CJ Interim Completion Report – Addendum L
Attachment 1.

Configuration Management Plan for Design and Construction

Design Change Control Procedure

Construction Interface Document

Attachment 1. Configuration Management Plan for Design and Construction

DOE-EM/GJRAC3079

MOAB UMTRA PROJECT
CRESCENT JUNCTION

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Moab UMTRA Project
Configuration Management Plan for Design and Construction

Revision 0

July 2022

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.

Attachment 1. Configuration Management Plan for Design and Construction

DOE-EM/GJRAC3079

Moab UMTRA Project
Configuration Management Plan for Design and Construction

Revision 0

Review and Approval

7/27/2022

X

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7/28/2022

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Attachment 1. Configuration Management Plan for Design and Construction

Revision History

Revision	Date	Description
0	July 2022	Initial issue.

Attachment 1. Configuration Management Plan for Design and Construction

Contents

Attachment 1. Configuration Management Plan for Design and Construction

1.0 Introduction

1.1 Purpose

The purpose of the Moab Uranium Mill Tailings Remedial Action (UMTRA) Configuration Management (CM) Plan is to provide a path forward for the establishment of a CM program for the project. The Plan addresses CM requirements to ensure changes that may affect the approved design configuration are recognized, processed, communicated, and documented. This Plan will be updated when necessitated by changes in the site CM policies, practices, and/or implementation schedules. This remedial action project is in a continuous construction phase until completed and is not an "operating facility".

The Moab CM Plan is prepared using guidance from ASME NQA-1-2009a, Requirement 3, Section 600 Change Control and 601 Configuration Management of Operating Facilities.

1.2 Scope

The Moab CM Plan establishes controls for implementing a CM program for the Moab project. When referred to in this Plan for the Moab project, configured items for the Crescent Junction site includes design and construction of the UMTRA Disposal Cell.

The Moab UMTRA project CM Plan scope applies to Change Control management activities to be utilized for the engineering design and engineering support during construction. The design and support includes the Nuclear Regulatory Commission (NRC) licensed disposal cell at Crescent Junction and associated disposal cell support infrastructure. The disposal cell design element for this project requires NRC approval for license amendment.

The Design Basis for this project is the original, Revision 0, drawings and specifications and subsequent documented changes to the original design. For the disposal cell, the Design Basis also includes site characterization information provided by SM Stoller Corporation in the Remedial Action Plan (draft RAP).

1.3 Applicability

The Moab CM Plan applies to the design and construction of the UMTRA Disposal Cell (a Quality Level II item) at Crescent Junction, Utah.

This Plan, and future revisions, applies until the UMTRA cell (cell) construction is complete and the cell is commissioned and licensed by the NRC.

This project is contractually obligated to comply with 10CFR830, DOE Order 414.1C, and ASME NQA-1 2009a. This Plan is intended to meet these requirements as applicable to a non-standard, radiological remedial action project.

1.4 Project Background

The Moab UMTRA project activities include design and construction of the disposal cell at Crescent Junction, UT.
The current North Wind Portage (NWP) contract scope requires the project to transport processed residual radioactive material (RRM) by rail/truck from Moab to Crescent Junction, Utah for final placement in the NRC licensed UMTRA disposal cell.

The Dwyer Engineering design scope was to prepare the necessary engineering designs and specifications to replace the Crescent Junction UMTRA cover system with an evapotranspiration (ET) cover system using standard industrial practices for construction methods and standard engineering judgment and practices for design. For the disposal cell, Dwyer Engineering used specific site input information from the Remedial Action Plan prepared by SM Stoller Corporation. In the process of design, Dwyer Engineering developed the System Design Description Document for the Moab Project that communicates the design culminating from input from NRC, NWP, and the Department of Energy and their reviews/comments of preliminary plans. It describes the Evapotranspiration Cover (ET) System and their functions that resulted in the final design.

2.0 Organization and Responsibilities

2.1 Organization

The Moab UMTRA project is a DOE-funded project with the Remedial Action Contractor (RAC) services managed by NWP teamed with Dwyer Engineering for engineering design. NWP is the construction and excavation lead. Dwyer Engineering reports to NWP as the Engineer of Record and Design Authority. NWP, as the RAC, reports to the Department of Energy (DOE).

NWP also interfaces with a DOE Technical Assistance Contractor (TAC) for official document control and technical review.

2.1 Responsibilities

NWP has overall management responsibility and authority and is also responsible for integration of project-related programs including Quality Assurance and Health and Safety, implementing the project design. tailings pile removal, blending/conditioning, and packaging using its own equipment and workforce. Dwyer Engineering is responsible for the entire design effort including engineering design, specifications, review and approval of certain vendor submittals, producing project-related engineering documents to support regulatory permits, and for engineering support during construction. The engineering support during construction also includes ensuring that during the implementation of the design. Dwyer Engineering communicates any changes to the design through a change control process.

The change control process is implemented through configuration management.

This Plan addresses how the project, with Dwyer Engineering as the Design Authority, effectively identifies and communicates design input and design changes.

3.0 Configuration Management Plan Approach

The Plan is to provide a high degree of assurance that: 1) the physical configuration of a given facility conforms to the design basis requirements; 2) the configuration of the facility is accurately reflected in the design documentation; and 3) that as changes evolve over the life of a facility, the physical and functional characteristics of the facility are accurately reflected in configuration control documents on an on-going basis.

This Plan implements four basic principles required for a Configuration Management Program:

- Identification of facility structures, systems, and components;
- Control management and change control;
- Status Accounting through tracking and reporting of in-process changes affecting configuration items; and
- Verification that any facility changes satisfy the original design requirements or comply with approved changes.

During implementation of this Plan, the existing configuration control processes and configuration items will be identified, evaluated, enhanced, and validated to ensure that these four principles have been effectively applied and integrated.

The fundamental objectives addressed by this Plan are listed below:

- The design basis, in the form of design drawings, specification, and calculations, for the project's structures, systems, and components is established, documented, and maintained in a retrievable condition.
- Facility structures, systems, and components conform to approved designs and other configuration control documents.
- Proposed changes to structures, systems, and components are controlled by an integrated review and approval process.
- Proposed changes to structures, systems, components, and configuration control documents are fully evaluated to determine their impact on other structures, systems, components, and configuration control documents.
- Proposed changes to structures, systems, components, and configuration control documents are reviewed and approved by the proper authorities prior to implementation.
- Consistency is maintained between configuration control documents.

4.0 Change Control Management

4.1 Change Control

In the performance of the Moab project design, the Design Authority was provided input from NWP. The original input and subsequent input for design changes is documented as Design Input and noted in the Design Input Log. This input includes items provided by NWP, DOE, and NRC for the disposal cell design. Changes to design inputs, final design, field directed design changes, and any permanent or temporary modifications to facilities constructed according to the approved plans are to be first identified by NWP and entered into the Design Input Log prior to design by Dwyer Engineering. Design changes are to use design control measures commensurate with those used for the original design. Additionally, when changes are considered, a review of potentially changing conditions and their affect or impact, including regulatory commitments, calculations and analysis, and design inputs must be evaluated. These control measures are to include the effects of the changes on the overall design and the applicable analysis on which the design is based. The evaluation must consider all the facility activities and functions. Dwyer Engineering, as the Engineer-of-Record and the Design Authority, provides demonstrated competence in all areas that may be subject to change and will be the design authority that will approve any changes. When a design change is approved other than by a revision, Dwyer Engineering is responsible to incorporate these changes into affected documents as appropriate. The following points must be considered with initiating or preparing for a design change:

- Verify the design basis and the approved configuration.
- Proposed changes are to be evaluated for their conformance to the design basis.
- Verify that the implementation sequence for the approved configuration changes conforms to the design basis.
- Ensure design authority approval prior to implementation for changes to the design basis.
- The configuration of the facility must be documented in drawings, specifications, procedures, and other documents that reflect the current facility status.

Proper change control is to be implemented to ensure that changes in facility configuration are based on current revisions, incorporate approved/documented input, and are documented such as to establish design basis revision status.

4.2 Communication of Change

NWP has established procedures that are to be utilized for the identification, communication, evaluation, recommendation, and approval of design changes. For the Moab project, NWP developed procedures specifically to address the needs of this project for engineering activities. For configuration management following design issuance, these procedures provide the guidance required to effectively communicate change requests during construction and facility upgrade post-construction. These

support measures are to ensure changes that may affect the design basis are recognized and processed.

The primary procedure used to communicate an initial design change request or for questions related to a design is DOE-EM/GJRAC3081 Construction Interface Document. Following this procedure enables NWP construction staff to communicate desired information, guidance, or changes to effectuate the eventual configuration. This procedure is also to be used to communicate changes from the Design Authority to the construction staff. In addition, DOE-EM/GJRAC3080 Design Change Control provides requirements for identifying change and related communications. Should a change request necessitate a revision to a document, a Design Change Request (DCR) will be prepared in accordance with DOE-EM/GJRAC3080 and communicated in accordance with the procedure.

Hard copies and electronic copies of revised design documents will be transmitted to NWP. NWP will transmit these documents to the TAC for official document control. NWP is responsible to ensure that the latest revisions of the documents are used for construction.

The final, constructed configuration of the structures, systems, and components (construction complete) will be communicated by NWP to the Design Authority through field markups (redlines drawings) prior to facility start-up. The Design Authority will issue as-built drawings, and these become the approved configuration for the facility. Configuration management will continue through the life of a facility and changes to this Plan will be prepared as appropriate.

4.3 Documentation of Change

When a change has been approved and communicated for field implementation through revisions of drawings, specifications, or calculations, the documentation is further distributed and archived in accordance with DOE-EM/GJ1545, Moab UMTRA Project Records Management Manual.

For the Moab UMTRA Project, design documents that are issued for construction are maintained using the DOE and NWP independent document control files for the project. Copies of all Issued-for-Construction documents prepared by the Design Authority are provided to NWP.

5.0 References

Quality Assurance Requirements for Nuclear Facility Applications, American Society of Mechanical Engineers NQA-1-2009a, Requirement 3 Design Control, Section 600 Change

Attachment 1. Design Change Control

DOE-EM/GJRAC3080

MOAB UMTRA PROJECT
CRESCENT JUNCTION

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Moab UMTRA Project
Design Change Control

Revision 0

August 2022

U.S. Department of Energy

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

Attachment 1. Design Change Control

DOE-EM/GJRAC3080

Moab UMTRA Project
Design Change Control

Revision 0

Review and Approval

8/15/2022

X

Kathy Turvy
RAC Quality Assurance Manager
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8/15/2022

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Steven D. Rima
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Signed by: Steve Rima

Attachment 1. Design Change Control

1.0 Purpose

The purpose of this work instruction is to define those activities associated with the identification, registration and communication of design changes perceived to impact project schedule, cost, budget, quality, or basis of design.

2.0 Scope of Application

This applies once formal configuration control is involved on a project through the issuance of as-built drawings. This work instruction is applicable to all design changes, irrespective of the source, affecting design of the Crescent Junction Disposal Cell with NQA-1 quality assurance requirements.

3.0 Definitions

Design Change:	Any revision or alteration of technical requirements defined by approved and issued design output documents and approved and issued changes thereto.
Design Change Request:	A form used to document, review, approve, and issue design changes to an issued design once formal configuration control is invoked on a project.

4.0 Method (Process Requirements)

This work instruction ensures that design change is controlled and communicated in a consistent manner enabling project cost, budget, schedule, and quality to be achieved. This will be achieved by documentation, coordination, and agreement of all design changes on the project, irrespective of their source.

The Design Authority responsible for the design to which the change applies shall ensure that changes to number-revision design documents are captured and reviewed for their effect on design. Also, the Design Authority shall ensure that the quality level of the structure, system, or component being affected by the change is included in the change control process.

Design changes will be implemented only after the necessary approvals. Areas requiring diligent attention to design change control include:

- Modification to the project approved Scope of Work
- Modifications to the project-approved Basis of Design
- Modifications to issued Design P&IDs
- Modifications to issued Process Data Sheets (equipment, instrument, hydraulic)

Attachment 1. Design Change Control

4.1 Responsibilities

It is the responsibility of the Design Authority to ensure that design change is controlled and that all project personnel understand and follow this procedure.

4.2 Sources of Change

During the design process, changes may originate from numerous sources and occur for a variety of reasons. When engineering personnel identify changes to technical requirements defined by approved and issued design output documents (latest document revision) the engineering personnel shall use best engineering judgment to determine if a change notice is required. If required, a Design Change Request shall specify both the reason and source of the change.

Typical sources of design change include:

- An instruction from the client that modifies the agreed scope;
- Receipt of information from third parties (e.g. regulatory/legislative authorities, suppliers, subcontractors);
- Change of project strategy;
- Change to take advantage of superior or more cost efficient design solutions; and
- Development of design by any engineering discipline.

4.3 Communication from Construction Personnel

RAC construction personnel and subcontractors in staff augmentation roles may request additional information and identify potential issues with design documents through the use of the *Moab UMTRA Project Construction Interface Control* (DOE-EM/GJRAC3081). Construction Interface Document (CID) form QA-F-023 Construction personnel should initiate the CID by completing the fields assigned to them (including the design document in question, the required information/identified issue(s), and any recommended solutions) and submit the CID to the Ops Manager for approval. A DCR shall be processed in accordance with Section 4.4. Once approval has been received and the field action has been indicated, the Design Authority will identify recipients of the completed CID, facilitate its distribution, and updated the CID Log form QA-F-024.

4.4 Communication and Control of Change

The Design Authority will evaluate whether the potential change has an impact on other disciplines, reviewing it as necessary with the Site/Operations Manager on projects where a Project Engineer is not assigned. The Design Authority will also assess whether this change should be made to the project-agreed Basis of Design. (NOTE: In the instance of changes originating from the CID process described in Section 4.2, the Design Authority should already be aware of the potential change and its impact on other disciplines and therefore an additional evaluation may not be necessary).

Where it is determined that a change to the Basis of Design has occurred or is necessary, the Design Authority shall initiate and issue a Design Change Request form QA-F-025 (see attachment 1) providing the following information on the Design Change Request:

- Description of the change;
- Source of the change;
- Which disciplines are affected; and
- Technical recommendation.

Upon receipt of the Design Change Request, the Design Authority will provide authorization and update the Design Change Log form QA-F-026 (see attachment 2).

The Design Authority shall review the Design Change Request and provide the necessary authorization in the form of one of the following:

Proceed with Change:	Work is within project scope, schedule and budget. Proceed with work.
Hold Change:	Work is not within project scope, schedule or budget. Do not proceed with any work.
Rejected Change:	Work is not within project scope, schedule or budget. Do not proceed with any work.

The Design Authority shall update and re-issue the Design Change Log periodically.

The Design Authority shall ensure that a change is implemented upon receipt of the Change Request approved by the Client or Site/Operations Manager.

The Design Change Request conveys the following information to the Design Authority
- Originating discipline;
- Brief description of change;
- Source of change;
- Initial assessment of other engineering disciplines likely to be affected; and
- Assessment of Change Request required.

4.5 Registration of Design Changes

The Design Change Log (QA-F-026) is typically constructed as a database; entries can be sorted by project management requirements.

The Design Authority will issue completed Design Change Requests and enter the details on the Design Change Log. Entries will be completed after receipt of the project authorization from the Design Authority. Design changes will be sequentially numbered.

The number, issued by the Design Authority, will include a suffix indicating the originating discipline, as follows:
- PR Process
- ME Mechanical
- P Piping
- L Instrumentation (Controls Systems)
- EL Electrical

- CS Civil/Structural
- V Validation
- C Construction
- S Safety

4.6 Approval/Implementation of Change

The Design Authority shall approve or reject all Design Change Requests within one week of receipt.

The Design Authority shall review the Design Change Log on a regular basis:
- To ensure its accuracy and upkeep a status of design change
- To ensure that required Change Requests are being generated

5.0 Reference

DOE (U.S. Department of Energy), *Moab UMTRA Project Construction Interface Control* (DOE-EM/GJRAC3081).

6.0 Records

All documentation created as a result of compliance with this procedure is considered a Project record and will be managed in accordance with the *Moab UMTRA Project Records Management Manual* (DOE-EM/GJ1545). Moab UMTRA Records are retained and maintained in accordance with federal orders, policies, and regulation, and all records created will be maintained and regulated according to the *Records Management Manual*.

Attachment 1. Construction Interface Document

DOE-EM/GJRAC3081

MOAB UMTRA PROJECT
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U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

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Attachment 1. Construction Interface Document

DOE-EM/GJRAC3081

Moab UMTRA Project
Construction Interface Document

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Review and Approval

8/15/2022

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Attachment 1. Construction Interface Document

Revision History

Revision	Date	Description
0	August 2022	Initial Issue

Attachment 1. Construction Interface Document

1.0 Purpose

The intent of this Moab UMTRA procedure is to establish a process for the Moab UMTRA project RAC personnel to formally communicate questions or requests for proposed modifications to the Design Authority.

A Construction Interface Document (CID) Form QA-F-023 is initiated by site construction personnel, to ask a question or request to the Operations Manager who will screen and transmit the CIDs to the project's Design Authority for clarification and/or disposition. CIDs which necessitate the need for a design change will be processed by the Design Authority in accordance with DOE-EM/GJRAC3080 Design Change Control. The use of the CID process and form is intended to provide quick and formal means of documenting responses to questions and disposition of proposed design changes.

2.0 Scope of Application

This work instruction covers any CID received from the Operations Manager based on documents (drawings and specifications) provided by the Design Authority. This work instruction establishes responsibilities, suggested turnaround time, maintenance of a CID Log and format for CIDs maintained by the Design Authority as part of the workflow process.

3.0 Method (Process Requirements)

1. When an engineering issue or question is raised concerning cell design an approved design document as delineated on the Project's approved drawings and specifications, a CID form (Ref. Form QA-F-023) is initiated and transmitted to the *Crescent Junction Operations/Site Manager*.

2. The Operations Manager reviews the CID form to verify that the CID is complete and ascertains that it is a valid request.

NOTE: The CID form may also be initiated by the Design Authority via telecon from a contractor or site operations provided that a written teleconference note or e-mail is attached which indicate the Ops Manager's assignment of a priority code and the approval of the request.

A subcontractor or vendor may also complete and submit a CID. This may be accomplished during the bidding process, following award of contract but before commencement of work, or at any time during the construction phase. The subcontractor or vendor shall provide a CID to the Ops Manager for review and validation prior to transmitting to the Design Authority.

3. The Ops Manager assigns the CID priority code using the following guidelines which are based on required turnaround times.

Priority Code	Turnaround Time
High	Initial communication within twenty-four (24) hours, noting (at minimum) receipt of CID and acknowledging active, primary attention to resolving issue. Response impacts critical activity.
Medium	Five (5) business days or less. Important but not a critical activity.
Low	Fifteen (15) business days. Answer impacts a future activity.

4. The Ops Manager transmits the CID to the Design Authority.

5. The Design Authority assigns a number and enters the CID into the CID Log (Form QA-F-024.)

The Ops Manager assigns an individual to lead/coordinate development of a response to the CID. The affected discipline lead(s) should be engaged and consulted when developing a response, which is then signed/initialed by the Design Authority and lead(s). For those CIDs which require a design change, a formal Design Change Request (DCR) shall be initiated in accordance with DOE-EM/GJRAC3080 Design Change Control.

6. The Design Authority submits completed CIDs to the Ops Manger via e-mail or facsimile.

7. The Design Authority retains a copy for the home office project file and updates the CID Log.

8. The Design Authority acknowledges receipt of response via e-mail or facsimile and forwards the completed CID to the appropriate site operations, construction, subcontractor, or vendor personnel.

4.0 Reference

DOE (U.S. Department of Energy), *Moab UMTRA Project Design Change Control* (DOE-EM/GJRAC3080).

5.0 Records

All documentation created as a result of compliance with this procedure is considered a Project record and will be managed in accordance with the *Moab UMTRA Project Records Management Manual* (DOE-EM/GJ1545). Moab UMTRA Records are retained and maintained in accordance with federal orders, policies, and regulation, and all records created will be maintained and regulated according to the *Records Management Manual.*