

U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE
AUDIT REPORT
FOR AUDIT OF
REYNOLDS ELECTRICAL AND ENGINEERING COMPANY, INC.
LAS VEGAS, NEVADA
AUDIT NO. YMP-92-17
JUNE 8 THROUGH 10, 1992

PROGRAM ELEMENTS EVALUATED:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

Prepared by: Amelia I. Arceo Date: 7/7/92
Amelia I. Arceo
Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by: D. G. Horton Date: 7/9/92
Donald G. Horton
Director
Office of Quality Assurance

EXECUTIVE SUMMARY

This report contains the results of the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Audit YMP-92-15 of the Reynolds Electrical and Engineering Company, Inc. (REECO) that was conducted in Las Vegas, Nevada, on June 8 through 10, 1992. This audit was performed by a team of auditors from the Yucca Mountain Quality Assurance Division of the Office of Quality Assurance and evaluated the implementation of six Quality Assurance (QA) Program Elements described in the REECO Quality Assurance Program Plan (QAPP), 568-DOC-115, Revision 8. This was done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

Overall, for the QA Program Elements audited, REECO is satisfactorily implementing an effective QA program in accordance with the REECO QAPP and implementing procedures. Five of the six QA Program Elements audited (QA Program Elements 1.0, 2.0, 16.0, 17.0 and 18.0) are being implemented satisfactorily, and the effectiveness of implementation of QA Program Element 15.0 could not be determined due to lack of activity.

The audit team identified two deficiencies during the audit. One deficiency dealt with incorrect dates and a missing Lead Auditor's signature on Pre- and Post Audit Meeting Attendance Rosters, and the other deficiency dealt with a Surveillance Plan which was inadvertently omitted from the Record Package of Surveillance Number SR-001-92. Both cases were determined to be isolated and remedial actions were completed during the audit. Details of corrected deficient conditions can be found in Section 6.2 of this report.

1.0 INTRODUCTION

This report contains the results of the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Audit YMP-92-17 of Reynolds Electrical and Engineering Company (REECo) conducted in Las Vegas, Nevada on June 8 through 10, 1992. This audit was performed in accordance with the approved Audit Plan (Reference: Correspondence YMQAD:MRD-3321, dated May 11, 1992).

2.0 AUDIT SCOPE

This audit was performed by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD) of the Office of Quality Assurance (OQA) and evaluated the REECo implementation of the REECo Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by OCRWM. This was done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

REECo activities associated with the following QA Program Elements were audited:

Program Elements

- 1.0 Organization
- 2.0 Quality Assurance Program
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action
- 17.0 Quality Assurance Records (DOE System 80)
- 18.0 Audits

The QA Program Element 11.0 Test Control was not audited since REECo has no activities to which this element applies.

3.0 AUDIT TEAM

A list of the Audit Team Members and the Program Elements they evaluated is as follows:

<u>Responsibility</u>	<u>Name</u>	<u>Organization & Location</u>	<u>QA Program Element</u>
Audit Team Leader	Amelia I. Arceo	SAIC, Las Vegas, NV	18
Auditor	Robert H. Klemens	SAIC, Las Vegas, NV	1 and 2
Auditor	Frank J. Kratzinger	SAIC, Las Vegas, NV	15 and 16
Auditor	Cynthia H. Prater	SAIC, Las Vegas, NV	2 and 17

SAIC - Science Applications International Corporation

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The pre-audit conference was held at the REECo facility in Las Vegas, Nevada, on June 8, 1992. Daily coordination meetings were 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 post-audit conference held at the REECO facility in Las Vegas, Nevada, on June 10, 1992. A list of auditors and personnel contacted during the audit is included in Enclosure 1. The list includes an indication of those who attended the pre- and post-audit conferences.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

Overall, REECo is satisfactorily implementing an effective QA Program in accordance with the REECo Quality Assurance Program Plan (QAPP) and implementing procedures for five of the six QA Program Elements audited, QA Program Elements 1.0 "Organization," 2.0 "QA Program," 16.0 "Corrective Action," 17.0 "Quality Assurance" (DOE System 80) and 18.0 "Audits." The effectiveness of implementation of the QA Program Element 15.0, "Control of Nonconforming Items," could not be determined due to lack of activity.

The following QA Program Elements which were found indeterminate in previous audits were evaluated during this audit. There has been no implementation of these Program Elements since the last audit; hence, these Program Elements remain indeterminate:

- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Materials, Parts, and Components
- 13.0 Handling, Storage and Shipping

There was either no implementation or insufficient implementation to determine effectiveness of the following procedures:

- MC-01.1, Revision 0, Stop Work Authority
- MC-01.2, Revision 0, Resolution of Disputes
- MC-11.0, Revision 0, Nonconformance Control

There were several areas/activities within REECo that the audit team considered a strength worthy of note. These are:

1. The improved performance of the QA organization, as evidenced by the complimentary statements by the other interfacing departments regarding QA's cooperation and helpfulness.
2. It is also noted in Program Element 16, that the use of continuation sheets for documenting objective evidence on deficiency notices is very easy to follow and makes a neat completed package.
3. In the area of audits and surveillances, Program Element 18, the use of the Audit/Survey Report Form for documenting the results of audits/surveillances, made reading the report easy to follow. The completed checklists, in typewritten form, were in the audit/surveillance records packages; hence, making the review of the audit/surveillance activity less time consuming.
4. The records management procedures and the system for the maintenance of privileged records produced an effective method of implementing the DOE System 80 requirements.
5. The accessibility and cooperation of REECo management and staff, resulted in an earlier completion of this audit.

5.2 Programmatic Audit Activities

Details of programmatic audit activities can be found in Enclosure 2.

5.3 Summary of Deficiencies

The audit team identified two deficiencies during the audit. Both were resolved prior to the post-audit conference. A synopsis of each deficiency corrected during the audit is presented in the following section.

6.0 SYNOPSIS OF DEFICIENCIES

6.1 Corrective Action Requests

No OCRWM Corrective Action Requests (CARs) were issued.

6.2 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. The completed audit record package for Audit No. REEC0-001-92, had Pre-audit and Post Audit Meeting Attendance Rosters with incorrect dates and audit number, and a missing signature. These were corrected by the Lead Auditor, and submitted to the Local Records Center (LRC) on June 10, 1992, as a correction to Accession No. NNA.920429.0101
2. The completed surveillance record package for Surveillance Number SR-001-92 had no Surveillance Plan. The missing Surveillance Plan was retrieved by the record source, and submitted to the LRC on June 10, 1992, as a supplement to Accession No. NNA.920304.0140

7.0 RECOMMENDATIONS

None

8.0 LIST OF ENCLOSURES

Enclosure 1: Personnel Contacted During the Audit

Enclosure 2: Audit Details

Enclosure 3: Objective Evidence Reviewed During the Audit

ENCLOSURE 1

PERSONNEL CONTACTED DURING THE AUDIT

<u>Name</u>	<u>Organization</u>	<u>Title</u>	<u>Pre-Audit</u>	<u>Contacted During Audit</u>	<u>Post-Audit</u>
Arceo, A. I.	SAIC/YMQAD	Audit Team Leader	X		X
Barker, M. C.	REECo	Training Administrator		X	X
Gardella, B. R.	REECo	Control Department Manager	X	X	X
Glasser, W. J.	REECo	QA Manager	X	X	X
Gratza, William	REECo	Senior QA Specialist	X		X
Hackbert, D. A.	REECo	Senior QA Specialist	X	X	X
Hazlett, C. A.	REECo	Personnel/Sec. Admin.	X		X
Klemens, R. H.	SAIC/YMQAD	Auditor	X	X	X
Kratzinger, F. J.	SAIC/YMQAD	Auditor	X		X
Leonard, T. M.	REECo	Construction Dept. Mgr.	X	X	X
Limon, K. L.	REECo	IMD Manager	X	X	X
Mason, C. J.	REECo	Drilling Dept. Mgr.	X	X	X
Prater, C. H.	SAIC/YMQAD	Auditor	X		X
Pritchett, R. F.	REECo	YMP Division Manager	X	X	X
Rainey, T. L.	REECo	Employee Administrator	X	X	X
Reiter, E. S.	REECo	Senior QA Specialist	X	X	X
Straub, S. O.	REECo	Log. Spt. Dept. Manager	X	X	X
Warriner, David	REECo	LRC Manager	X		

ENCLOSURE 2

AUDIT DETAILS

The following is a summary of the QA Program elements and activities covered during the audit. A list of objective evidence reviewed during this audit is shown in Enclosure 3. The full document identification number, revision status, and title for documents referenced below can be found in Enclosure 3.

1. Program Element 1.0, "Organization"

The evaluation of the QA Program Element, "Organization," was conducted to determine compliance to Section 1 of the REEC Co QAPP 568-DOC-115, and REEC Co implementing procedure MC-01.0. The evaluation included interviewing key REEC Co personnel assigned to Yucca Mountain Site Characterization Project (YMP), to determine their degree of understanding of the organizational structure, lines of communication, authority, duties and responsibilities. It was found that the personnel questioned had clear understanding of both the requirements for the YMP and how those requirements are being implemented. The following REEC Co personnel were interviewed:

- YMP Division Manager (TPO)
- Five Department Managers
- YMP Quality Assurance Manager
- Four QA Staff members

In addition, a review of three quality-affecting Management Control (MC) Procedures was performed to verify compliance to requirements of the REEC Co QAPP and MC-01.0. The results of this review provided evidence of compliance. The following procedures were reviewed:

MC-01.1

MC-01.2

MC-01.3

Evaluation of the procedure for "Stop Work," MC-01.1, was included in this audit. There have been no Stop Work Orders issued since the last audit of REEC Co. Personnel interviewed were cognizant of procedural requirements.

A review of the REEC Co Matrix Support Organization responsibilities was performed and the reporting structure was verified for the six matrix divisions.

The implementation of this program element is satisfactory.

2. Program Element 2.0, "Quality Assurance Program"

The following areas/activities dealing with this QA Program Element were audited:

- a. Audits and Surveillances - The Project Quality Assurance Manager (PQAM) was interviewed to verify the use of audits and surveillances by the QA Organization to verify compliance to MC-02.0, "QA Program." The results of this review provided evidence of compliance.
- b. A review was performed of MC-02.4.2, "Personnel Qualification and Certification" requirements to verify compliance by the Human Resources Department in the verification of personnel education and experience. T. Rainey was interviewed and provided adequate objective evidence of compliance. Privileged records from 1986, 1987, 1988, and 1992 were reviewed and were found to be in compliance.
- c. The evaluation of training and qualification of personnel was performed by reviewing personnel records for compliance with the requirements of MC-02.4, "Training and Qualification," and MC-02.4.2, "Personnel Qualification and Certification." Based on the review of 12 personnel files, it was concluded that these two procedures are being satisfactorily implemented.
- d. The evaluation of compliance to the procedures governing required reading, classroom training, and the development of training courses was performed by interviewing four of six Department Heads for their knowledge of the procedures and by reviewing the training files of 12 key personnel. Upon conclusion of this review, it was determined that the requirements of MC-02.4.1, "YMP Indoctrination and Training," MC-02.4.3, "Required Reading," MC-02.4.4, "Classroom Training," MC-02.4.5, "Developing a Training Course," are being satisfactorily implemented.
- e. The Management Assessment Team Leader, TPO and PQAM were interviewed to determine knowledge and implementation of MC-02.5, "Management Assessment." The date of the last Management Assessment (MA) was 6/24/91. Findings were tracked through the Deficiency Notice (DN) Program. This management assessment was closed by W. Glasser's Memorandum dated 2/24/92. The new MA is scheduled to be completed by June 28, 1992, and will meet the requirements of MC-02.5.
- f. A review was performed of MC-02.8, "Preparation, Review and Approval of QAPP Change Notices" to verify compliance by the PQAM and Quality Assurance Office (QAO) Staff. The results of this review provided evidence of compliance. The QAPP Change Notice (CN) Log, which is prepared and maintained by the QAO was reviewed and found to be current.

The implementation of this program element is satisfactory.

3. Program Element 15, "Control of Nonconforming Items"

There have been no Nonconformance Reports (NCRs) written against quality affecting items since the last audit of this Program Element; therefore, there has been no implementation of this Program Element.

4. Program Element 16, "Corrective Action"

There were no open OCRWM CARs issued against REECo.

The review of the logs for Deficiency Notices (DN) and REECo Corrective Action Report (REECo CAR), revealed that the logs were up to date and contained all the required procedural information.

ALL the DNs (total of 12) listed on the log were reviewed and verified that for the closed DNs (10) the following had occurred:

- The QAO had sent the DN to the responsible manager for investigation and development of appropriate corrective action.
- The DNs had responses that addressed remedial actions to be taken to correct the existing condition(s); the apparent cause; and measures to be taken to prevent recurrence.
- The responses to the DNs were received within a reasonable time of the response due date.
- The acceptance of the responses by the QAO were written on the DN continuation sheet.
- The verification of the corrective actions of the DN were written on the DN continuation sheet.
- The PQAM approved and signed the closure of the DN on the DN form and distributed copies to appropriate individuals.

REECo CAR CA-92-001, the only REECo CAR issued to date, was reviewed. The following was verified:

- The REECo CAR was reviewed by the QAO and no stop work notice was issued.

- The response to the REECO CAR contained all the procedure requirements to be an acceptable response.
- The QAO accepted the REECO CAR response and issued an acceptance letter to the responsible organization.

It was verified that all deficiency reporting documents are reviewed by the QAO to detect and analyze possible adverse trend. The following information is entered into the tracking and trending data base:

- Report type, (i.e., (COTS), DN, REECO CAR, NCR, etc.)
- Report number
- Issue or identification date
- Responsible organization
- Deficient item or activity
- Subject of deficiency
- Apparent or root cause

The QAO issues a quarterly trend evaluation report to cognizant management. Four of them were reviewed and evaluated.

The implementation of this program element is satisfactory.

5.0 Program Element 17.0, "Quality Assurance Records - DOE System 80 Records"

An evaluation of the DOE System 80 records program was conducted to determine compliance to MC-12.0, "Records Management Program." This evaluation included verification of the following items: restricted access to records; maintenance of restricted Access Lists; records stamped "PRIVILEGED" from time of origination; and the storage of these records separately from other records in a locked cabinet. All items verified were found to be in compliance with the governing procedure.

The implementation of DOE System 80 requirements is satisfactory.

6.0 Program Element 18.0, "Audits"

The review of implementing procedures MC-13.0, "Audits," MC-13.1, "Auditor Qualifications," and MC-13.2, "Surveillances," revealed compliance to REECO QAPP, Section 18, and Appendix F.

The Audit Schedules for the Years 1991 and 1992 confirmed that the applicable elements of the YMP QA Program are audited at least annually. The 1991 Audit Schedule was in Revision 2. The 1991 Audit Schedule has not been revised. There have been no external audits conducted; since there have been no quality-affecting procurement. There were thirteen audits conducted for the year 1991 and six audits this year. Eight audit record packages were reviewed for compliance to MC-13.0. It was verified that the following QA records were in each audit record packages:

- Audit Orientation
- QA Audit/Survey Plan
- Audit/Survey Checklist
- QA Audit/Survey Report
- Pre- and Post-Audit Meeting Attendance Rosters

During the review of the completed audit record package for Audit No. REEC0-001-92, the Pre-Audit Meeting Attendance Roster had 2/11/91 instead of 2/11/92 and the Lead Auditor's signature was missing. The Post-Audit Meeting Attendance had 2/12/91 instead of 2/14/92 and REEC0-001-91 instead of REEC0-001-92. These were corrected by the Lead Auditor, and submitted to the LRC on June 10, 1992, as a correction to Accession No. NNA.920429.0101. This was determined to be an isolated case.

The three Lead Auditors and one auditor who conducted the six audits were verified to have been qualified in accordance with MC-13.1, "Auditor Qualifications." The Records of Lead Auditor Qualification have verifiable objective evidence of the following attributes:

- Education
- Experience
- Communication Skills
- Audit Training
- Audit Participation
- Written Examination

One Lead Auditor had an annual evaluation. The other two Lead Auditors have been certified as lead auditors for less than a year; hence, the annual evaluation is not required.

The review of the Surveillance Log revealed that the log was current and that there were eight surveillances performed to date. Seven have completed QA record packages, and one was in-process for records transmittal. During the review of the seven surveillance record packages, it was identified that the completed surveillance record package for Surveillance Number SR-001-92 had no Surveillance Plan. The missing Surveillance Plan was retrieved by the record source, and submitted to the LRC on June 10, 1992, as a supplement to Accession No. NNA.920304.0140. This was determined to be an isolated case.

The four audit/surveillance personnel who conducted the audits/surveillances were verified to be independent of the activities being audited/surveilled.

The implementation of this program element is satisfactory.

ENCLOSURE 3

OBJECTIVE EVIDENCE REVIEWED DURING AUDIT (Examples of)

(Note: Procedures not audited due to lack of activity, are identified by an asterisk.)

General to all QA Program Elements:

Requirement Documents

REECo QAPP, 568-DOC-115, Revision 8
QAPPCN-92-02

1.0 ORGANIZATION

Procedures

MC-01.0, Revision 0, Interim Change Notice (ICN) 1, Organization
MC-01.1, Revision 0, Stop Work Authority*
MC-01.2, Revision 0, Resolution of Disputes*
MC-01.3, Revision 0, Delegation of Authority

Miscellaneous

Letter, dated 6/8/92, submitting proposed changes to QAPP 568-DOC-115, Revision 8
REECo/YMP Management Assessment Checklist (7 pages)
Letter officially Closing the 1991 Management Assessment
Delegation of Authority Letter from W. Glasser
Line of Succession letter for Administrative Resources Section
Line of Succession letter for Logistical Support Department
Line of succession letter for YMP Division Office
Line of Succession Letter for YMP Quality Assurance Office
Quality Assurance Program Plan Change Notice Log

2.0 QUALITY ASSURANCE PROGRAM

Procedures:

MC-02.0, Revision 0, Quality Assurance Program
MC-02.4, Revision 0, Training and Qualification
MC-02.4.1, Revision 0, ICN 1, YMP Indoctrination and Training
MC-02.4.2, Revision 0, ICN 1, Personnel Qualification and Certification
MC-02.4.3, Revision 0, Required Reading
MC-02.4.4, Revision 0, Classroom Training
MC-02.4.5, Revision 0, Developing a Training Course
MC-02.5, Revision 0, Management Assessment
MC-02.8, Revision 0, ICN 1, Preparation, Review and Approval of QAPP Change Notices

Training, Qualification, and Certification files of the following personnel:

James M. Arnold	William J. Glasser	Emily S. Rieter
Joseph A. Catozzi	David A. Hackbert	David L. Warriner
Gerald A. Erickson	Kristina L. Limon	Perry L. Wilson
Edna J. Faiss	Robert F. Pritchett	Theresa M. Zellers

15.0 CONTROL OF NONCONFORMING ITEMS

Procedure

MC-11.2, Revision 0, Nonconformance Control*

16.0 CORRECTIVE ACTION

Procedures:

MC-11.0, Revision 0, Problem Identification and Control
MC-11.1, Revision 0, Deficiency Notices
MC-11.3, Revision 0, Corrective Action
MC-11.4, Revision 0, Trending

Deficiency Notices:

No. 92-001 through 92-12

Corrective Action Request:

CA-92-001

Trend Reports:

<u>Quarter</u>	<u>Letter Dated</u>
2nd '91	07/02/91
3rd '91	10/16/91
4th '91	01/08/92
1st '92	04/07/92

Log book for REECo DNs and CARs.

17.0 QUALITY ASSURANCE RECORDS - DOE SYSTEM 80 RECORDS

Procedure:

MC-12.1, Rev. 0, Records Management Program

Qualification, Training and Certification files of the following personnel:

James M. Arnold
Joseph A. Catozzi
Gerald A. Erickson
Edna J. Faiss

William J. Glasser
David A. Hackbert
Kristina L. Limon
Robert F. Pritchett

Emily S. Rieter
David L. Warriner
Perry L. Wilson
Theresa M. Zellers

The following documented the Access List for System 80 Records:

DOCUMENT NO.	FROM	TO	DATE
92-005483	Pritchett	Barker	6/1/92
92-005470	Pritchett	Barker	5/29/92
92-004906	Gardella	Barker	4/30/92
92-004883	Limon	Barker	4/29/92
92-004758	Ruud	Straub	4/20/92
92-004055	Glasser	Barker	3/19/92
	Lewis	Straub	2/13/92
92-003312	Straub	Barker	2/11/92
92-003143	Ruud	Straub	1/29/92
92-001669	Mason	Barker	1/14/92
92-002708	Pugmire	Barker	1/8/92
92-002667	Donahoe	Barker	1/8/92
92-002551	Land	Barker	1/7/92
92-002618	Flangas	Straub	1/2/92
92-002568	Leonard	Barker	1/2/92

18.0 AUDITS

Procedures:

MC 13.0, Revision 0, ICN 2, Audits
MC-13.1, Revision 0, Auditor Qualifications
MC 13.2, Revision 0, ICN 2, Surveillances

Audit Record Packages of the following:

Audit Number:	Audited Organization:
REEC0-001-91	Construction Department
REEC0-003-91	Operations Department
REEC0-004-91	Management Office
REEC0-010-91	Weld Laboratory
REEC0-001-92	Drilling Department
REEC0-003-92	Operations Equipment Department
REEC0-004-92	Control Department
REEC0-006-92	Management Office

Records of Personnel Qualifications for Auditors and Lead Auditors:

W. J. Gratza	Lead Auditor
D. A. Hackbert	Lead Auditor
P. J. Wilson	Lead Auditor
E. S. Reiter	Auditor

Audit Schedules for:

1991, Revision 2, dated 12/18/91
1992, Revision 0, dated 12/18/91

Surveillance Record Packages for Surveillance Numbers:

SR-001-92	SR-003-92	SR-005-92
SR-002-92	SR-004-92	SR-006-92

Qualification Records of the following Surveillance Personnel:

W. J. Gratza	P. J. Wilson
D. A. Hackbert	E. S. Reiter

QA Audit and Surveillance Logs, dated 6/5/92

REECO YMP Records Administrator Submittal Form, Department 586, Yr 92, Transmittal No. 015, dated 6/10/92. This transmitted the following:

<u>Document ID</u>	<u>Title/Subject</u>
SR-007-92 92-005710	Record Package- REECO YMP Surveillance Report SR-007-92
SR-001-92 92-005711	Record Package - YMP QA Surveillance of the Controlled 92-Document Center, Surveillance Number SR-001-92. The Table of Contents have this statement, "THIS IS A SUPPLEMENT TO ACCESSION NO. NNA.920304.0140."
REECO-001-92 92-005712	Record Package - YMP QA Audit of the Drilling Department, Audit No. REECO-001-92. The Table of Contents have this statement, "THIS IS A CORRECTION TO ACCESSION NO. NNA.920429.0101."