



Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
P.O. Box 98608
Las Vegas, NV 89193-8608

QA: L

SEP 9 1994

L. Dale Foust
Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
Bank of America Center, Suite P-110
101 Convention Center Drive
Las Vegas, NV 89109

EVALUATION OF RESPONSE TO CORRECTIVE ACTION REQUEST (CAR)
YM-94-051 RESULTING FROM U.S. DEPARTMENT OF ENERGY/HEADQUARTERS
QUALITY ASSURANCE DIVISION'S AUDIT HQ-94-02 OF THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING
CONTRACTOR (SCPB: N/A)

The YMQAD staff has evaluated the response to CAR YM-94-051. The response has been determined to be satisfactory. Verification of completion of the corrective action will be performed after the effective date provided. Any extension to this date must be requested in writing, with appropriate justification, prior to the date. Please send a copy of extension requests to Deborah Sult, YMQAD/QATSS, 101 Convention Center Drive, Suite 640, Las Vegas, Nevada 89109.

If you have any questions, please contact either Robert B. Constable at 794-7945 or Robert L. Howard at 794-7820.

Robert B. Constable for

YMQAD:RBC-4986
Richard E. Spence, Acting Director
Yucca Mountain Quality Assurance Division

Enclosure:
CAR YM-94-051

cc w/encl:
T. A. Wood, HQ (RW-10) FORS
~~R. L. Johnson~~, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
R. L. Robertson, M&O/TRW, Vienna, VA
R. P. Ruth, M&O/TRW, Las Vegas, NV
Richard Jiu, M&O/Duke, Las Vegas, NV

cc w/o encl:
W. L. Belke, NRC, Las Vegas, NV
D. G. Sult, YMQAD/QATSS, Las Vegas, NV

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PDR

OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

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CORRECTIVE ACTION REQUEST

¹ Controlling Document
M&O QARD, Section 3, Rev 0, Design Control

² Related Report No.
HQ-94-02

³ Responsible Organization
CRWMS M&O

⁴ Discussed With
A. Segrest

⁵ Requirement:

The OCRWM QARD requires Designs (Conceptual through Final) be controlled.

⁶ Adverse Condition:

There is no objective evidence that the Quality Assurance Program is being adequately applied to Advanced Conceptual Design. Examples Include:

- Preparation of The Controlled Design Assumptions Document
- Preparation of The Waste Package Design Status Report

⁹ Does a significant condition
adverse to quality exist? Yes No x
If Yes, Circle One: A B C D E

¹⁰ Does a stop work condition exist?
Yes No X; If Yes - Attach copy of SWO
If Yes, Circle One: A B C

¹³ Response Due Date:
20 working days
from issuance

¹¹ Required Actions: ☒ Remedial ☒ Extent of Deficiency ☐ Preclude Recurrence ☐ Root Cause Determination

¹² Recommended Actions:

Review all ACD work performed to date to ensure adequate controls have been applied.

⁷ Initiator
Rob Howard

Date 6/30/94

¹⁴ Issuance Approved by:
QADD [Signature]

Date 7.12.94

¹⁵ Response Accepted
QAR [Signature]

Date 9/6/94

¹⁶ Response Accepted
QADD [Signature]

Date 9.8.94

¹⁷ Amended Response Accepted
QAR

Date

¹⁸ Amended Response Accepted
QADD

Date

¹⁹ Corrective Actions Verified
QAR

Date

²⁰ Closure Approved by:
QADD

Date

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

Extent of Deficiency

Waste Package Investigative Action:

There is no objective evidence that the work being performed by Waste Package Development is being adequately controlled. Specifically, the 1993 Waste Package Design Status Report, B00000000-1717-570500007-00 Revision 0 is classified as QA:NA. Revision 0 of the Waste Package Development QAP-2-0 evaluation did not specifically address the 1993 Waste Package Design Status report. Similarly, the Controlled Design Assumptions Document was classified QA:NA.

Systems Engineering Investigative Action:

The Systems Engineering Organization's role in conducting Repository/EBS ACD has been to develop/revise the MGDS Design Requirements Documents (Repository Design Requirements Document (RDRD) and Engineered Barrier Design Requirements Document (EBDRD)), to compile design related assumptions into the Controlled Design Assumptions (CDA) document, conduct a functional analysis and Operations Concept development exercise (which will initially be captured in the CDA), to provide input to the Initial Summary Report, to conduct system studies related to Repository/EBS requirements and design, and to participate in reviews of ACD related documents.

The MGDS Design Requirements documents are controlled in accordance with the OCRWM QA program as defined in the OCRWM QARD DOE/RW/0333P. Specifically, the RDRD and EBDRD changes and revisions are performed in accordance with QMP-02-01, AP 1.5Q, AP 1.18Q, QAP 3.5, QAP 6.2, AP 3.3Q and YAP 5.1Q.

The activities involved in the system studies being conducted by the Systems Engineering organization were evaluated in accordance to QAP-2-0, Work Control. This evaluation determined that since the activities associated with systems studies are generally very broad scoping activities, they are not subject to QARD controls. However, at some point the type of data produced by the system studies will be used as design input. At that time the design input data will be reproduced following the applicable QARD controls.

Finally, Systems Engineering's participation in reviews of ACD related activities and documents is performed in accordance to the QARD as is appropriate for the particular document/activity being reviewed.

MGDS Development Repository Design Investigative Action:

The adverse conditions identified in this CAR do not address any findings relative to the Repository ACD activity. All work performed by the MGDS Development Repository Design groups (surface and subsurface) is controlled in accordance with all applicable procedures. The products produced to date have been developed, reviewed and audited for QARD and program procedure compliance, and found to be satisfactory. Complete record packages of deliverables are available in either the document control center and/or the Local Records Center as appropriate. Work for this activity is scoped, planned and controlled in accordance with a properly prepared and submitted engineering plan and technical implementation plan.

MPC Design Investigative Action:

All design work was performed in accordance with QAP-2-0 and QAP-2-3 to identify QA activities.

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

Remedial Action

Waste Package Remedial Action:

A complete reevaluation of the Waste Package activities being conducted during Advanced Conceptual Design has been performed and documented in Revision 1 of the QAP-2-0 analysis which was approved and issued on August 11, 1994. The requirement of the QARD that designs subject to QA be controlled from conceptual design through final design was used as the basis for the analysis. Revision 1 of the QAP 2-0 included an evaluation of the Waste Package Design Status Report Fiscal Year 1993 and found it to be QA:NA. The Waste Package Implementation Plan, YMP 92-11, Rev. 0, was determined to contain material that should be controlled and the document has been classified QA under the YMSCO QA program by the Waste Package Design Group. The document is in review by YMSCO.

Responsible individual: H.A. Benton

Completion date: August 11, 1994 (Complete)

Systems Engineering Remedial Action:

A complete evaluation of the Systems Engineering activities being conducted during Advanced Conceptual Design has been performed and documented in QAP- 2-0 analysis which were approved and issued on June 13, 1994. The requirement of the QARD that designs subject to QA be controlled from conceptual design through final design was used as the basis for the analysis.

Responsible individual: R.D. Memory

Completion date: June 13, 1994 (Complete)

The CDA document Rev 00, which is due August 29, 1994, will be produced in accordance with the appropriate controls as defined by the OCRWM QARD. Specifically, the M&O contractor QA procedures QAP-2-1, QAP-3-5, QAP-3-13, QAP-6-1, and QAP-17-1 will be applied to the development of Rev 00. The CDA is merely a compendium of unverified assumptions to be used during the development of Waste Package and Repository ACDs. Therefore, all data items in the document will be clearly identified as unverified. The functional analysis and operations concept development activity is not being conducted under QA controls and therefore will be so identified in the CDA.

Responsible individual: R.D. Memory

Completion date: August 29, 1994 (Complete)

MGDS Development Repository Design Remedial Action:

A complete evaluation of the MGDS Development Repository Design activities being conducted during Advanced Conceptual Design has been performed and documented in the QAP-2-0 analysis which was approved and issued on February 22, 1994. The requirement of the QARD that designs subject to QA be controlled from conceptual design through final design was used as the basis for the analysis.

Responsible individual: A.M. Segrest

Completion date: February 22, 1994 (Complete)

The ACD Initial Summary Report is being developed in accordance with the QARD which was used in establishing the appropriate QA program controls through applicable Quality Assurance procedures. Contributions to this report are consequently controlled in accordance with the QARD.

Responsible individual: B. T. Stanley

Completion date: August 29, 1994 (Complete)