



Department of Energy
Yucca Mountain Site Characterization
Project Office
P. O. Box 98608
Las Vegas, NV 89193-8608
DEC 21 1992

WBS 1.2.11
QA: N/A

Richard E. Spence, Director, Yucca Mountain Quality Assurance Division,
YMP, NV

RESPONSES TO CORRECTIVE ACTION REQUESTS (CAR) YM-93-001 THROUGH YM-93-003
RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION AUDIT YMP-92-24
OF YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

Reference: Ltr, Spence to Gertz, dtd 12/11/92

Enclosed are responses to the three Corrective Action Requests, CAR YM-93-001
through YM-93-003.

If you have any questions, please contact either Bruce D. Hutchinson at
794-7936 or Betty G. Cruz at 794-1851.


Carl P. Gertz
Project Manager

EDD:BDH-1552

Enclosures:

1. YM-93-001
2. YM-93-002
3. YM-93-003

cc w/encls:

- K. R. Hooks, NRC, Washington, DC
- S. W. Zimmerman, NWPO, Carson City, NV
- S. D. Johnson, PSDO/REECO, Las Vegas, NV
- J. W. Estella, SAIC, Las Vegas, NV
- J. H. Rusk, MACTEC, Las Vegas, NV
- B. G. Cruz, M&O/TRW, Las Vegas, NV
- B. J. Verna, YMP, NV
- A. V. Gil, YMP, NV

cc w/o encls:

- J. W. Gilray, NRC, Las Vegas, NV
- N. J. Brogan, SAIC, Las Vegas, NV
- S. H. Horton, SAIC, Las Vegas, NV

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PDR WASTE PDR
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CORRECTIVE ACTION REQUEST (Continuation Page)

1.0 Corrective Action Response for CAR # YMP-93-001

A. Remedial Action

For remedial purposes, an FCR Processing Checklist, as shown in Attachment 1, has been implemented to assure that the technical evaluation required in Step 4 of AP-3-5Q is included, if appropriate.

B. Investigative Action

Investigation was made of all FCRs processed since July, 1991, and then reviewing those FCRs that involved scientific, design or quality affecting change. Investigation began in July 1991 because the FCCB was established on that date. From this review, 15 FCRs lacking objective evidence of technical evaluation were identified. Attachment 2 is a listing of the referenced 15 FCRs (technical evaluations are in the respective FCR files). These 15 FCRs which include the four mentioned in this CAR are shown in Attachment 2. An analysis of these FCRs showed that technical evaluations were performed for FCR 92/089 and 92/092; technical evaluation were not found in the files for FCRs 92/058 and 92/061; and all of the FCRs annotated in Attachment 2 now have technical evaluations. It was determined that there was no adverse impact from evaluations being performed subsequent to approval of referenced FCRs.

C. Root Cause Determination

Not Applicable

D. Corrective Action to Preclude Recurrence

The FCR Processing Checklist shown in Attachment 1 of this CAR will be implemented as an internal CM desk top instruction to preclude recurrence of conditions that led to CAR YM-93-001. To bring the FCRs noted in Attachment 2 into compliance, copies of technical evaluations were requested of and received from the Participants to complete the files.

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CORRECTIVE ACTION REQUEST (Continuation Page)

Attachment 2

Listed below are the 15 Field Change Requests referenced in Section 1.0 (B) of CAR YMP-93-001

FCR No.

91/082	92/061
91/088	92/063
92/043	92/072
92/046	92/073
92/053	92/080
92/058	92/089
92/059	92/092
92/060	

Technical evaluation for each FCR listed is available in respective file.

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CORRECTIVE ACTION REQUEST (Continuation Page)

CAR # YM-93-001 (continuation)

2. Assigned Responsibility

Action	Individual	Completion
1.A	B. G. Cruz	Completed October 7, 1992
1.B	B. G. Cruz	Completed October 23, 1992
1.C	N/A	
1.D	B. G. Cruz	Completed October 30, 1992

3. Response Approved: Winfred A. Wilson Date: 12/15/92
W. A. Wilson

FCR Processing Checklist (REV. 1)

Processor _____

FCR: _____

Date received: _____

All document impacts are listed _____

Document to be changed is properly categorized _____

Correct Processing Priority _____

Correct Change impacts _____

If applicable, correct Cost/Schedule impacts _____

Correct TPO/DD signature obtained _____

Originators procedural training compliance _____

If applicable, prepare and distribute CEs _____

If applicable, receipt of all CEs obtained _____

Correlation between section II and section III _____

Complete and/or disposition FCR _____

CDIA prepared _____

CM Document Receipt Acknowledgment complete and signed _____

Submit original FCR with CDIA to DRC for distribution _____

Receive original FCR with DRCs concurrence for site file _____

Copy FCR for Las Vegas file _____

Complete FCR disposition Letter, initial and date _____

If applicable, attach FCCB meeting minutes and/or CEs to FCR package for site file _____

Submit info copy of FCR to CM analyst, recheck for completeness and create folder for Las Vegas file. _____

Submit disposition to B. Cruz for initials, receive disposition from B. Cruz and send to distribution _____

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CORRECTIVE ACTION REQUEST (Continuation Page)

1.0 Corrective Action Response for CAR # YMP-93-002

A. Remedial Action

Remedial action will be taken regarding the Trench 14 as-built drawings and specifications. The CCB will handle these documents in accordance with AP-5.24Q, Preparation and Submittal of As-Built Drawings and Specifications, and notify the A/E of the CCB's acceptance of these documents. The CCB Register has been updated to reflect the current status of these As-Built Drawings and the A/E has been notified of the status. Aperture card range for these As-Built Drawings in the LRC is 9000008954 through 9000008961.

B. Investigative Action

Investigation has shown that this was a one-time occurrence. The Trench 14 as-built drawings and specifications were submitted to the CCB in June, 1992. Since there were no applicable CM procedures regarding these documents, they were sent to the FCCB. The FCCB submitted the documents to DRC as additional records to the corresponding Job Package. Two procedures apply to as-built drawing: AP-5.24Q and AP-6.22. The AP-6.22Q, Job Package and Completion Records, requires as-built drawings and specifications to be submitted by the A/E to the DRC. AP-5.24Q is applicable to Participants and A/Es, and requires as-built drawings and specifications to be submitted to the CCB. These two procedures are not currently identified as CM procedures.

C. Root Cause Determination

Not Applicable

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CORRECTIVE ACTION REQUEST (Continuation Page)

CAR # YM-93-002 (continuation)

D. Corrective Action to Preclude Recurrence

CAR# YM-93-002 was written on 10/06/92 identifying deficient conditions relating to Trench 14 as-built drawings and specifications. The controlling document identified as AP-5.24Q Revision 0. Subsequently, AP-5.24Q Revision 1 was issued with an effective date of 11/16/92. This revision (Rev 1) removed the requirements for:

- a) CCB acceptance of as-built drawings and specifications
- b) CCB notification to the A/E of acceptance of as-builts
- c) CCB forwarding as-built to LRC and DRC

Thus no remedial action is necessary.

However, in order to identify how the Configuration Management Technical Baseline is updated, two additional steps, (8 & 9) will be added to Section 5.0 of AP-5.24Q, in which the Configuration Management Organization (CMO), is notified in writing of the document acceptance, and the Technical Baseline updated.

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CORRECTIVE ACTION REQUEST (Continuation Page)

CAR #YM-93-002 (continuation)

AP-5.24Q will be submitted for revision to include the following revised text:

"A/E	Step 8	Notify CM Change Control Board Secretary, in writing, of document acceptance
CMO	Step 9	Modify Project Technical Baseline, by updating Change Request Status Report and CCB Register"
Action	Individual	Completion
1.A	B. G. Cruz	By December 11, 1992
1.B	B. G. Cruz	Completed October 30, 1992
1.C	N.A.	
1.D	J. T. Gardiner	DAR will be submitted by December 18, 1992.

3. Response Approved:

WBS Simecka Date: 12/15/92
W. B. Simecka

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DATE: 12/15/92
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CORRECTIVE ACTION REQUEST (Continuation Page)

1. **Corrective Action Response for CAR # YM-93-003**

A. **Remedial Action**

No remedial action is to be taken regarding the requirements documents in the current document hierarchy. These documents are shown in Attachment 1 (an annotated version of the CCB Register Report) under the "Level 2-CCB Baseline" portion of the Report. The annotations indicate applicability and status of logs. Five of the annotated documents do not include the TBD/TBV logs: ESF Subsystem Design Requirements Document, Waste Package Design Basis, SCP Exploratory Studies Facility-Vols I & III, Mined Geologic Disposal Repository Design Requirements and MGDS System Requirements. These five documents will be superseded by others currently in preparation for the new MGDS document hierarchy, as noted below in Paragraph D. The new OCRWM Document Hierarchy of requirements documents at the program and project levels have notations throughout the document indicating data that is of TBD nature. Based on notations within these documents, the requirement for these documents to have TBD logs should not be required.

B. **Investigative Action**

Investigation has shown that 5 of the 8 documents of a requirements or configuration data nature noted in Attachment 1 do not include the TBD/TBV logs. The status is annotated on the right hand margin of Attachment 1. The need for TBD/TBV logs is not specified in an existing procedure that pertains to document preparation such as OCRWM QAP 3.5 procedure, Technical Document Preparation. The requirement for logs should be stated in this procedure for preparing technical documents, and the responsibility for updating and maintenance of the log should be assigned to the document custodian. The need for TBD/TBV data in design documents such as drawings and design specification is addressed in the design input process to reflect flow-down from the respective requirements documents or conditions of submittal of design documents into the YMP technical baseline.

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CORRECTIVE ACTION REQUEST (Continuation Page)

CAR# YM-93-003 (continuation)

C. Root Cause Determination

Not Applicable

D. Corrective Action to Preclude Recurrence

The corrective action is in three parts: (a) A DAR regarding AP-3.6Q will be submitted to delete TBD/TBV logs, for the reasons noted in paragraphs 1.A and 1.B above. (b) A DAR regarding OCRWM QAP-3-5, Preparation of Technical Documents, will be submitted to add the need of TBD/TBV/TBR logs for OCRWM requirement documents. The logs will take the form of summary tables that show section numbers and TBD/TBV/TBR entries. Since these are requirements documents and TBD/TBV/THR data will be annotated in the body of the requirements document, the schedule or responsibility data is not necessary. (c) Project level documents for the new MGDS document hierarchy will include TBD/TBV/TBR log, whether the DAR of paragraph (b) herein is approved or rejected. These documents are the Repository Design Requirements, Site Design and Test Requirements, Engineered Barrier Design Requirements, ESF Design Requirements and Surface Based Test Facility Design Requirements.

2. Assigned Responsibility

Action	Individual	Completion
1.A	N/A	
1.B	T. C. Geer	Completed October 30, 1992
1.C	N/A	
1.D (a)	T. C. Geer	Submit DAR by January 15, 1993
1.D (b)	T. C. Geer	Submit DAR recommendation to OCRWM Hq. by January 15, 1993
1.D (c)	T. C. Geer	Complete logs by March 31, 1993

3. Response Approved: W.B. Simecka Date: 12/15/92
W. B. Simecka

anges Thru 04-Nov-1992

CCB REGISTER REPORT

DOCUMENT NUMBER	DOCUMENT TITLE	REV. NUMBER	CHANGE NUMBER	EFFECTIVE DATE	RESPONSIBLE ORGANIZATION	
PCCB - Level 1 - YMFO ACCEPTED						
OE/RM-0043	OCRM Program Management System Manual	04	DCP-037	07/31/91	PCB	
OE/RM-0223	Program Change Control Procedure (PCCP)	04	DCP-037	03/31/92	PCB	
OE/RM-0313P	YMP Site Characterization Project Plan	00	DCP-041	01/28/92	PCB	
OE/RM-0334	Physical System Requirements - Overall System	00	DCP-044	01/17/92	EDD	
OE/RM-0319	Physical System Requirements - Store Waste for SCP Conceptual Design	00	DCP-046	01/17/92	EDD	
OE/RM-0253	Program Cost and Schedule Baseline (PCSB)	02	DCP-050	01/14/92	PCB	
OE/RM-0335	Interim Approach to MRS Facility Design	00	DCP-051	01/22/92	PCB	
OE/RM-0270P	Waste Management System Description (WMSD)	01	DCP-056	02/06/92	EDD	
OE/RM-0264	Waste Management System Requirements (WMSR) Vol. 1	02	DCP-056	02/06/92	EDD	
OE/RM-0268P	Waste Management System Requirements (WMSR) Vol. IV	02	DCP-056	02/06/92	EDD	
Level 2 - CCB Baseline						LOGS EAST (?)
YMP/CM-0006	Exploratory Shaft Facility Subsystem Design Requirements Document (ESF SDRD) for Title II ***	02	90/023	10/24/90	EDD	NO
YMP/CM-0007	Technical Requirements for the Yucca Mountain Site Characterization Project Surface - Based Testing	07	92/088	06/15/92	EDD	YES
YMP/CM-0008	Yucca Mountain Site Description (Basis for SCP Chapter 8)	00	91/015	04/10/91	RSED	N/A
YMP/CM-0009	Conceptual Design of a Repository (Basis for SCP Chapter 8)	00	91/016	04/10/91	EDD	N/A
YMP/CM-0010	Waste Package Design Basis (Basis for SCP Chapter 8)	00	91/017	04/10/91	EDD	NO

Attachment 1
CAR YM 93-003

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CCB REGISTER REPORT

DOCUMENT NUMBER	DOCUMENT TITLE	REV. NUMBER	CHANGE NUMBER	EFFECTIVE DATE	RESPONSIBLE ORGANIZATION	
<u>Level 2 - CCB Baseline</u>						
YMP/CM-0011	Yucca Mountain Site Characterization Program Baseline	09	92/140	09/12/92	M&O	LOGS EXIST(?) YES
YMP/CM-0015	YMP Cost and Schedule Baseline	03	92/031	02/26/92	PCB	N/A
YMP/CM-0016	Yucca Mountain Site Characterization Project Exploratory Studies Facility - Title I Technical Baseline. **** Vols I and III	00	92/082	06/15/92	EDO	NO
YMP/CM-0017	Yucca Mountain Mined Geologic Disposal System Description*****	01	92/106	07/15/92	EDO	N/A
YMP/CM-0018	Yucca Mountain Mined Geologic Disposal Repository Design Requirements*****	00	92/105	07/15/92	EDO	NO
YMP/CM-0019	Yucca Mountain MGDS Exploratory Studies Facility Design Requirements*****	01	92/103	07/18/92 ²²	EDO	YES
YMP/CM-0020	Yucca Mountain MGDS System Requirements Document*****	01	92/132	09/21/92	EDO	NO
<u>CCB Controlled</u>						
YMP/CC-0001	Work Breakdown Structure, Index and Dictionary - Annex II to the Project Management Plan *	N/A	93/033	10/28/92	M&O	
YMP/CC-0002	Reference Information Base, Version 4.000	06	92/079	07/09/92	RSED	
YMP/CC-0004	Yucca Mountain Project Quality Assurance Level Assignments (QALA) Records	02	00	06/21/89	RSED	
YMP/CC-0006	Environmental Management Plan	00	91/027	01/18/91	P&OCD	
YMP/CC-0007	Systems Engineering Management Plan	03	91/042	04/10/91	EDO	