

U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE

AUDIT REPORT

OF

REYNOLDS ELECTRICAL AND ENGINEERING COMPANY, INC.

LAS VEGAS, NEVADA

AUDIT NUMBER YM-ARP-95-10
JUNE 5 THROUGH 9, 1995

Prepared by: Cynthia A. Humphries Date: 6/28/95
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Approved by: D. G. Horton For Date: 7/6/95
Donald G. Horton
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1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Audit YM-ARP-95-10, the audit team determined that Reynolds Electrical and Engineering Company, Inc. (REECO) is satisfactorily implementing an effective QA program in accordance with the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Requirements and Description Document (QARD), DOE/RW-0333P, Revision 1 and the REECO implementing procedures for Section XV, "Nonconformances," Section XVI, "Corrective Action," and Section XVIII, "Audits."

The audit team also conducted a performance based audit of the Corrective Action process. The audit team determined that the Corrective Action process is adequate and that the implementation of the QA program through procedural requirements and controls is effective with regard to this process.

No Corrective Action Requests (CARs) were issued as a result of this audit. The audit team did identify nine deficiencies during the audit that were corrected prior to the postaudit meeting and are described in Section 5.5.2 of this report. Additionally, there were two recommendations resulting from the audit, which are presented in Section 6.0 of this report.

2.0 SCOPE

This audit was conducted in two parts in accordance with the approved audit plan. The first was a limited scope audit for compliance to the implementing procedures for three QA program elements. The second was a performance based audit focused on the effectiveness of the REECO's controls for the REECO corrective action process.

The QA program elements evaluated during the audit, are as follows:

QA PROGRAM ELEMENTS/REQUIREMENTS

- 15.0 Nonconformances
- 16.0 Corrective Action
- 18.0 Audits

PERFORMANCE BASED

The activities associated with the Corrective Action process that were evaluated during the audit for process effectiveness and product acceptability are as follows:

- 1) Identification
- 2) Evaluation

- 3) Corrective Action
- 4) Verification

TECHNICAL AREAS

None.

3.0 AUDIT TEAM AND OBSERVERS

~~The following is a list of audit team members, their assigned areas of responsibility, and observers:~~

<u>Name/Title/Organization</u>	<u>QA Program Elements/Requirements, Processes, Activities or End-products</u>
Cynthia A. Humphries, Audit Team Leader (ATL) Yucca Mountain Quality Assurance Division (YMQAD)	
Payout H. Cotter, Auditor, YMQAD	16.0 Corrective Action Process
Sam H. Horton, Auditor, YMQAD	15.0 Nonconformances 16.0 Corrective Action 18.0 Audits
Alan W. Rabe, Auditor, YMQAD	16.0 Corrective Action Process
William Belke, Observer, U.S. Nuclear Regulatory Commission (NRC)	
Chad Glenn, Observer, NRC	

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The preaudit meeting was held at the REECo office in Las Vegas, Nevada, on June 5, 1995. A daily debriefing and coordination meeting was held with REECo management and staff, and daily audit team meetings were held to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at the REECo office in Las Vegas, Nevada, on June 9, 1995. Personnel contacted during the audit are listed in Attachment 1. The list includes those who attended the preaudit and postaudit meetings.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

PROGRAMMATIC:

The audit team concluded that, in general, the REECo QA Program is adequate and is being satisfactorily being implemented for the scope of this audit. Individually, QA Program Elements 15.0, "Nonconformances," and 16.0, "Corrective Action," and 18.0, "Audits" are being satisfactorily implemented.

The programmatic controls for the above activities were found to be satisfactory based on the use of trained personnel working effectively; documentation that substantiated the quality of the products; and interviews conducted with cognizant REECo personnel.

PERFORMANCE BASED:

As a result of the performance based evaluation, the REECo process for corrective action is considered effective for the specific areas reviewed based on objective evidence reviewed during the course of the audit. These areas included the effective implementation of corrective action; adequate evaluation of deficiency impact; adequate objective evidence of justification for closure of CARs, and adequate verification of implementation for corrective actions.

5.2 Stop Work or Immediate Corrective Actions Taken

There were no Stop Work Orders or immediate corrective actions taken as a result of this audit.

5.3 QA Program Audit Activities

A summary table of audit results is provided in Attachment 2. The details of the audit evaluation, along with the objective evidence reviewed, are contained within the audit checklists. The checklists are kept and maintained as QA Records.

5.4 Technical Audit Activities

There were no technical areas evaluated during this audit.

5.5 Summary of Deficiencies

The audit team identified nine deficiencies during the audit that were corrected prior to the postaudit meeting. No CARs were issued. Additionally, there were two recommendations resulting from the audit, which is detailed in Section 6.0 of this report.

5.5.1 Corrective Action Requests

~~No CARs were issued as a result of this audit.~~

5.5.2 Deficiencies Corrected During the Audit

Deficiencies which are considered isolated in nature and only requiring remedial action can be corrected during the audit. The following deficiencies were identified and corrected during the audit:

1. Contrary to the requirements of the QARD, Section 16.2.4, Paragraph 5.2.2D, of REECo Management Control (MC) procedure MC-11.3, Revision 2, Interim Change Notice (ICN) 1, "Corrective Action," did not provide criteria for determination of root cause for significant conditions adverse to quality. MC-11.3, Revision 3 was issued to include criteria for performing root cause determination. This item is considered corrected and resolved.
2. Contrary to the requirements of Paragraph 6.3.1, MC-02.4.1 Revision 5, "YMP Indoctrination and Training," the training files for two individuals were incomplete in that the Training Requirements Form (TRF) had not been completed and returned to file prior to them performing quality-affecting activities. This had been previously identified as a deficiency for one individual on REECo Corrective Action document CA-95-004. During the course of the audit, it was verified that the other individual had documented the reading of MC-11.0 and -11.1 on the TRF in January, 1995; however, since the form was still missing Yucca Mountain Project Orientation, it had not been submitted to the Training Department. Additionally, an assessment of the training requirements for the individual's position was made by management. It was determined that sufficient training had been provided. This action is considered satisfactory.
3. Contrary to the requirements of Paragraph 6.3.1.2 of MC-02.4.1, Revision 5, "YMP Indoctrination and Training," the core list for two management positions did not require reading of MC-11.3.

REECO acknowledged the oversight and had the individuals complete the reading before the end of the audit. This item is considered corrected and resolved.

4. Contrary to the requirements of Paragraph 6.3.2 of MC-02.4.1, Revision 5, "YMP Indoctrination and Training," an individual had not been required to read MC-11.3 even though it was identified on the core training list for his function. Because this individual is a temporary employee, his manager had made the ~~decision-not-to-assign-it-on-his-TRF.~~ The manager was contacted and the employee completed the reading before the end of the audit. An ICN was issued to the procedure to allow the TRF to identify the reading required for temporary positions rather than require the core list reading. This item is considered corrected and resolved.
5. Contrary to the requirements of Paragraph 2.0 of MC-02.4.2, Revision 4, "Personnel Qualification and Certification," REECO does not document general training for craft labor. They rely on supervision for such control (beyond what all craft receive as a part of initial general indoctrination). This practice is an acceptable approach, but was not addressed in their training procedures. An ICN was issued to the procedure before the end of the audit. This item is considered corrected and resolved..
6. Contrary to the requirements of Paragraph 6.4.5 of MC 13.0, Revision 4, "Audits," REECO audit 003-95 used a marked-up work plan (WP 1.2) to perform this audit. No checklist form was attached to the work plan. In addition, the work plan was circled; however, there was no indication of what the circles meant, or the status of what was examined. REECO identified and noted the Deficiency Notice (DN) numbers for the applicable circled sections of the work plan, and provided an explanation of what was done relative to using the marked-up work plan. In addition, a checklist form was added in front of the marked-up plan. These revisions and additions were submitted to the Las Vegas Local Records Center (LV LRC) to up-date the audit package. This item is considered corrected and resolved.
7. Contrary to the requirements of Paragraph 6.4.1 of MC-13.0, Revision 4, "Audits," it was determined that no orientation documentation existed for auditor G. Erickson for external audit SO2-94. The Lead Auditor for this audit was contacted and a memorandum was issued by the Lead Auditor that declared that

an orientation was given to G. Erickson before the audit. It was determined to be an oversight by the Lead Auditor, and the problem was corrected by the memorandum. A copy of this memorandum has been placed in the Audit package SO2-94 to update the package and bring it into compliance with the procedure. This action satisfies the procedure requirements and is considered satisfactory.

8. Contrary to the requirements of Paragraph 5.1.3b of Yucca Mountain Administrative Procedure YAP-15.1Q, Revision 1, "Control of Nonconformances," Nonconformance Report (NCR) 95-005 was noted with the term "VOIDED" across its face without documenting who had "VOIDED" this NCR. REECo personnel corrected NCR 95-005 by marking the NCR as invalid, and signing and dating the justification for its invalidation. The corrected copy has been sent to the LV LRC to supplement the existing NCR and to show that the NCR is now invalid and not voided. This action brings this NCR into compliance with the procedure requirements.
9. Contrary to the requirements of Paragraph 6.3.1.3 of MC-11.1, Revision 4, "Deficiency Notices," a review of REECo DN's 95-033, -034 and -036 indicated the 30 day corrective action response period had been violated and there was no evidence of any interim measures being instituted to facilitate tracking and closure. The statement in Paragraph 6.3.1.3 was clarified through ICN 1, to change the word "issuance" to "response". It apparently was not REECo's intent to only allow 30 days for the DN's to be closed after issuance. Based on the issuance of this ICN, this item is considered corrected and satisfactory.

COMMENDABLE AUDITED AREA

One audited area that appeared to be very comprehensive and accurate was the trend evaluation process. It was apparent by the review of the trend reports for the fourth quarter of 1994 and the first quarter of 1995, that a considerable amount of effort was expended to provide an accurate and true picture of the corrective action program.

5.5.3 Follow-up of Previously Identified CARs

There were no previously issued CARs that were determined to be applicable to the scope of this audit.

6.0 RECOMMENDATIONS

The following recommendations resulted from the audit and are presented for consideration by the REECo management.

1. It is recommended that personnel who are required to identify the root cause of significant adverse conditions should be given formal training in root cause analysis.
2. ~~It is recommended that the ability to enter NCRs into the Yucca Mountain Site Characterization Office (YMSCO) tracking system be established. YAP-15.1Q, Revision 1, Paragraph 5.1.a requires NCRs to be entered into the YMSCO tracking system. The data for REECo NCRs in Fiscal Year (FY) 1995 were not entered into the tracking system; however, none of the NCRs were identified as "Q". It is not required that the procedure be applied to non-Q NCRs; therefore, no violation exists to the procedure in FY 1995.~~

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Summary Table of Audit Results

ATTACHMENT 1
Personnel Contacted During the Audit

<u>Name</u>	<u>Organization/Title</u>	<u>Preaudit Meeting</u>	<u>Contacted During Audit</u>	<u>Postaudit Meeting</u>
Barker, M.	REEC Co Training Administrator		X	
Belke, W.	NRC/Observer	X		
Cotter, P.	YMQAD/Auditor	X		X
Devers, J.	REEC Co Quality Specialist		X	
Diaz, M.	YMQAD/Audit Supervisor			X
Doody, R.	REEC Co Construction Inspector		X	
Faiss, E.	REEC Co Principal Staff	X		
Gardella, B.	REEC Co Principal Engineer	X	X	
Glasser, W.	REEC Co QA Manager	X	X	X
Glenn, C.	NRC/Observer	X		
Gratza, W.	REEC Co Vendor Quality Section Chief	X	X	X
Hackbert, D.	REEC Co Audit/Surveillance Section Chief	X	X	X
Holliday, R.	YMQAD/Sr. Quality Assurance Specialist		X	
Horton, S.	OQA/Auditor	X		X
Humphries, C.	YMQAD/ATL	X		X
Kirby, D.	REEC Co Sr. Quality Specialist		X	
Koss, D.	REEC Co Technical Project Officer (TPO)		X	
Kranjceovich, D.	REEC Co General Foreman		X	
Leonard, T.	REEC Co Construction Department Manager		X	
Limon, K.	REEC Co Acting TPO	X	X	X
Maudlin, R.	YMQAD/Sr. QA Specialist			X
Montoya, J.	REEC Co Foreman		X	
Osborne, C.	REEC Co Sr. Quality Specialist		X	
Plasce, D.	REEC Co Construction Inspector		X	
Powe, R.	OQA/QA Special Assistant			X
Pugmire, W.	REEC Co Quality Control Supervisor	X	X	
Rabe, A.	YMQAD/Auditor	X		X
Ruth, F.	REEC Co Sr. Quality Specialist	X	X	
Spence, R.	YMQAD Director			X
Williams, B.	REEC Co Office Assistant		X	
Wilson, P.	REEC Co Sr. Quality Specialist	X	X	
Ziehm, S.	REEC Co Information Management Department Acting Manager	X	X	

QA ELEMENT/ACTIVITIES	PROCESS STEPS	DETAILS (Checklist)	CAR	CDA	RECOMMENDATION	ADEQUACY	COMPLIANCE	OVERALL
16.0 - CORRECTIVE ACTION PROCESS	1. Identification	Pages 1-5 of 9	N	2-5	N	SAT	N/A	SAT
	2. Evaluation	Pages 5-8 of 9	N	1	1	SAT	N/A	
	3. Corrective Action	Page 8 of 9	N	N	N	SAT	N/A	
	4. Verification	Page 9 of 9	N	N	N	SAT	N/A	
15.0 - NONCONFORMANCES	YAP-15.1Q, Revision 1, Control of Nonconformances	Pages 14-23 of 35	N	8	2	N/A	SAT	SAT
16.0 - CORRECTIVE ACTION	MC-11.1, Revision 4, Deficiency Notices	Pages 1-7 of 35	N	9	N	N/A	SAT	SAT
	MC-11.3, Revision 2 Corrective Action	Pages 8 & 9 of 35	N	N	N	N/A	SAT	
	MC-11.4, Revision 2 Trending	Pages 10-13 of 35	N	N	N	N/A	SAT	
18.0 - AUDITS	MC-13.0, Revision 4, Audits	Pages 24-30 of 35	N	6,7	N	N/A	SAT	SAT
	MC-13.1, Revision 2, Auditor Qualifications	Pages 31-35 of 35	N	N	N	N/A	SAT	

LEGEND:

CDA Corrected During Audit
N None
N/A Not Applicable
SAT Satisfactory