11988 Floodplain Management	DOE's implementing regulations in 10 CFR 1022, "Compliance with Floodplain and Wetland Environmental Review Requirements," identify the requirements of EO 11988 for actions that may affect floodplains. Portions of the Moab site fall within the 100-year floodplain of the Colorado River.	*Moab UMTRA Project Flood and Drought Mitigation Plan* (DOE-EM/GJRAC1640)
		Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan (DOE-EM/GJRAC1830)
		Moab UMTRA Project Revegetation and Weed Control Plan (DOE-EM/GJRAC1655)
Executive Order 11990 Protection of Wetlands	10 CFR 1022 implements the requirements of EO 11990 for actions that may affect wetlands. Under this EO each Federal agency must provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.	*Moab UMTRA Project Surface Water and Ground Water Sampling and Analysis Plan* (DOE-EM/GJTAC1830)
		Moab UMTRA Project Revegetation and Weed Control Plan (DOE-EM/GJRAC1655)
Flora and Fauna		
ESA (Endangered Species Act, 1973)	The ESA (16 USC 1531) prohibits activities that would jeopardize the continued existence of an endangered or threatened species or cause adverse modification to a critical habitat.	*Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan* (DOE-EM/GJRAC1830)
Fish and Wildlife Coordination Act (16 USC 661)	Promotes effectual planning and cooperation between federal, state, public, and private agencies for the conservation and rehabilitation of the nation's fish and wildlife. Requires consultation with U.S. Fish & Wildlife Service (USF&WS) on the possible effects on wildlife if there is construction, modification, or control of bodies of water in excess of 10 acres in surface area.	*Moab UMTRA Project Groundwater Surface Water Sampling and Analysis Plan* (DOE-EM/GJRAC1830)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

MBTA (Migratory Bird Treaty Act)	The MBTA (16 USC 703) implements various treaties and conventions among the U.S. and several other countries for the protection of migratory birds. Under the act, taking, killing, or possessing migratory birds, their body parts, nests, or eggs is unlawful.	*Moab UMTRA Project Revegetation and Weed Control Plan* (DOE-EM/GJRAC1655)
E.O. 13751, "Safeguarding the Nation from the Impacts of Invasive Species"	E.O. 13751 calls on federal agencies to prevent the introduction, establishment, and spread of invasive species and to eradicate and control populations of invasive species that are established.	*Moab UMTRA Project Revegetation and Weed Control Plan* (DOE-EM/GJRAC1655)
Radiation Protection		
DOE O 458.1, "Radiation Protection of the Public and Environment"	DOE O 458.1 is the key DOE order for public radiation protection. The order establishes requirements for DOE operations to protect members of the public and the environment from undue risk from radiation.	Quarterly Moab UMTRA Project Environmental Air Monitoring reports for Moab and Crescent Junction Sites
		Moab UMTRA Project Environmental Air Monitoring Sampling and Analysis Plan (DOE-EM/GJTAC221)
		Moab UMTRA Project Moab Wash Management Plan (DOE-EM/GJ3051)
Other		
U.S. DOT Special Permit	Authorizes the transportation in commerce of non-DOT-specification bulk packages containing RRM from the Moab site and vicinity properties to the Crescent Junction disposal cell.	*Moab UMTRA Project Transportation Plan* (DOE-EM/GJRAC1639)
Hazardous Materials Transportation Act	49 USC 1801, regulates hazardous material transportation in the United States	*Moab UMTRA Project Transportation Plan* (DOE-EM/GJRAC1639)

Table 1. Environmental Laws and Regulations Applicable to the Moab UMTRA Project (continued)

DOE O 231.1B, "Environmental, Safety and Health Reporting"	DOE O 231.1B requires timely collection, reporting, analysis, and dissemination of data on environmental issues that could adversely affect the health, safety, and security of the public or workers, the environment, DOE operations, or DOE credibility.	*Moab UMTRA Project Annual Site Environmental Report* (updated annually)
DOE O 436.1, "Departmental Sustainability"	DOE O 436.1 requires all DOE sites to implement sound stewardship practices protective of the air, water, land, and other natural resources impacted by DOE operations. It also requires DOE sites to cost effectively meet or exceed compliance with applicable environmental, public health, and resource protection laws, regulations, and DOE requirements.	*Moab UMTRA Project Environmental Management Systems Manual* (DOE-EM/GJ1630)
EO 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"	The purpose of EO 12898 is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities.	*Moab UMTRA Project Annual Site Environmental Reports* (updated annually)
42 USC 11001, EPCRA (Emergency Planning and Community Right-to-Know Act, 1986)	EPCRA requires facilities with large quantities of hazardous or toxic chemicals, including petroleum products, to prepare emergency plans and report their inventories to EPA, the state, and local emergency planning groups. Includes Tier II reporting.	*Moab UMTRA Project Emergency Response Plan* (DOE-EM/GJ1520)

Section A.2 Major Criteria for Reportable Incidents

Because criteria for environmentally related reportable incidents is not applicable to every category in Table 1, this section provides relevant information on this subject for the Moab UMTRA Project.

Based on the *Moab UMTRA Project Incident Investigation and Reporting Procedure* (DOE-EM/GJ2265), criteria for reportable incidents relevant to the environment includes the following:

- *Environmental spill or release greater than 5 gallons or of any quantity when associated with a waterway or tributary.*
- *Conditions that pose imminent danger to employees, the public or the environment (i.e., fire).*
- *Non-compliance with regulatory requirements.*

Based on the *Moab UMTRA Project Spill Prevention, Control, and Countermeasure Plan* (SPCC; DOE-EM/GJ1477), Section 4.0 Reporting states:

Project personnel report all spills greater than 0.25 gal to the RAC Operations/Site Manager or Technical Assistance Contractor (TAC) Technical Group/Field Manager, and to the Environmental Compliance Manager for the contractor managing the area where the spill occurs. Spills greater than 5 gal are reported to DOE.

As specified in 40 CFR §112.4, "Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator," if either of the following thresholds is exceeded:

- *The facility discharges more than 1,000 gal of oil into or on navigable waters of the United States or adjoining shorelines in a single event.*
- *The facility discharges oil greater than 42 gal in two spill events within any 12-month period.*

If either threshold is exceeded, the RAC Operations/Site Manager or TAC Technical Group/Field Manager, with DOE concurrence, must report the spill to the National Response Center (NRC) and the state of Utah Department of Environmental Quality (UTDEQ) Environmental Response and Remediation.

The following information must be submitted to the EPA Region VIII Administrator and Utah Department of Environmental Quality within 60 days of the exceedance.

- *Name of the facility*
- *Name(s) of the owner or operator of the facility*
- *Location of the facility*
- *Maximum storage or handling capacity of the facility*
- *Corrective actions and/or countermeasures taken, including adequate description of equipment repairs and/or replacements*
- *Adequate description of the facility, including maps, flow diagrams, and topographical maps*
- *Cause of the discharge, including a failure analysis of the system and subsystem in which the failure occurred*
- *Additional preventive measures taken or contemplated to minimize the possibility of recurrence*
- *Other information the Regional Administrator may reasonably require pertinent to the Plan or spill event*

The above information is summarized in Table 2 below (modified from Table 2 in the SPCC).

Table 2. Moab UMTRA Project Oil Spill Reporting

Situation	Reportable Quantity/Criteria	Applicable Regulation	Contact	Timing
Project Reporting Criteria				
Any on-site or off-site spills	≥ 0.25 gallons	SPCC (DOE-EM/GJ1477) Section 4.0	RAC Environmental Compliance Manager **who will notify the** RAC Operations/Site Manager	Immediately
	≥ 5 gallons		RAC Environmental Compliance Manager who will notify the RAC Operations/Site Manager **who will then notify** DOE Federal Cleanup Director (FCD)	
State/Federal Reporting Criteria				
Any spill that may impact groundwater	Spills of discharge of hydrocarbon or other substance which may cause pollution of groundwater	UAC R316-6-6.15(B)	RAC Environmental Compliance Manager who will notify the RAC Operations/Site Manager **who will then notify** DOE Federal Cleanup Director (FCD) **and** Utah Division of Water Quality	Verbal notice within 24 hours. Written notice within 5 days
Any spill outside the Controlled Area that is in excess of 25 gallons	>25 gallons	UAC R315-15-9	RAC Environmental Compliance Manager who will notify the RAC Operations/Site Manager **who will then notify** DOE Federal Cleanup Director (FCD) **and** Utah Department of Environmental Quality	Verbal notice immediately. Written notice within 15 days.

Table 2. Moab UMTRA Project Oil Spill Reporting (continued)

Single discharge over 1,000 gallons OR Two discharges of oil, each >42 gallons in any 12-month period	>1,000 gallons or two spills >42 gallons in a 12-month period Report only if the gallon amount specified reaches navigable waters or adjoining shoreline	40 CFR 112	RAC Environmental Compliance Manager who will notify the RAC Operations/Site Manager **<u>who will then notify</u>** DOE Federal Cleanup Director (FCD) **and** National Response Center EPA Region VIII Administrator	Immediately Within 60 days

Attachment 1.
Moab UMTRA Project Environmental Aspects Checklist

Attachment 1. Moab UMTRA Project Environmental Aspects Checklist

Moab UMTRA Project Environmental Aspects Checklist

Work Task / Integrated Work Plan (IWP):_____ ***Date:***_____

According *to Moab UMTRA Project Environmental Management Systems Manual* the Project uses the Environmental Aspects Checklist to identify how organizational activities may interact with the environment.

Potential Sources of Impacts			
Source	**Y**	**N**	**Explanation**
Air Emissions (dust, greenhouse gases, hazardous pollutants)	☐	☐	
Chemical Storage/Use (SARA Title III chemicals, EPCRA, Tier II)	☐	☐	
Ground Water Use/Contamination (existing/future)	☐	☐	
Surface Water Use/Contamination (Water Rights/ Storm water Discharge/ Dredge and Fill)	☐	☐	
Mixed Waste Management (radiological/hazardous, RRM / waste in the CA)	☐	☐	
Solid Waste Generation (non-hazardous/recyclable material, waste outside the CA)	☐	☐	
Radioactive Materials/Soils (RRM)	☐	☐	
Noise (In excess of background)	☐	☐	
Pesticide/Herbicide Use (general and regulated quantities)	☐	☐	
Petroleum Storage/Use (regulated quantities)	☐	☐	
Surface (Ground) Disturbance (not already addressed in FEIS/soils/vegetation-clearing/excavation)	☐	☐	
Toxic Substances Management (Asbestos/PCBs, etc.)	☐	☐	
Transportation/Traffic (regulated materials/waste or traffic increase)	☐	☐	
Utility Systems (installing/maintaining/disturbance)	☐	☐	

Moab UMTRA Project Environmental Aspects Checklist

Environmental and Human Health Considerations			
Consideration	**Y**	**N**	**Explanation**
Air Quality	☐	☐	
Access to/Use of Non-DOE Property	☐	☐	
Accidents—Public/Workers	☐	☐	
Exposure—Public/Workers	☐	☐	
Ground Water Quality	☐	☐	
Surface Water Quality	☐	☐	
Public Involvement/Awareness	☐	☐	
Visual Resources / Site Aesthetics	☐	☐	
Sensitive Environments Resources			
Consideration	**Y**	**N**	**Explanation**
Archeological/Cultural Resources	☐	☐	
Floodplains/Wetlands	☐	☐	
Migratory Birds (Migratory Bird Treaty Act)	☐	☐	
National Park (Arches NP)	☐	☐	
Scenic Byways (SR 279; Hwy 191 Dinosaur Diamond Prehistoric Hwy)	☐	☐	
Threatened/Endangered/Sensitive Species— Federal / State / Tribal	☐	☐	
Environmental Requirements			
Consideration	**Y**	**N**	**Explanation**
Existing NEPA Documentation Sufficient (ROD, AROD, FEIS, SA, CatEx)	☐	☐	
Covered by Other Existing Policies and/or Procedures (not already under UMTRA policies and/or procedures)	☐	☐	
Consumptive Use of Water (water rights)	☐	☐	
Monitoring and/or Follow-up Requirements	☐	☐	

Moab UMTRA Project Environmental Aspects Checklist

Permits	☐	☐	
Reporting Requirements	☐	☐	
Sustainable Opportunities (these measures will be put into practice, where possible.)			
Consideration	**Y**	**N**	**Explanation**
Natural Resource and Energy Conservation	☐	☐	
Reuse/Recycling of Materials	☐	☐	
Materials Substitution	☐	☐	
Waste Minimization/Volume Reduction	☐	☐	
Affirmative Procurement (biobased purchasing, etc.)	☐	☐	

X _____ RAC Line Supervisor

X _____ RAC H&S Review

X _____ RAC Environmental Review

X _____ DOE Review

Attachment 2.
Environmental Aspects and Impacts Registry

Attachment 2. Environmental Aspects and Impacts Registry

To determine environmental aspects and impacts, activities associated with each environmental scope of work were evaluated. See Section 7.1.2 (Environmental Aspects) for explanation of criteria and scoring system.

Table 1. Objective Environmental Benefit Evaluation Criteria

Category	Significant (+5)	Major (+4)	Moderate (+3)	Minor (+2)	Insignificant (+1)	N/A (0)
People – Safety and Health	World class improvement. Significantly benefits/improves worker safety and health. National recognition/award.	Major improvement. Significantly above established performance goals as well as providing additional benefits to worker safety and health.	Moderate improvement. Consistently above established performance goals or meets goals but with significant improvements in process efficiency.	Minor improvement. Slightly above established performance goals, or meets goals but better efficiency (cost/resources)	Negligible improvement in worker safety or health.	Category does not apply
Environment	World class improvement. Significantly benefits/improves onsite and offsite environment. National recognition/award.	Major improvement. Significantly above established performance goals as well as providing additional benefits to onsite or offsite environment.	Moderate improvement. Consistently above established performance goals or meets goals but with significant improvements in process efficiency.	Minor improvement. Slightly above established performance goals or meets goals but better efficiency (cost/resources).	Negligible improvement in environment.	Category does not apply
Compliance	World class improvement. Significantly improves compliance posture. Warrants sharing as lessons learned to other DOE facilities.	Major improvement. Consistently above established performance goals as well as improving compliance posture.	Moderate improvement. Consistently above established performance goals or meets goals but with significant improvements in process efficiency.	Minor improvement. Slightly above established performance goals, or meets goals but better efficiency (cost/resources)	Negligible improvement in compliance.	Category does not apply
Quality	World class improvement. Warrants sharing as lessons learned to other DOE facilities	Major improvement in ability to perform	Moderate improvement. Consistently above established performance goals or meets goals but with significant improvements in process efficiency.	Minor improvement. Slightly above established performance goals, or meets goals but better efficiency (cost/resources)	Negligible improvement on quality.	Category does not apply

Table 1. Objective Environmental Benefit Evaluation Criteria (continued)

Mission	World class improvement. Responsible for increasing mission performance or bringing in new work. Warrants sharing as lessons learned to other DOE facilities.	Major improvement in ability to perform mission. May result in increased or new sponsor work.	Moderate improvement to mission performance or decrease operating costs.	Minor improvement on mission performance	Negligible improvement on mission performance	Category does not apply
Financial	Results in financial benefit to Site >$1M.	Results in financial benefit to Site $500K to $1M.	Results in financial benefit to Site $100K to $500K	Results in financial benefit to Site $10K - $100K.	Results in financial benefit to Site <$10K	Category does not apply
Reputational	World class improvement. Positively affects Site's public image (national and local).	Politically sensitive and could receive positive publicity by public groups or local/regional media. Significantly improves trust in RAC/TAC/DOE by regulators or public.	Could receive positive publicity by limited public groups or local media. Improves trust in RAC/TAC/DOE by regulators or public	Somewhat positive politically or publicly, but minor in nature.	Negligible if any positive media or local media interest	Category does not apply

Table 2. Objective Environmental Risk Evaluation Criteria

Category	Significant (-5)	Major (-4)	Moderate (-3)	Minor (-2)	Insignificant (-1)	N/A (0)
People – Safety and Health	1 fatality or terminal injury/illness; 3 or more employees, contractors, visitors admitted to hospital; Personnel exposure that starts lethality or domino effects	3 or more personnel having days away, restricted work or transfers to another job; Prolonged hospitalization within 24 hours of injury; Personnel exposure with effects	Restricted work; Medical treatment or hospitalization; Personnel exposure above exposure limits	Injury or illness that results in first aid, but had potential for a more severe injury; Personnel exposure above the action levels	A minor injury or illness that results in first aid and no potential for a more severe injury; Personnel exposure below action levels	Category does not apply
Environment	Significant or catastrophic damage, uncontrolled, widespread, or long-lasting impacts. Extensive off-site damage (unmitigated loss, destruction / extinction of cultural or natural resources) and/or public health impacts. Requires extensive mitigation.	Major damage, long-term impacts, adversely affects external parties. Extensive on-site damage (unmitigated loss, destruction, extinction) to cultural or natural resources. Off-site release of radiological material or other substance that adversely impacts external resources, limited public economic/societal impacts.	Moderate damage. Could extend beyond site but does not adversely affect external resources or parties. Limited moderate damage to cultural or natural resources but contained on-site. Off-site release above reportable quantity or permit limits but minimal impacts to external resources or public.	Minor Damage. Localized impacts. contained on-site. On-site release above reportable quantity but readily mitigated. Medium deviations from established protocols and mitigation measures that have short-term/localized impacts on natural/cultural resources that can be corrected.	Negligible damages. Release that does not reach environment. Release reported to outside agency in a routine periodic report only. Minor deviations from established protocols and mitigation measures that have minor impacts on natural/cultural resources – readily correctable.	Category does not apply
Compliance	Results in significant work stoppage. Formal or criminal investigation. Turnover of files/documents. Fines in excess of $50,000. Loss of confidence by regulators in RAC/TAC/DOE ability to safely operate the site.	Results in (multiple) middle/upper tier violation types. Limited stoppage of work. Possible revocation of permit. Fines typically less than $50,000.	Results in (singular) middle/upper tier violation type. No stoppage of work or revocation of permit. Fines typically less than $5,000.	Not compliant with regulation or permit condition. Results in lower tier violation type, mainly administrative issues, minimal threat to human health and environment.	Not compliant with regulation or permit condition. May require notification to outside agency but will not result in violation or enforcement action.	Category does not apply

Table 2. Objective Environmental Risk Evaluation Criteria (continued)

Quality	Failure of quality management system. Complete loss of confidence in data quality/data integrity.	Substantial effects on quality. Results in reduced ability to meet quality objectives, extensive impacts.	Moderate effects on quality. Results in reduced ability to meet quality objectives on limited basis.	Minor impacts on quality but can still meet quality objectives.	Negligible impacts on quality.	Category does not apply
Mission	Will shut down mission function for the long term or may have a major sponsor impact.	Will seriously reduce ability to perform mission or may result in serious sponsor impact.	Will reduce efficiency in mission performance or increase operating costs. May result in some sponsor impact.	Will only have minor or local impact on mission performance.	Negligible impact on mission performance	Category does not apply
Financial	Results in financial liability to Site >$1M	Results in financial liability to Site $1M to $500K	Results in financial liability to Site $500K to $100K.	Results in financial liability to Site $100K - $10K.	Results in financial liability to Site <$10K	Category does not apply
Reputational	Very politically sensitive and will negatively affect the Site's public image (national and local) and will require senior level DOE 5 mgmt. to be involved with resolution and image repair.	Politically sensitive and could result in whistleblower actions, investigations and/or violations that could 1) be negatively publicized by the public or 2) cause loss of trust in RAC/TAC/DOE by regulators or public.	Politically sensitive and could be negatively publicized by limited public groups but would not affect the trust with RAC/TAC/DOE and regulators.	Somewhat politically or publicly sensitive, but minor in nature.	Negligible or local media interest only.	Category does not apply to Risk Aspect

Table 3. Environmental Aspects and Impacts Registry

ENVIRONMENTAL ASPECTS					
Activity: Revegetation					
Site: Moab and Crescent Junction					
Work Description and Associated Activities: Tree and Vegetation Removal, Noxious Weed Management, Land Restoration					
IWPs Related to Work Tasks: : MB-IWP/JSA-001 *General Site Hazards*; MB-IWP-JSA-002 *General Equipment Maintenance*; MB-IWP-JSA-003 *Facilities and Ground Maintenance*; MB-IWP-JSA-068 *General Well Field Maintenance*; MB-IWP-JSA-069 *Vegetative Debris Management*; MB-IWP-JSA-070 *Tree Removal, Chipping,* and *Pruning*; MB-IWP-JSA-071 *Reveg Water System Use, Maintenance, and Repair*; MB-IWP-JSA-072 *Planting Seeding and Soil Preparation*					
Aspect	**Impact/Benefit/Risk/ Opportunity**	**Score**	**Significant?**	**Env Objective?**	**Remarks**
Water Use	Benefit/Opportunity	1	No	No	The revegetation irrigation strategy is to use water to grow native plants. More water is being used in the short term to promote the growth of drought resistant plants.
Vegetation Disturbance	Benefit/Opportunity	2	No	No	Removal of dead trees and vegetation to improve native plant growth. Subtracted the risk and benefit score. This can only be done with the revegetation task.
Habitat Disturbance	Impact	-8	No	No	Minimize disturbance by removing trees and brush that pose a hazard or hinders the revegetation plan.
Greenhouse Gas Emissions	Impact	-3	No	No	Equipment maintenance keeps machines operating efficiently. Turning off equipment when not in use.
Fugitive Dust Emissions	Impact/Risk	-11	No	No	Follow Site fugitive dust procedures and avoid driving on dusty roads whenever possible. Request water truck to water roads when needed.
Petroleum Product Use	Impact/Risk	-7	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.

Table 3. Environmental Aspects and Impacts Registry

Noise	Impact	-3	No	No	Excessive noise dissipates around site boundaries. Hearing conservation work controls are used as needed for noise generating activities for employees.
Cultural Resources	Impact	-3	No	No	State Historic Preservation Society to determine if mitigation is needed from impacts associated with UMTRA activities. Follow Site's cultural resources document.
Site Aesthetics	Benefit	2	No	No	Restoring remediated areas to native vegetation and habit will help to improve overall site aesthetics.
Activity: Groundwater and Surface Water					
Site: Moab					
Work Description and Associated Activities: Sample Collection, Preparation, and Shipment					
IWPs Related to Work Tasks: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facilities and Ground Maintenance, MB-IWP-JSA-073 Well Development Modifications and Abandonment, MB-IWP-JSA-074 Groundwater Surface Water (GWSW) Sampling Preserve Ship and Transport,					
Aspect	**Impact/Benefit/Risk/ Opportunity**	**Score**	**Significant?**	**Env Objective?**	**Remarks**
Waste Generation	Impact	-2	No	No	Minimize shipments to reduce shipping costs and environmental impacts.
Soil Erosion	Impact	-8	No	No	Sampling at predetermined sites to keep erosion to a minimum. Being cognizant of disturbing soils on steep slopes.
Chemical Spills	Impact/Risk	-9	No	No	Use spill kits and fume hood. Employees are aware of chemical Safety Data Sheets (SDS).
Vegetation Disturbance	Impact	-7	No	No	Drive to sites instead of driving directly up to the riverbank.
Greenhouse Gas Emissions	Impact	-3	No	No	Turning off equipment when not in use. Use the shortest routes. Reduce idling times.
Work Description and Associated Activities: Injection/Extraction Operations and Surface Water Diversion					

Table 3. Environmental Aspects and Impacts Registry

IWPs Related to Work Tasks: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facilities and Ground Maintenance, MB-IWP-JSA-075 Well Field Extraction Operations, MB-IWP-JSA-076 Well field Injection Operations Maintenance and Repairs, MB-IWP-JSA-077 Surface Water Monitoring and Diversion, MB-IWP-JSA-082 Hydroxyapatite Injection Operations					
Aspect	**Impact/Benefit/Risk/ Opportunity**	**Score**	**Significant?**	**Env Objective?**	**Remarks**
Greenhouse Gas Emissions	Impact	-3	No	No	Turning off equipment when not in use. Use the shortest routes. Reduce idling times.
Waste Generation	Impact	-2	No	No	Minimize waste when possible.
Chemical Spills	Impact/Risk	-9	No	No	Use spill kits and fume hood. Employees are aware of chemical SDS.
Vegetation Disturbance	Impact	-7	No	No	Walk to sites instead of driving directly up to the riverbank.
Groundwater Extraction	Benefit(Opportunity)/Impact	18/-9	Yes	3	Ground water extraction is a critical function to Site remediation. Ground water extraction aids in dust suppression efforts and is a best management practice to remediate contaminated ground water. The extraction system is only operational at specific time of the year. It is not a risk when the system is not operational.
Fresh water Injection	Benefit/Impact	18/-9	Yes	4	The freshwater injection system is the best management practice to help buffer contaminated water when the natural water buffer is not present.
Surface Water Diversion	Benefit/Impact	10/-8	No	No	A best management practice to protect the young of the year fish and their critical habitat when present.
Activity: Air Monitoring					
Site: Moab and Crescent Junction					
Work Description and Associated Activities: Collection, Preparation, and Shipment of Samples					
MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, IWP-JSA-003 Facilities and Ground Maintenance, MB-IWP-JSA-079 Air Monitoring and Equipment Maintenance					

Table 3. Environmental Aspects and Impacts Registry

Aspect	Impact/Benefit/Risk/ Opportunity	Score	Significant?	Env Objective?	Remarks
Waste Generation	Impact	-2	No	No	Reuse boxes and packing material to reduce waste.
Vegetation Disturbance	Impact	-7	No	No	Walk to sites instead of driving directly up to the station when possible.
Greenhouse Gas Emissions	Impact	-3	No	No	Turning off equipment when not in use. Use the shortest routes. Reduce idling times.
Fugitive Dust Emissions	Impact	-11	No	No	Follow site fugitive dust procedures and avoid driving on dusty roads whenever possible. Request water truck to water roads when needed.
Activity: Inside Operations, Line Supervisor					
Site: Inside Operations Moab					
Work Description and Associated Activities: Operations related to the excavation and placement of RRM/HRRM into intermodal containers for disposal at the Crescent Junction disposal. Includes IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP- JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-004 Excavation and Conditioning, MB-IWP-JSA-005 CA Load Out & Transportation, MB-IWP-JSA-006 Lidding Building Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-013 Container Maintenance, MB-IWP-JSA-024 Road Maintenance, and MB-IWP-JSA-064 Debris Processing.					
Aspect	**Impact/Benefit**	**Score**	**Significant**	**Env Objective**	**Remarks**
Removal of RRM from the Environment	Benefit	22	Yes	1	Each train load of RRM removes source mass that generates radon gas that affects the population of Moab. The disposal location is in an uninhabited area, therefore not affecting a population center and has a radon barrier. However, workers are exposed to radon gas during removal and placement operations. Practice ALARA during remedial activities. Source mass removal from Moab removes radiation dangers to the public. The placement area is an uninhabited nonpublic disposal site. Workers are exposed to radiation but monitored to ensure the doses are within the regulatory and prescribed health limits.

Table 3. Environmental Aspects and Impacts Registry

Water Use	Impact	-14	No	No	Preferential use of brine well field water over fresh water for dust suppression, when possible, to lessen depletion of a natural resource. Endangered fish species are protected using approved pump intake screens. Storm water program prevents sediment and pollutants from reaching water ways where fish are present.
Greenhouse Gas Emissions	Impact	-6	No	No	Minimized by increasing operational efficiencies, such as by adding rail cars to the train, optimizing load outs, utilizing the natural climate to dry back materials and other improvements. Equipment maintenance keeps machines operating efficiently. Turning off equipment when not in use. Workers utilize rideshare vans from Grand Junction, Moab, and Green River to minimize Greenhouse gas contributions attributable to driving to work.
Storm Water Discharges / Surface Water	Impact	-29	Yes	2	Use of Best Management Practices (BMPs) and grading to mitigate or prevent runoff and run-on during storm events. Establishment of vegetation in disturbed, idle areas. Monthly and post storm event inspections of these BMPs. BMPs ensure no cross contamination outside the CA.
Fugitive Dust Emissions	Impact	-11	No	No	Site fugitive dust plans. Use of water trucks for suppression. Stop/pause work orders in high wind conditions for dust generating activities. Fugitive dust team meetings to identify improvements to the system.
Petroleum Product Use	Impact	-17	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Substances Management	Impact	-16	No	No	“HRRM” and “SHRRM” Project plans. BMPs for staging ‘HRRM” for transport and placement in the disposal cell. Appropriate methods of disposal if substances warrant exclusion from RRM classification.
Noise	Impact	-4	No	No	Operational hours align with times of higher background noise. Excessive noise dissipates around site boundaries. Hearing conservation work controls are used as needed for noise generating activities for employees.
Light Pollution	Impact	-1	No	No	Pointing lights away from roads and national parks. Use of shielding and amber lighting when possible. Operational hours that do not require artificial lighting.
Historic/Cultural Resources	Impact	0	No	No	State Historic Preservation Society to determine if mitigation is needed from impacts associated with UMTRA activities.

Site Aesthetics	Benefit	8	No	No	As each load of tailings is removed from the former Atlas Mill, the area becomes closer to its native/original lowland condition with the Arches National Park and other local scenery. The tailings are being impounded in a repository that has been designed not to interfere with the aesthetics of the Book Cliffs. The disposal area is also not a major tourist destination as Moab is, for precisely these aesthetic reasons.

Site: Inside Operations CJ

Work Description and Associated Activities: Operations related to the excavation and placement of RRM/HRRM into intermodal containers for disposal at the Crescent Junction disposal. Includes IWP's: WP-JSA-001 General Site Hazards, MB-IWP-JSA-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-011 Disposal Cell Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-024 Road Maintenance, MB-IWP-JSA-034 Excavation of Disposal Cell, and MB-IWP-JSA-060 Placement of Final Cell Cover.

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Placement of RRM into the Environment	Impact	-20	Yes	1	Each train load of RRM adds source mass that generates radon gas. Cap should mitigate this and there is no population center near the repository. However, workers are exposed to radon gas during placement operations. Practice ALARA during remedial activities. Workers are exposed to radiation but monitored to ensure the doses are within the regulatory and prescribed health limits.
Water Use	Impact	-14	No	No	Water is pumped 22 miles from the Green River, using diesel at each pump station. The water is used for compaction and fugitive dust suppression. There are no endangered species of fish near this intake. Water use is prioritized.
Greenhouse Gas Emissions	Impact	-6	No	No	Minimized by increasing operational efficiencies, such as stockpile staging on the cap footprint, optimizing compaction methodologies, etc. Equipment maintenance keeps machines operating efficiently. Turning off equipment when not in use. Workers utilize rideshare vans from Grand Junction, Moab, and Green River to minimize Greenhouse gas contributions attributable to driving to work.

Table 3. Environmental Aspects and Impacts Registry

Storm Water Discharges	Impact	-19	No	No	Use of BMPs and grading to mitigate or prevent runoff and run-on during storm events. Establishment of vegetation in disturbed, idle areas. Monthly and post storm event inspections of these BMPs. BMPs ensure no cross contamination of RRM outside the (Contamination Area) CA.
Fugitive Dust Emissions	Impact	-7	No	No	Site fugitive dust plans. Use of water trucks for suppression. Stop/pause work orders in high wind conditions for dust generating activities. Fugitive dust team meetings to identify improvements to the system.
Petroleum Product Use	Impact	-16	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Substances Management	Impact	-15	No	No	"HRRM" and "SHRRM" Project plans. BMPs for staging 'HRRM" for transport and placement in the disposal cell. Appropriate methods of disposal if substances warrant exclusion from RRM classification.
Noise	Impact	-3	No	No	Excessive noise dissipates around site boundaries. Hearing conservation work controls are used as needed for noise generating activities for employees.
Light Pollution	Impact	-1	No	No	Maximize operational hours that do not require artificial lighting.
Cultural Resources	Impact	-5	No	No	State Historic Preservation Society to determine if mitigation is needed from impacts associated with UMTRA activities.
Site Aesthetics	Impact	-3	No	No	Evapotranspiration (ET) cover proposed as new alternative cover which will help blend the pile into the natural background.
Activity: RRM Transportation					
Site: Load out operations from Moab					
Work Description and Associated Activities: Includes taking passed cans to the train, loading the train with full cans and transporting empty cans from the train to the CA line in the queue. Includes maintenance of queue and rail bench. Includes IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP -JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-004 Excavation and Conditioning, MB-IWP-JSA-005 CA Load Out & Transportation, MB-IWP-JSA-006 Lidding Building Operations, MB-IWP-JSA-007 Reach Stackers and Container Survey Racks, MB-IWP-JSA-009 Railway Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-013 Project Container Maintenance, MB-IWP-JSA-020 Moab Outside Transportation and Railway Operations, MB-IWP-JSA-024 Road Maintenance.					

Table 3. Environmental Aspects and Impacts Registry

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Water Use	Impact	-14	No	No	Endangered fish species are protected using approved pump intake screens. Storm water program prevents sediment and pollutants from reaching water ways where fish are present. Water use is minimized to the minimal amount for decon and dust suppression operations.
Greenhouse Gas Emissions	Impact	-6	No	No	Minimized by increasing operational efficiencies, such as by adding rail cars to the train, optimizing load outs, and maintaining and optimizing the transport trucks. Turning off equipment when not in use. Workers utilize rideshare vans from Grand Junction, Moab, and Green River to minimize Greenhouse gas contributions attributable to driving to work.
Storm Water Discharges	Impact	-29	Yes	2	Use of BMPs and grading to mitigate or prevent runoff and run-on during storm events. Establishment of vegetation in disturbed, idle areas. Monthly and post storm event inspections of these BMPs.
Petroleum Product Use	Impact	-17	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
RRM Cross Contamination	Impact	-12	No	No	Containers are deconned by Inside Operations prior to passing the can across the CA line. Should a spill occur it is cleaned up.
Noise	Impact	-4	No	No	Excessive noise dissipates around site boundaries. Hearing conservation work controls are used as needed for noise generating activities for employees.
Site Aesthetics	Impact	-1	No	No	Infrastructure on the rail bench is painted red to blend into the natural surroundings.
Site: Offload operations in CJ					

Table 3. Environmental Aspects and Impacts Registry

Work Description and Associated Activities: Offloading the train in CJ with a reach stacker and transporting the can to the Radiological Buffer Area (RBA) and dumping it using a modified articulating truck. Hauling the empty can back to the train and loading the empty back on the train for transport to Moab. Includes maintenance of rail bench facilities and RBA facilities. Includes IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-004 Excavation and Conditioning, MB-IWP-JSA-005 CA Load Out & Transportation, MB-IWP-JSA-006 Lidding Building Operations, MB-IWP-JSA-007 Reach Stackers and Container Survey Racks, MB-IWP-JSA-009 Railway Operations, MB-IWP-JSA-010 CJ Outside Transportation, MB-IWP-JSA-011 Disposal Cell Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-013 Project Container Maintenance, MB-IWP-JSA-020 Moab Outside Transportation and Railway Operations, MB-IWP-JSA-024 Road Maintenance, MB-IWP-JSA-034 Excavation of Disposal Cell, MB-IWP-JSA-060 Placement of Final Cell Cover.

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Water Use	Impact	-14	No	No	Water is pumped 22 miles from the Green River, using diesel at each pump station. The water is used for compaction and fugitive dust suppression. There are no endangered species of fish near this intake. Water use is prioritized.
Greenhouse Gas Emissions	Impact	-6	No	No	Minimized by increasing operational efficiencies, switching haul route patterns throughout the day, etc. Equipment maintenance keeps machines operating efficiently. Turning off equipment when not in use. Workers utilize rideshare vans from Grand Junction, Moab, and Green River to minimize Greenhouse gas contributions attributable to driving to work.
Storm Water Discharges	Impact	-19	No	No	Use of BMPs and grading to mitigate or prevent runoff and run-on during storm events. Establishment of vegetation in disturbed, idle areas. Monthly and post storm event inspections of these BMPs.
Fugitive Dust Emissions	Impact	-7	No	No	Haul routes are swept using a street sweeper and watered using a water truck to minimize fugitive dust emissions.
Petroleum Product Use	Impact	-16	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
RRM Cross Contamination	Impact	-12	No	No	Equipment is surveyed and if necessary deconned at the RBA to prevent RRM track out onto the haul roads.
Noise	Impact	-3	No	No	Excessive noise dissipates around site boundaries. Hearing conservation work controls are used as needed for noise generating activities for employees.

Table 3. Environmental Aspects and Impacts Registry

Activity: Equipment Maintenance

Site: Equipment Repair and Maintenance in Moab

Work Description and Associated Activities: Repairs and general maintenance of earth moving equipment and support vehicles in and outside of the contamination area. IWP's include: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-004 Excavation and Conditioning, MB-IWP-JSA-005 CA Loadout & Transportation, MB-IWP-JSA-009 Railway Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-013 Project Container Maintenance, MB-IWP-JSA-020 Moab Outside Transportation and Railway Operations, MB-IWP-JSA-024 Road Maintenance, MB-IWP-JSA-031 Electrical Work, MB-IWP-JSA-034.

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Waste Generation	Impact	-8	No	No	Recycling of solid wastes. Waste and Universal waste management plans. Used oil pick up for recycling. Periodic briefings to employees on waste management. Used oil heaters for use in mechanic tents during the winter months.
Petroleum Products	Impact	-13	No	No	Petroleum products are stored in accordance with SPCC and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Materials Handling	Impact	-17	No	No	Hazardous products are fully used and not wasted. Containers are disposed either offsite or to CJ depending upon if the material was used in the CA or not. Materials are safely stored and labeled. Materials within the CA become RRM.
Greenhouse Gas Emissions	Benefit	3	No	No	Blue Sky energy purchasing commitment. Project recycling program. Repaired equipment pollutes less than equipment in disrepair.
Noise	Impact	-2	No	No	Operational hours align with times of higher background noise. Excessive noise tends to dissipate around site boundaries. Workers utilize hearing protection program.

Site: Equipment Repair and Maintenance in CJ

Work Description and Associated Activities: Repairs and general maintenance of earth moving equipment and support vehicles in and outside of the contamination area. IWP's include: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-002 General Equipment Maintenance, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-009 Railway Operations, MB-IWP-JSA-010 CJ Outside Transportation, MB-IWP-JSA-011 Disposal Cell Operations, MB-IWP-JSA-012 Decon Operation, MB-IWP-JSA-013 Project Container Maintenance, MB-IWP-JSA-024 Road Maintenance, MB-IWP-JSA-031 Electrical Work, MB-IWP-JSA-034 Excavation of Disposal Cell, and MB-IWP-JSA-060 Placement of Final Cell Cover.

Table 3. Environmental Aspects and Impacts Registry

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Waste Generation	Impact	-8	No	No	Recycling of solid wastes. Waste and Universal waste management plans. Used oil pick up for recycling. Periodic briefings to employees on waste management. Used oil heaters for use in mechanic tents during the winter months.
Petroleum Products	Impact	-13	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Materials Handling	Impact	-17	No	No	Hazardous products are fully used and not wasted. Containers are disposed either offsite or to CJ depending upon if the material was used in the CA or not. Materials are safely stored and labeled. Materials within the CA become RRM.
Greenhouse Gas Emissions	Benefit	3	No	No	Blue Sky energy purchasing commitment. Project recycling program. Repaired equipment pollutes less than equipment in disrepair.
Noise	Impact	-2	No	No	Operational hours align with times of higher background noise. Excessive noise tends to dissipate around site boundaries. Workers utilize hearing protection program.
Activity: Facilities Maintenance					
Site: Moab Facilities and Infrastructure					
Work Description and Associated Activities: All office, janitorial, and facility maintenance tasks for the Project. Work is performed to the following IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-003 Facility and Grounds Maintenance, MB-IWP-JSA-025 HydroVac Truck Operations, and MB-IWP-JSA-032 HydroVac Truck Operations.					
Aspect	**Impact/Benefit**	**Score**	**Significant**	**Env Objective**	**Remarks**
Water Use	Impact	-17	No	No	Facilities maintains the pumps for site water use. 1/4" screen is installed and maintained to protect endangered fish. Ancillary items include maintenance of the freshwater pond (e.g., Beaver fence installation). Flush less urinals installed.

Table 3. Environmental Aspects and Impacts Registry

Greenhouse Gas Emissions	Benefit	3	No	No	Blue Sky energy program purchasing. Energy efficient heating/cooling appliances. Periodic briefings for employees on energy efficient practices. Affirmative procurement of energy efficient products. Ride sharing when possible. Project recycling program. Replacement of existing fluorescent and incandescent lighting with LED lighting as the existing lighting burns out.
Storm Water Discharges / Surface Water	Impact	-10	No	No	Track out prevention and cleanup.
Electronic stewardship (purchase, use, and disposition of electronic products)	Benefit	4	No	No	Project Recycling program. Printer cartridge collection bins, TAC management of old/broken tech components for proper disposal/recycling.
Petroleum Product Use	Impact	-13	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Substances Management	Impact	-17	No	No	Hazardous products are fully used and not wasted. Containers are disposed either offsite or to CJ depending upon if the material was used in the CA or not. Materials are safely stored and labeled. Materials within the CA become RRM.
Noise	Impact	-2	No	No	Operational hours align with times of higher background noise. Excessive noise tends to dissipate around site boundaries. Workers utilize hearing protection program.
Light Pollution	Impact	-3	No	No	Shielding and use of amber lights in parking and building areas as original lighting needs phased out. Facilities maintains these items.
Cultural Resources	Impact	-1	No	No	Facilities consults with the State Historical Preservation Society before modifying historical site features.
Site Aesthetics	Benefit	2	No	No	Facilities paints infrastructure to help it blend to the background and helps direct lighting downward.
Site: CJ Facilities and Infrastructure					

Table 3. Environmental Aspects and Impacts Registry

Work Description and Associated Activities: All office, janitorial, and facility maintenance tasks for the Project. Work is performed to the following IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-003 Facility and Grounds Maintenance, MB-IWP-JSA-025 HydroVac Truck Operations, and MB-IWP-JSA-032 HydroVac Truck Operations.

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Water Use	Impact	-17	No	No	Facilities maintains the pumps for site water use. This includes annual cleanout of the Green Water intake pond and ancillary equipment. The removed pond spoils are re-used by a local farmer. Flush less urinals installed.
Greenhouse Gas Emissions	Benefit	3	No	No	Blue Sky energy program purchasing. Energy efficient heating/cooling appliances. Periodic briefings for employees on energy efficient practices. Affirmative procurement of energy efficient products. Ride sharing when possible. Project recycling program. Replacement of existing fluorescent and incandescent lighting with LED lighting as the existing lighting burnsout.
Storm Water Discharges	Impact	-10	No	No	Track out prevention and cleanup.
Petroleum Product Use	Impact	-13	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Hazardous Substances Management	Impact	-17	No	No	Hazardous products are fully used and not wasted. Containers are disposed either offsite or to CJ depending upon if the material was used in the CA or not. Materials are safely stored and labeled. Materials within the CA become RRM.
Noise	Impact	-2	No	No	Operational hours align with times of higher background noise. Excessive noise tends to dissipate around site boundaries. Workers utilize hearing protection program.
Activity: Environmental Field Operations (BMPs, Reveg, Etc.)					
Site: Moab Storm Water BMPs Construction					
Work Description and Associated Tasks: Installation of Stormwater BMPs to prevent offsite migration of sediments and contaminants or to a WOTUS. Applicable IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-066 UAS Operations.					

Table 3. Environmental Aspects and Impacts Registry

Aspect	Impact/Benefit	Score	Significant	Env Objective	Remarks
Storm Water Discharges / Surface Water	Benefit	22	Yes	2	Installation of BMPs prevents upset to the CO River, a WOTUS. This includes not only regular clean sediment, but also contaminated RRM. Prevention of RRM from entering the CO River is the purpose and mission of the project.
Water Use	Impact	-9	No	No	Minimal amounts of use for BMP construction. Water use in the CA uses well water when possible, and CO River water outside the CA.
Greenhouse Gas Emissions	Impact	-6	No	No	Ride sharing when possible. Project recycling program.
Fugitive Dust Emissions	Impact	-11	No	No	Minimal dust generated during BMP construction; however, Moab public is sensitive to the issue.
Petroleum Product Use	Impact	-13	No	No	Petroleum products are stored in accordance with SPCCP and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Site Aesthetics	Impact	-1	No	No	BMPs detract from the natural terrain aesthetics.
Site: CJ Storm Water BMPs and Revegetation Efforts					
Work Description and Associated Tasks: Installation of Stormwater BMPs to prevent offsite migration of sediments and contaminants or to a Water of the United States (WOTUS) and revegetation for both stormwater and fugitive dust mitigation purposes. Applicable IWP's: MB-IWP-JSA-001 General Site Hazards, MB-IWP-JSA-003 Facility and Ground Maintenance, MB-IWP-JSA-066 UAS Operations.					
Aspect	**Impact/Benefit**	**Score**	**Significant**	**Env Objective**	**Remarks**
Storm Water Discharges / Surface Water	Benefit	12	No	No	Installation of BMPs prevents RRM upset from outside the cell to the surrounding area. The mission of the project is to isolate RRM from the environment. These BMPs directly help achieve the project mission.
Water Use	Impact	-8	No	No	Water is sourced from Green River and piped 22 miles to CJ. Water use is prioritized, with a small amount used for revegetation efforts.
Greenhouse Gas Emissions	Impact	-6	No	No	Ride sharing when possible. Project recycling program.
Fugitive Dust Emissions	Impact	-7	No	No	During revegetation, some fugitive dust is generated. However, the goal is to have vegetation sprout which will ultimately minimize fugitive dust.

Table 3. Environmental Aspects and Impacts Registry

Petroleum Product Use	Impact	-13	No	No	Petroleum products are stored in accordance with SPCC and 40 CFR 112. Site spill prevention and countermeasure plans are in place and followed. Use of BMPs for storage and use. Quarterly SPCC Inspections. Placement of readily available spill kits in storage and refueling areas.
Noise	Impact	-1	No	No	Operational hours align with times of higher background noise. Excessive noise tends to dissipate around site boundaries. Workers utilize hearing protection program.
Site Aesthetics	Impact	-1	No	No	BMPs detract from the natural terrain aesthetics.

Attachment 3.

Environmental Objectives Fiscal Year 2023 (FY 23)

Attachment 3. Environmental Objectives Fiscal Year 2023

According to the International Organization for Standardization (ISO) 14001:2015, Environmental Objectives must be consistent with the Environmental Policy, measurable (if applicable), monitored, communicated, and updated as appropriate.

Table 1 presents the Environmental Objectives for Fiscal Year 2023 (FY 23). These were identified based on the top four highest scoring environmental impacts from the Environmental Aspects and Impacts Risk Registry (Environmental Management System (EMS) Manual, Attachment 2, Table 3). The Remedial Action Contractor (RAC) is responsible for this scope of work.

This is a working document and can be changed or modified independent of the EMS Manual.

Table 1. Moab UMTRA Project Environmental Objectives Fiscal Year 2023

Objective	Resources	Monitoring Progress	Responsible Personnel	Performance Tracking
1. Maximize tonnage per train shipment and expedite the removal of RRM.	-Scale -Truck Drivers -Excavators & Operators	Container weight totals Amount of train cars per shipment	Primary: Heather White (Operations Manager) Secondary: • Ken Kisiel (Moab Site Manager) • Levi Whitney (Shipping/Receiving Supervisor) • Kelly Finley (Waste Handling Supervisor)	Compare previous year's tons/train to current year's tons/train. Success equates to having more tons/train in current FY than previous FY. *Secondary Objective:* Ship more total tons in current FY than previous FY.
2. Zero RRM upset to outside of the CA due to Storm Water (excluding Moab Wash which is subject to its own plan).	Stormwater Pollution Prevention Plan (SWPPP) Best Management Practices (BMPs)	Stormwater inspections and monitor BMPs	Primary SWPPP Inspections: • Tyler Bornsen (Environmental Compliance Technician) • Jessica O'Leary (Environmental Compliance Technician) • Katrina Lund (Environmental Compliance Manager) Primary Construction: Kelly Finley (Waste Handling Supervisor) Secondary: • Don Janz (CJ Site Manager) • Ken Kisiel (Moab Site Manager)	Objective can only be met if zero residual radioactive material (RRM) runs out of Contaminated Area (CA) at either Moab or Crescent Junction (CJ) due to precipitation. (Pass or Fail, binary objective). No corrective actions involving removal of cross contamination/RRM that leaves the CA due to precipitation.

Attachment 3. Environmental Objectives Fiscal Year 2023 (*continued*)

Table 1. Moab UMTRA Project Environmental Objectives Fiscal Year 2023 (continued)

3. Prioritize the use of the extraction system for dust suppression when the system is operational.	-Groundwater extraction system -Water truck drivers - Water trucks - Quarterly dust suppression planning meetings	Gallons of water extracted	Primary: Kelly Finley (Waste Handling Supervisor) Primary: Groundwater Manager (currently vacant) Secondary: • James Ritchey (Environmental Technician) • Thomas Prichard (Environmental Technician) • Heather White (Operations Manager)	Maintain baseline level of extraction amounts annually. *Secondary Objective:* Use more extraction water than the previous quarter when conditions allow.
4. Dilute contaminant concentrations and form a hydraulic barrier in the groundwater adjacent to areas that have the highest potential for suitable habitat formation.	-Ground water monitoring wells -Injection system	Gallons of water injected and analytical data from monitoring wells.	Primary: Groundwater Manager (currently vacant) Secondary: • James Ritchey (Environmental Technician) • Thomas Prichard (Environmental Technician)	Maintain baseline amount of freshwater pumped for groundwater injection.

Attachment 3. Environmental Objectives Fiscal Year 2023 (*continued*)

Action Plans

Objective 1: Maximize tonnage per train shipment and expedite the removal of residual radioactive material (RRM).

Responsible Personnel:

Primary: Heather White (Operations Manager)

Secondary:

- Ken Kisiel (Moab Site Manager)
- Levi Whitney (Shipping/Receiving Supervisor)
- Kelly Finley (Waste Handling Supervisor)

Monitoring Metrics: Numerous shipping containers are weighed every shift prior to loading the train. The weights of these containers are used to estimate the total weight of each train shipment. These weights are reported to, recorded and analyzed by Heather White, Operations Manager. Heather maintains current year data as well as historic shipment data. Comparison of the current Fiscal Year (FY) to the previous FY tons/train can be made as well as comparison of the total amounts shipped in the current FY to the previous FY.

Primary Objective: Maximize and increase the amount of RRM shipped per train shipment from Moab to Crescent Junction (CJ), reducing the project duration, reducing our carbon footprint and expediting pile removal.

Secondary Objective: Ship more RRM in the current FY than in the previous FY.

Performance Tracking (What are we doing to track performance towards goals): The train weights are tracked daily by Heather White and the information is provided to Ken Kisiel, Moab Operations Manager. Using this information, Ken analyzes means to increase the tons per train. Such solutions have included adding additional rail cars and analysis into getting heavy duty rail cars that allow more RRM to be placed into each container. These ideas are then conveyed to Line Supervisors, Kelly Finley (Waste Handling Supervisor) and Levi Whitney (Shipping/Receiving Supervisor), for implementation.

Objective 2: Zero RRM upset to outside of the Contaminated Area (CA) due to Storm Water (excluding Moab Wash which is subject to its own plan)

Responsible Personnel:

Primary (SWPPP Inspections):

- Tyler Bornsen (Environmental Compliance Technician)
- Jessica O'Leary (Environmental Compliance Technician)
- Katrina Lund (Environmental Compliance Manager)

Primary (Construction): Kelly Finley (Waste Handling Supervisor)

Secondary:

- Don Janz (CJ Site Manager)
- Ken Kisiel (Moab Site Manager)

Monitoring Metrics: Monthly and post qualifying event stormwater inspections and monitoring of BMPs.

Primary Objective: Zero RRM upset performance.

Performance Tracking (What are we doing to track performance towards goals): This goal is binary in nature (Pass or Fail). Should any RRM find its way outside of the CA at either Moab or CJ due to precipitation, then the RAC will have failed to meet this objective. No RRM outside either CA due to precipitation will indicate success in achieving this objective. Inspections are conducted at both CJ and Moab at monthly minimum frequency. Any 24-hour event resulting in 0.5" or more of rain/water also triggers an inspection. If corrective action is needed to remove RRM which migrated out of the CA due to rain, then this objective will not be met. Environmental Compliance personnel and Kelly Finley work together to discuss BMP improvements to ensure this goal is achieved.

Objective 3: Prioritize the use of the extraction system for dust suppression when the system is operational.

Responsible Personnel:
Primary: Kelly Finley (Waste Handling Supervisor)
Primary: Groundwater Manager (position currently vacant)

Secondary:

- James Ritchey (Environmental Technician)
- Thomas Prichard (Environmental Technician)
- Heather White (Operations Manager)

Monitoring Metrics: Gallons of water extracted

Primary Objective: Maintain baseline level of extraction amounts annually.

Secondary Objective: Use more extraction water than the previous quarter when conditions allow.

Performance Tracking (What are we doing to track performance towards goals):

The extraction system pumps contaminated groundwater into a tank (Klein Tank) located within the contamination area (CA) to be used as effective dust suppression. The water is first pumped into two 21,000-gal frac tanks located in the CA at the eastern toe of the tailing piles for temporary storage. The water is then transported from the frac tanks to the 12,000-gal Klein tank by a pump housed outside the CA.

Operation of the extraction well pumps are operated by an automated system. The operation of this system is based on the tanks' water levels measured by sensors located in one of the frac tanks and in the Klein tank. When the water level drops below a pre-determined low level in the frac tanks, a signal is relayed to the system control panel to turn on the selected extraction well pumps. The same process occurs for the transfer pump operation, where the Klein tank sensor controls operation of the transfer pump. All system signals are relayed from the pump shed control panel to a human/machine interface (HMI) located in the Groundwater Office in the Project Support 2 trailer. At the HMI, the system operator can set the required low and high levels for both the frac and Klein tanks, select which six of the eight wells are to be operated that day, control the flow rate and operation of the transfer pump, monitor the water pressure coming into the pump house, and monitor the transfer pump flow rate. Operation of the extraction system is typically mid-March to mid-November when temperatures remain above freezing.

The system is periodically monitored to ensure the system is functional. Weekly extraction water totals are sent to the operations manager. Groundwater extraction performance is reported in the *Annual Groundwater Program Report*.

Currently, the water wagon, used for dust suppression, prioritizes extraction water over fresh water. To maximize the use of the extraction system the Project can purchase and utilize another water wagon. This would double the amount of contaminated water being extracted to be used as dust suppression. Another water wagon would also support Environmental Objective 2.

Objective 4: Dilute contaminant concentrations and form a hydraulic barrier in the groundwater adjacent to areas that have the highest potential for suitable habitat formation.

Responsible Personnel:
Primary: Groundwater Manager (position currently vacant)

Secondary:

- James Ritchey (Environmental Technician)
- Thomas Prichard (Environmental Technician)

Monitoring Metrics: Gallons of fresh water injected into the subsurface.

Primary Objective: Continue injection operations through Colorado River baseflow conditions.

Secondary Objective: Maintain ammonia concentrations in the side channel below acute and chronic criteria.

Attachment 3. Environmental Objectives Fiscal Year 2023 (*continued*)

Performance Tracking (What are we doing to track performance towards goals):

The main objective of freshwater injection is to form a hydrologic barrier between the tailings pile and the Colorado River side channel that potentially develops into a habitat. In addition, the contaminant concentrations are diluted prior to discharging into the river. The injection system uses Colorado River water that is first diverted to the freshwater pond. Freshwater injection is operational primarily in the spring and fall when the river is at baseflow conditions.

Performance is tracked based on the number of gallons injected into the well field, the ammonia and uranium concentrations in up and down-gradient wells, and the ammonia concentrations in the backwater channel adjacent to the injection operations. The results of the sampling data are reviewed in the bi-annual *Surface Water and Groundwater Monitoring Reports*, and injection operations are summarized in the *Annual Groundwater Program Report*.