



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

WBS 1.2.11
QA: N/A

JUL 07 1993

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

ISSUANCE OF CORRECTIVE ACTION REQUEST (CAR) YM-93-062 THROUGH YM-93-065
RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD) AUDIT
YMP-93-12 OF REYNOLDS ELECTRICAL & ENGINEERING CO., INC. (SCP: N/A)

Enclosed are CARs YM-93-062 through YM-93-065 generated as a result of YMQAD
Audit YMP-93-12.

Please identify the corrective actions to be taken and implemented to correct
the deficiencies. CAR Continuation Sheets and instructions for completion
have been provided. Send the originals of your responses to Nita J. Brogan,
Quality Assurance Technical Support Services, 101 Convention Center Drive,
Suite 640, Las Vegas, Nevada 89109. Responses to the CARs are due 20 working
days from the date of this letter. Extensions to due dates must be requested
in writing, with appropriate justification, prior to the due dates.

If you have any questions, please contact either Robert B. Constable at
794-7945 or Amelia I. Arceo at 794-7737.

Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:RBC-4919

Enclosure:
CARs YM-93-062 through YM-93-065

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YMP-5

930720 0217 930707
PDR WASTE
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PDR

ADD: Ken Hooks

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

8 CAR NO.: YM-93-062
DATE: 07/02/93
SHEET: 1 OF 2
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document QARD DOE/RW-0333P, Revision 0		2 Related Report No. YMP-93-12	
3 Responsible Organization CRWMS M&O-Nevada		4 Discussed With R. Justice/P. Hastings/H. Benton	
5 Requirement: 1) QARD DOE/RW-0333P, Section 3.0, Design Control Paragraph 3.2.2, Design Process Item I- Drawings, specifications, and other design output documents shall contain appropriate inspection and testing acceptance. 2) QARD DOE/RW-0333P, Section 8.0, Identification and Control of Items Paragraph 8.2.3, Traceability (Continued on next page)			
6 Adverse Condition: Contrary to the cited requirements: 1) Specification YMP-025-1-SP09, Section 1400 and Item Specifications 02165, 02310, and 03361 are unclear on the definition of commercial-grade for quality-affecting procurements, receiving inspection, including testing. There is no program in place for commercial-grade procurements, and the subsequent upgrade and dedication for use in a quality-affecting application. 2) a. The Specification YMP-025-1-SP09, Sections 1400, 02165, 02310, and 03361 currently do not address traceability. (Continued on next page)			
9 Does a significant condition adverse to quality exist? Yes <u>X</u> No <u> </u> If Yes, Circle One: A B <u>(C)</u>		10 Does a stop work condition exist? Yes <u> </u> No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D	
11 Response Due Date: 20 Working Days from Issuance			
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input checked="" type="checkbox"/> Root Cause Determination			
13 Recommended Actions: 1. Clarify Specification YMP-025-1-SP09 quality requirement. 2. Develop a commercial-grade upgrade and dedication program. 3. Meet traceability requirements.			
7 Initiator <u>Donald J. Harris</u> Donald J. Harris Date <u>7-1-93</u>		14 Issuance Approved by <u>[Signature]</u> QADD <u>[Signature]</u> for Date <u>7.01.93</u>	
15 Response Accepted QAR Date		16 Response Accepted QADD Date	
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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8 CAR NO.: YM-93-062
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QA

CORRECTIVE ACTION REQUEST (Continuation Page)

5 Requirements (continued)

- A. Item identification methods shall ensure that traceability is established and maintained in a manner that allows an item to be traced to applicable design or other specifying documents.
- B. Item traceability documentation shall ensure that the item can be traced at all times from its source through installation or end use.

6 Adverse Condition (continued)

- b. FCR 93/321 against Specification Section 02165, removed the traceability requirements for (commercial-grade) important to radiological safety or waste escalation due to production delays. This precludes traceability from source through installation or end use.

Format for Corrective Action Response

The CAR response shall include the following information:

1. Corrective Action Response for CAR # _____
 - A. Remedial Action - Actions taken to correct specific deficiencies noted.
(Required for all CARs)
 - B. Investigative Action - Actions taken to determine the extent of the condition.
(Required for all significant conditions adverse to quality or any Condition Adverse to Quality if requested by OQA)
 - C. Root Cause Determination - Identification of the root cause of the condition.
(Required for all significant conditions adverse to quality or any Condition Adverse to Quality if requested by OQA)
 - D. Corrective Action to Preclude Recurrence - Actions taken to address the root cause and preclude recurrence of the condition.
(Required for all significant conditions adverse to quality or any Condition Adverse to Quality if requested by OQA)
2. For each action above, identify the name of the individual assigned responsibility for completion and the anticipated (or actual, if complete) completion date.
3. Response Approved: _____ Date: _____
Responsible Manager

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

CAR NO. _____
DATE: _____
PAGE: _____ OF _____
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CORRECTIVE ACTION REQUEST (Continuation Page)

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WASHINGTON, D.C.

8 CAR NO.: YM-93-063
DATE: 07/02/93
SHEET: 1 OF 2
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document QARD DOE/RW-0333P, Revision 0		2 Related Report No. YMF-93-12	
3 Responsible Organization CRWMS M&O-Nevada		4 Discussed With R. Justice/P. Hasting/H. Benton	
5 Requirement: 1) QARD DOE/RW-0333P, Revision 0, Section 15, Nonconformances Paragraph 15.2.4, Disposition of Nonconforming Items Item B The Technical Justification for the acceptability of a nonconforming item that has been dispositioned "repair" or "use-as-is," shall be documented. (Continued on next page)			
6 Adverse Condition: 1) Nonconformance Reports (NCRs) 93-010, 93-016, and 93-017 were dispositioned "use-as-is" and subsequently closed without a Technical Justification for the acceptability of the nonconforming items dispositioned as "use-as-is." 2) NCRs were dispositioned "use-as-is" based on Certified Mill Test Reports (CMTRs), welder records, shop drawings and Certificate of Conformances (NCR 93-010 and 93-017) and CMTR (NCR 93-016). These supplier submittals were (Continued on next page)			
9 Does a significant condition adverse to quality exist? Yes <u>X</u> No <u> </u> If Yes, Circle One: A B <u>(C)</u>		10 Does a stop work condition exist? Yes <u> </u> No <u>X</u> ; if Yes - Attach copy of SWO If Yes, Circle One: A B C D	
11 Response Due Date: 20 Working Days from Issuance			
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input checked="" type="checkbox"/> Root Cause Determination			
13 Recommended Actions: 1) Review the bases for the "use-as-is" disposition. 2) Determine extent of deficiency, determine action to preclude recurrence, and determine the root cause.			
7 Initiator <u>Donald J. Harris</u> Donald J. Harris Date <u>7-1-93</u>		14 Issuance Approved by: <u>[Signature]</u> QADD <u>[Signature]</u> Date <u>07-07-93</u>	
15 Response Accepted QAR Date		16 Response Accepted QADD Date	
17 Amended Response Accepted QAR Date		18 Amended Response Accepted QADD Date	
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QA

CORRECTIVE ACTION REQUEST (Continuation Page)

5 Requirements (continued)

- 2) QARD DOE/RW-0333P, Revision 0, Section 4.0, Procurement Document Control
Paragraph 7.2.7, Certificate of Conformance

Item F Measures shall be identified to verify the validity of the suppliers' certificates and the effectiveness of the certification process (such as by audit of the supplier or by an independent inspection or test of the item) verification shall be conducted by the purchaser at intervals commensurate with the past quality performance of the supplier.

6 Adverse Condition (continued)

received from unqualified suppliers and were used as the bases of the "use-as-is" disposition, without testing to verify the validity of the suppliers' certification process for traceability back to the Purchase Order and Technical Inspection Reports.

Format for Corrective Action Response

The CAR response shall include the following information:

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Responsible Manager

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WASHINGTON, D.C.**

8 CAR NO.: YM-93-064
DATE: 07/02/93
SHEET: 1 OF 1
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document QARD DOE/RW-0333P, Revision 0		2 Related Report No. YMP-93-12	
3 Responsible Organization CRWMS M&O-Nevada		4 Discussed With A. Watkins	
5 Requirement: QARD DOE/RW-0333P, Section 15.0, "Nonconformances" Revision 0, Paragraph 15.2.1.A, states, "Nonconformance documentation shall clearly identify and describe the characteristics that do not conform to specified criteria."			
6 Adverse Condition: Contrary to the above, Specification YMP-025-1-SP09, Revision 1, Section 03361, Paragraph 3.10.B.3.D, "Shotcrete" does not require an NCR to be generated when shotcrete test results do not meet specification compressive strength requirements. The specification currently states, "When shotcrete does not meet the specified requirements and was taken from a test panel, additional samples shall be taken from the area of work in place represented by the test panel and tested for conformance to the specifications. Shotcrete not meeting the specified requirements shall be removed and replaced with new shotcrete."			
9 Does a significant condition adverse to quality exist? Yes <u>X</u> No <u> </u> If Yes, Circle One: A B <u>C</u>		10 Does a stop work condition exist? Yes <u> </u> No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D	
11 Response Due Date: 20 Working Days from Issuance			
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input checked="" type="checkbox"/> Root Cause Determination			
13 Recommended Actions: 1) Revise specification requirements to meet QARD DOE/RW-0333P requirements. 2) Disposition failing test results on a case-by-case basis.			
7 Initiator Gerard Heaney <i>Gerard Heaney</i> Date <u>7-1-93</u>		14 Issuance Approved by: QADD <i>[Signature]</i> Date <u>07.07.93</u>	
15 Response Accepted QAR _____ Date _____		16 Response Accepted QADD _____ Date _____	
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____	
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Responsible Manager

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

8 CAR NO.: YM-93-065
DATE: 07/02/93
SHEET: 1 OF 1
QA

CORRECTIVE ACTION REQUEST

1 Controlling Document ESF Specifications		2 Related Report No. YMP-93-12	
3 Responsible Organization CRWMS M&O-Nevada		4 Discussed With A. Watkins	
5 Requirement: <p>A) Specification YMP-025-1-SP09, Section 03361, "Shotcrete," Revision 1, Paragraph 2.02 requires the contractor to submit test results for a proposed mix design for shotcrete which will be approved by the A/E.</p> <p>B) Specification YMP-025-1-SP09, Section 02165, "Rock Bolts and Accessories," Revision 1, Paragraph 2.01.D requires the contractor to submit grout material mix designs and test results to the A/E.</p>			
6 Adverse Condition: <p>A) The test results for the proposed mix design for Fibercrete submitted by REEC Co was accepted by the A/E although the test results were not traceable to indicate that the material tested was Fibercrete.</p> <p>B) The mix design for grout used for cement grouted rockbolts was submitted by REEC Co and accepted by the A/E although Lithium Bromide was not listed on the design mix. Lithium Bromide is required to be used in all water used underground as a tracer material.</p>			
9 Does a significant condition adverse to quality exist? Yes ___ No <u>X</u> If Yes, Circle One: A B C		10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Circle One: A B C D	
11 Response Due Date: 20 Working Days from Issuance			
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Extent of Deficiency <input type="checkbox"/> Preclude Recurrence <input type="checkbox"/> Root Cause Determination			
13 Recommended Actions: 1) Revise grout mix designs to include Lithium Bromide. 2) Provide justification for present mix design for Fibercrete.			
7 Initiator Gerard Heaney <i>Gerard Heaney</i> Date 7-1-93		14 Issuance Approved by: <i>[Signature]</i> for QADD Date 7-07-93	
15 Response Accepted QAR Date		16 Response Accepted QADD Date	
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Responsible Manager

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

CAR NO. _____
DATE: _____
PAGE: _____ OF _____
QA

CORRECTIVE ACTION REQUEST (Continuation Page)

JUL 07 1993

cc w/encl:

K. R. Hooks, NRC, Washington, DC
Trudy Wood, HQ (RW-52) FORS
D. G. Horton, (RW-3), YMP, NV
R. J. Brackett, M&O/Duke, Vienna, VA
R. L. Robertson, M&O/TRW, Vienna, VA
T. L. Badredine, M&O/TRW, Las Vegas, NV
J. A. Jackson, M&O/TRW, Las Vegas, NV
S. W. Zimmerman, NWPO, Carson City, NV
C. J. Henkel, EEI, Las Vegas, NV
C. P. Gertz, YMP, NV

cc w/o encl:

J. W. Gilray, NRC, Las Vegas, NV
N. J. Brogan, QATSS, Las Vegas, NV