



**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

SEP 02 1993

Robert F. Pritchett  
 Technical Project Officer  
 for Yucca Mountain  
 Site Characterization Project  
 Reynolds Electrical & Engineering Co., Inc.  
 P.O. Box 98521  
 Las Vegas, NV 89193-8521

EVALUATION OF AMENDED RESPONSE TO CORRECTIVE ACTION REQUEST (CAR) YM-93-058  
 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD) AUDIT  
 YMP-93-12 OF REYNOLDS ELECTRICAL & ENGINEERING CO., INC. (SCP: N/A)

The YMQAD staff has evaluated the amended response to CAR YM-93-058. The amended 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 Nita J. Brogan, 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 Gerard Heaney at 794-7826.

*R. E. Spence*

Richard E. Spence, Director  
 Yucca Mountain Quality Assurance Division

YMQAD:RBC-5868

Enclosure:  
 CAR YM-93-058

cc w/encl:  
 K. R. Hooks, NRC, Washington, DC  
 S. W. Zimmerman, NWPO, Carson City, NV  
 W. J. Glasser, REEC, Las Vegas, NV  
 J. C. de la Garza, YMP, NV

cc w/o encl:  
 J. W. Gilray, NRC, Las Vegas, NV  
 N. J. Brogan, YMQAD/QATSS, Las Vegas, NV

*Add: Ken Hooks At Encl*  
*NH03.1*  
*102.7*  
*WM-11*

07051

**ORIGINAL**  
THIS IS A RED STAMP

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

8 CAR NO.: YM-93-058  
DATE: 07/02/93  
SHEET: 1 OF 1  
QA

**CORRECTIVE ACTION REQUEST**

1 Controlling Document  
REECO QAPP, 568-DCO-115, Revision 8

2 Related Report No.  
YMP-93-12

3 Responsible Organization  
REECO Construction

4 Discussed With  
T. Leonard/D. Koss

5 Requirement:  
REECO QAPP, Section II, "Quality Assurance Program," Paragraph 1.2 states, "The Quality Assurance Program of REECO consists of the QAPP plus appropriate implementing procedures required to provide and implement control over activities affecting quality."

6 Adverse Condition:  
Contrary to the above, survey activities of quality-affecting items are being performed in accordance with procedures that are not part of the REECO Yucca Mountain QA Program.

9 Does a significant condition adverse to quality exist? Yes X No \_\_\_  
If Yes, Circle One: A B C

10 Does a stop work condition exist? Yes \_\_\_ No X; 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:  Remedial  Extent of Deficiency  Preclude Recurrence  Root Cause Determination

13 Recommended Actions:  
1) Bring present procedures for survey activities under the REECO QA Program.

7 Initiator  
Gerard Heaney *Gerard Heaney* Date 7-1-93

14 Issuance Approved by: *[Signature]* for Date 07-07-93  
QADD *[Signature]*

15 Response Accepted  
QAR N/A Date

16 Response Accepted  
QADD Date

17 Amended Response Accepted  
QAR *Gerard Heaney* Date 8-31-93

18 Amended Response Accepted  
QADD *R.C. Solner* Date 9/1/93

19 Corrective Actions Verified  
QAR Date

20 Closure Approved by  
QADD Date

**ENCLOSURE**



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QA

CORRECTIVE ACTION REQUEST (Continuation Page)

D. Corrective Action to Preclude Recurrence: - Continued

A Technical Control Procedure designated as "QA" will be written per MC-05.2 that describes the QA activity of surveying line, grade, and profile in the tunnel. Personnel will be trained to this procedure prior to implementation.

Responsible Individual: T. M. Leonard  
Estimated completion date: September 30, 1993.

Response Approved: R7 Bitchest Date: 8/4/93

Str dtl 8/4/93-580-01-587

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**CORRECTIVE ACTION REQUEST (Continuation Page)**

AMENDED CORRECTIVE ACTION RESPONSE for CAR # YM-93-058

**A. Remedial Action:**

A starter tunnel "check survey" has been performed by Raytheon Services Nevada (RSN) to ensure that line, grade, and nominal size at "B line" are correct. Although the "check survey" report has not been issued, no deficiencies have been reported.

Responsible Individual: T. M. Leonard  
Estimated completion date: August 30, 1993

**B. Investigative Action:**

Extent of Deficiency: The quality affecting survey work performed by REECo Engineering applies only to the establishment of line, grade, and nominal size within the starter tunnel.

Responsible Individual: T. M. Leonard  
Estimated completion date: Completed

**C. Root Cause Determination:**

The intent of the REECo Quality Assurance Program Plan was misinterpreted. Surveying of line and grade (for marking the drill face center line and grade) is shot from control points set by a QA qualified organization (RSN). Our interpretation that surveying line, grade and nominal size was not a QA activity was deemed incorrect.

**D. Corrective Action to Preclude Recurrence:**

The REECo matrixed surveyors, supervision, and party chief will be qualified to perform quality affecting survey work in accordance with the YMP QA program.

The instruments (total station and level) will be calibrated at a QA qualified calibration facility at an interval established by the manufacturer.

