

REC'D. 3/11/93

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

AUDIT REPORT

OF

REYNOLDS ELECTRICAL & ENGINEERING COMPANY, INC.

LAS VEGAS AND MERCURY, NEVADA

**AUDIT YMP-93-06
FEBRUARY 8 - 12, 1993**

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ENCLOSURE

1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Audit YMP-93-06, the audit team determined that, except for QA Program Element 12 which was unsatisfactory due to a breakdown of procedure adequacy, Reynolds Electrical and Engineering Company, Inc. (REECO) is satisfactorily implementing an effective QA program in accordance with the REECO Quality Assurance Program Plan (QAPP) and implementing procedures for QA Program Elements 1, 2, 5, 6, 13, 16, 17, and 18.

The audit team identified one deficiency during the course of the audit which resulted in the issuance of a Corrective Action Request (CAR). CAR YM-93-033 concerned the ineffectiveness of the procedures used by the REECO Physical Standards and Calibration Laboratory (PSCL).

2.0 SCOPE

The audit evaluated compliance to and the effectiveness of the REECO QA Program as described in the REECO QAPP and implementing procedures.

The QA Program elements/requirements evaluated during the audit are in accordance with the published audit schedule and are as follows:

QA PROGRAM ELEMENTS/REQUIREMENTS

- 1.0 Organization
- 2.0 Quality Assurance Program
- 5.0 Instructions, Procedures, and Drawings
- 6.0 Document Control
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Shipping, and Storage
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

The following QA Program element/requirement was not reviewed during the audit because REECO has no activity for which this element applies.

- 9.0 Control of Processes

TECHNICAL AREAS

The scope of this audit did not include any technical areas.

3.0 AUDIT TEAM AND OBSERVERS

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

<u>Individual</u>	<u>QA Program Element/Requirement</u>
Robert H. Klemens, Audit Team Leader (ATL), Yucca Mountain Quality Assurance Division (YMQAD)	13.0, 17.0
Cynthia H. Prater, Audit Team Leader-in-Training, YMQAD	1.0, 12.0, 18.0
Sandra D. Bates, Auditor, YMQAD	2.0, 5.0, 6.0,
John S. Martin, Auditor, YMQAD	1.0, 12.0, 16.0

No Observers participated in the audit.

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The preaudit meeting was held at the REECo offices at the Bank of America Center in Las Vegas, Nevada on February 8, 1993. As necessary, debriefing and coordination meetings were held with REECo management and staff, as were audit team meetings to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at the same REECo offices in Las Vegas, Nevada on February 12, 1993. Personnel contacted during the audit are listed in Attachment 1 to this report. The list includes those who attended the preaudit and postaudit meetings.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

The audit team concluded that, in general, the REECo QA Program was being fully implemented, except for QA Program Element 12 which had unsatisfactory implementation, and for this reason, the REECo QA Program was determined to be satisfactory. In addition, two recommendations were presented to the auditee for consideration.

5.2 Stop Work or Immediate Corrective Actions or Additional Actions

During the course of the audit, REECo issued Memorandum 93-001343, which required detailed actions to be accomplished and documented prior to performing calibrations. Based on this memorandum and discussions with the Director, YMQAD, it was determined that a Stop Work was not warranted at this time.

5.3 QA Program Audit Activities

Details of the QA program audit activities are provided in Attachment 2. A list of objective evidence reviewed during the audit is provided in Attachment 3.

5.4 Technical Activities

No technical activities were included in the scope of this audit.

5.5 Summary of Deficiencies

The audit team identified one deficiency during the audit.

A synopsis of the deficiency documented as a CAR is detailed below. An information copy of the CAR is included in Attachment 4.

5.5.1 Corrective Action Requests (CAR)

As a result of the audit, the following CAR was issued:

CAR YM-93-033

REECo QAPP, Revision 8, Section V, Paragraph 1.0 states in part, "Activities affecting quality shall be prescribed by and performed in accordance with documented instructions, procedures, plans or drawings, of a type appropriate to the circumstances. These documents shall also include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished." Contrary to these requirements, a review of REECo PSCL Calibration Reports has revealed numerous instances in which (1) calibrations were not performed in accordance with procedures and (2) procedures were not revised or new procedures generated when the ones in effect were not appropriate to the work accomplished.

5.5.2 Deficiencies Corrected During the Audit

There were no deficiencies corrected during the audit.

5.5.3 Follow-up of Previously Identified CARs

There were no open CARs against REECo, therefore there was no follow-up necessary.

6.0 RECOMMENDATIONS

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

- 6.1** In review of MC-10.0, Revision 0, it was noted that the PSCL is to monitor the calibration history of instrumentation and make adjustments to the calibration intervals as required. Presently, no methodology exists for the monitoring of calibration histories and the adjustment of calibration intervals if required. While it is recognized that no instrumentation has been recalibrated which was found to be out of tolerance at the time of this audit, the project must prepare for the point in time when activity at Yucca Mountain is such that instrumentation calibrations become more routine and a statistical method of tracking instrumentation history is needed (i.e., desktop instruction or other methodology). Based on this, it is recommended that REECo develop a statistical method of tracking instrumentation calibration histories for analyzing and adjusting the frequency of calibrations.
- 6.2** During the course of this audit, it became apparent that the REECo Weapons Program (which operates under a different Quality Program) had previously identified similar conditions that are reflected in CAR YM-93-033. However, in discussions with REECo YMP Management it appears that they were unaware of the deficiencies identified by the REECo Weapons Program. As such, it is recommended that an interface be established which notifies REECo YMP of any deficiencies related to work being accomplished by matrix organizations which could impact quality related activities associated with YMP.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit**
- Attachment 2: Audit Details**
- Attachment 3: List of Objective Evidence Reviewed During the Audit**
- Attachment 4: Information Copies of CARs**

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>
Arnold, J.	REECO YMP Senior Engineer		X	
Barker, M.	REECO YMP Training Administrator	X	X	X
Bates, S.	YMQAD Auditor	X		X
Berlien, R.	REECO PAD QA Department Manager			X
Brod, R.	REECO YMP Sr. Staff Assistant		X	
Bryant, E.	REECO YMP QA Section Chief	X		
Caldwell, H.	REECO PAD QA Engineering Section Chief			X
Constable, R.	YMQAD, QA Surveillance		X	
Diaz, M.	YMQAD, QA Audits		X	
Erickson, G.	REECO PSCL Supervisor	X	X	X
Faiss, E.	REECO YMP Principal Staff Asst.	X		
Gardella, B.	REECO YMP CLD Manager	X	X	X
Glasser, W.	REECO YMP QAO PQAM	X	X	X
Gratza, W.	REECO YMP Sr. QA Specialist		X	
Hackbert, D.	REECO YMP Sr. QA Specialist		X	X
Harris, D.	YMQAD Sr. QA Specialist		X	
Harvey, C.	REECO YMP CDC Office Assistant	X		
Horton, D.	OQA Director		X	
Hurtado, P.	REECO PSCL Technician		X	
Klemens, R.	YMQAD Auditor Team Leader	X		X
Leonard, T.	REECO YMP CND Manager	X	X	
Limon, K.	REECO YMP IMD Manager	X	X	X
Martin, J.	YMQAD Auditor	X		X
Mason, C.	REECO YMP DRD Manager	X	X	

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>
Metta, S.	REEC Co PAD Manager		X	
Moulder, M.	REEC Co YMP CDC Supervisor	X	X	
Patel, M.	REEC Co YMP Senior Engineer		X	
Powe, R.	YMQAD, Audits Lead			X
Prater, C.	YMQAD ATL-in-Training	X		X
Pritchett, R.	REEC Co YMP TPO	X	X	
Reiter, E.	REEC Co YMP Sr. QA Specialist	X	X	
Spence, R.	YMQAD Director		X	X
Stethan, A.	REEC Co YMP Senior Secretary		X	
Straub, S.	REEC Co YMP LSD Manager	X	X	X
Warriner, D.	REEC Co YMP Records Manager	X		X
West, J.	REEC Co Quality Division Manager	X		X
Williams, B.	REEC Co YMP Office Assistant		X	
Wilson, P.	REEC Co YMP Sr. QA Specialist	X	X	X
Ziehm, S.	REEC Co YMP ARS Section Chief	X	X	X

Legend

- ARS = Administrative Resource Services
- CDC = Control Document Center
- CLD = Control Department
- CND = Construction Department
- DRD = Drilling Department
- IMD = Information Management Department
- LSD = Logistical Support Department
- PAD = Performance Assurance Division
- PSCL = Physical Standards and Calibration Laboratory
- PQAM = Project Quality Assurance Manager
- QAO = Quality Assurance Office
- TPO = Technical Project Officer

ATTACHMENT 2

AUDIT DETAILS

The following is a summary of the REECo QA Program activities covered during the audit. The list of objective evidence reviewed and specific procedures audited are provided in Attachment 3.

1.0 ORGANIZATION

The evaluation of this QA program element was based on the examination of objective evidence to determine compliance with selected requirements taken from the following Management Control (MC) implementing procedures: MC-01.0, -01.1, -01.2, and -01.3. The selected requirements are listed below:

- The YMP Division Manager/TPO is knowledgeable of organizational responsibilities.
- The Project Quality Assurance Manager (PQAM) has knowledge and understanding of responsibilities, including stop work authority and is cognizant of those who work directly for REECo YMP and those within the REECo organization that are matrixed to YMP.
- The QAO staff members have understanding and are knowledgeable of their responsibilities including stop work authority.
- The IMD Manager has knowledge and understanding of the responsibilities concerning records management.
- The CND Manager has knowledge and understanding of the responsibilities concerning surface and underground construction, operations and maintenance, and construction engineering sections.
- The DRD Manager has knowledge and understanding of the responsibilities concerning drilling engineering, rig operations, and electrical/mechanical support.
- The LSD Manager has knowledge and understanding the responsibilities concerning procurement, subcontract administration, training and supply/ property management.
- The CLD Manager has knowledge and understanding of the responsibilities concerning scheduling, estimating, cost and material control.

- The reporting structure of matrix personnel for the following division was verified:
 - Environment, Safety, and Health
 - Operation and Maintenance
 - Support Services
 - Quality Services
 - Administration
- MC-01.1, Stop Work Authority has not been implemented since the last Office of Civilian Radioactive Waste Management audit.
- MC-01.2, Resolution of Disputes, has not been implemented since its effectivity date of 2/6/92.
- It was determined through interviews with the above mentioned Department Managers that they are following the requirements of MC-01.3, Delegation of Authority, in the preparation and distribution of Delegation of Authority Memos.

During the course of the evaluation, objective evidence in the form of organizational charts, and line of succession/delegation of authority letters were reviewed for compliance. In addition, interviews were held with all line managers to evaluate their knowledge and understanding of the implementing procedures associated with this QA element. The results of the evaluation indicate satisfactory and effective compliance with the procedural requirements.

Based on the examination of the above requirements, implementation of QA Element 1.0, Organization, is considered satisfactory.

2.0 QUALITY ASSURANCE PROGRAM

The evaluation of this QA program element was based on the examination of objective evidence to determine compliance with selected requirements taken from the following implementing procedures: MC-02.0, -02.1, -02.2, -02.4, -02.4.1, -02.4.2, -02.4.3, -02.4.4, -02.4.5, -2.5, -2.8, and -02.9. The selected requirements are listed below:

- **QA personnel will perform the following verification activities:**
 - **periodic review of procedures, plans, and instructions**
 - **inspections**
 - **surveillance of ongoing and/or current activities**
 - **quality audits**
- **Quality Implementing Plans (QIPs) are used to identify YMP QA programmatic controls to be applied to work activities.**
- **Nonconformance Reports (NCRs) are written to document items not meeting specifications.**
- **Suspected defects in delivered basic components that could create a substantial safety hazard are ultimately reported to the U.S. Nuclear Regulatory Commission (NRC).**
- **Posting the Code of Federal Regulation (CFR) requirements of 10 CFR 21 are in compliance with procedures.**

One NCR was written to document an item not meeting a specification upon receipt. No suspected defects in components have been documented after use. No non-commercial grade components are being used at present, so there are no activities subject to 10 CFR 21 being conducted; however, an interview with the PQAM disclosed that 10 CFR 21 guidelines are posted at the YMP site.

Three QIPs have been written for work in progress. No Q-listed items are listed for associated activities. Interviews with QA personnel disclosed that one supplier survey was conducted, but the would-be supplier declined the job. A review of QA logs and selected files of the above activities disclosed that QA personnel have performed the above verification activities and that deficiencies are being satisfactorily resolved.

- **The REECo Training Administrator provides a system for maintaining documentation of Indoctrination and Training, Qualification, and Proficiency Evaluations of personnel.**
- **Management personnel identify a Core List of Required Training for every position, designating reading, classroom training, or one-on-one training.**

- Training requirements information is entered into a tracking system and Indoctrination and Training Records are submitted as a package on a staggered annual basis.
- Position Descriptions are developed for personnel performing activities affecting quality and minimum requirements for education and/or experience are delineated.
- Employee reading assignments are completed by the effective date or a post-effective date assessment is made and documented.
- Personnel are indoctrinated to MC-02.4.1, Revision 1, Paragraph 6.2.1, requirements below as they relate to assigned tasks:
 - QA Plans and Procedures;
 - Federal Codes and Regulations pertaining to the program including 10 CFR 50 Appendix B, 10 CFR 60, and 40 CFR 191;
 - ANSI/ASME-NQA 1, 1989 or subsequent U.S. Department of Energy (DOE) Quality Assurance Requirements and Description (QARD) document; and
 - Industry Standards designated by Manager.
- The Training Department maintains a list of qualified course instructors.
- Lesson Plan Detail Summaries are completed as required.
- Lesson Plan Review Forms are completed by the cognizant manager.
- The Management Assessment Report is developed and processed according to procedural requirements.
- Major and minor changes to QAPP Change Notices (CNs) are subject to the same review and approval as the original document.
- A Readiness Review Plan is developed as per MC-02.9, Revision 0, requirements.
- Qualification, Indoctrination and Training, and Certification records and records packages are handled in accordance with the requirements of the DOE System 80.

Training files reviewed were in compliance with procedural requirements with the exception of specified items contained in individual training files as required by MC-02.4.1, Revision 1, Paragraph 6.2.1. Internal Deficiency Notice (DN) 92-018 was written requiring that the YMP Training Department provide evidence that personnel were indoctrinated as delineated above. Estimated completion date for DN 92-018 is 2/17/93.

No Readiness Review Plan has yet been developed. A Readiness Review plan will be developed prior to underground studies, as required.

The following requirements of DOE System 80 were verified to be in conformance with procedural requirements:

- "Information Release Restricted" notices are posted on file cabinets;
- "Privileged" is marked on files;
- an employee access file is maintained;
- files were not left unattended by REECo personnel during audit.

Implementation of Program Element 2.0, Quality Assurance Program, is satisfactory.

5.0 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

This QA program element was evaluated based on objective evidence to determine compliance with MC-5.0, -05.1, -05.2, and -05.3. The selected requirements examined for compliance are listed below:

MC, Technical Control, and Work Procedures comply with the following procedural requirements:

- An independent review is performed by the originating organization for technical adequacy.
- Identification is made of QA records generated during implementation of activity.
- Procedures are prepared in draft form with comments justified.
- An independent review is performed for technical adequacy and correctness.
- A review is performed by someone within the department other than author.

- A quality review is performed for inclusion of appropriate quality requirements.
- A review is performed by a member of the IMD.
- Interim Change Notices (ICNs) are logged and tracked as required and training is designated, if applicable.
- Procedures scheduled for review are reviewed, the review documented, and documentation forwarded to the CDC, as required.
- Work Procedure requirements include the following:
 - a log of Work Procedures is maintained by the CDC;
 - Site Work Instructions reference drawings, specifications, and procedures, as required;
 - Hold Points are designated, as applicable;
 - Work Instructions are routed for review and comment to designated personnel.

Files selected from each category of procedure were reviewed for compliance to the requirements listed above. A data base is maintained for logging and tracking internal procedures and ICNs. Training is designated, as applicable.

Only two Work Procedures have been developed. Neither are quality affecting. A review of the two procedures disclosed that all above requirements, including those delineated under review requirements, were met.

Based on the results of the evaluation of QA Element 5.0, Instructions, Procedures, and Drawings, implementation is satisfactory.

6.0 DOCUMENT CONTROL

This program element was evaluated base on objective evidence to determine compliance with implementing procedures MC-06.0, -06.1, and -06.3. The selected requirements examined for compliance are listed below:

The CDC is operated in accordance with the following procedural requirements:

- All procedures generated are identified on a Master Index and a copy of the latest revision of Controlled Documents is maintained by the CDC.

- A Document Distribution List is used to identify personnel requiring copies per Controlled or Managed Distribution.
- Control status is stamped on each Controlled Document.
- A Receipt Acknowledgment System is used for distribution.
- Documents are logged and tracked as per data base requirements.
- Internal procedures are processed into the Records Management System.
- Deficiency Notices (DNs) are issued as required and processed by the QAO.
- Document recipients are removed from controlled distribution, as required.
- Document holders maintain the latest revisions of controlled documents and superseded documents are removed or marked obsolete.

Management personnel were interviewed, the data base system was observed, and the distribution system was reviewed to determine compliance with the above requirements. Selected document holder controlled documents were matched with distribution lists to determine compliance with maintenance of controlled document policies. It was determined that a managed distribution system is effectively used to control document distribution, receipt acknowledgment, and documentation. A decontrol system is effectively utilized and deficiency notices are issued and reviewed as required. Records submittal and receipt acknowledgment was verified for selected record packages.

Based on the results of the evaluation of QA Element 6.0, Document Control, implementation is satisfactory.

12.0 CONTROL OF MEASURING AND TEST EQUIPMENT (M&TE)

The evaluation of this QA program element was based on the examination of the objective evidence to determine compliance with selected requirements from implementing procedure MC-10.0.

REECo calibrates and uses M&TE in two capacities; (1) as a YMP Participant who utilizes instrumentation (M&TE) in performance of project activities and who maintains and operates a Calibration Laboratory for the calibration of that instrumentation, and (2) as a supplier of calibration services to other YMP Participants.

In the implementation of this role REECo utilizes MC-10.0, Revision 0, ICN 1, "Measuring and Test Equipment." In addition, REECo has developed and approved Quality Assurance Internal Procedures (QAIPs) which define the calibration methodology for M&TE. Selected requirements verified relative to MC-10.0 during the audit process are detailed below:

- Requestors of calibration services initiate a Calibration Request for calibration of M&TE.
- All calibrations are performed per REECo PSCL calibration procedures.
- Calibration frequency is established by PSCL based upon the manufacturer's recommendations and the following requirements:
 - The established intervals shall be based on the type of equipment, stability characteristics, required accuracy and precision, intended use, degree of usage, and other conditions affecting measurement control.
 - If the calibration history indicates that the equipment requires frequent adjustment, the interval can be shortened. Intervals may be lengthened if the results of previous calibrations can be shown to provide definite indications that the accuracy of the M&TE will not be adversely affected.
- Calibration labels are applied in accordance with appropriate Technical Procedures (TPs).
- Calibration of M&TE is against certified equipment/standards traceable to the National Institute of Standards and Testing or other nationally recognized standards.
- Where no nationally recognized standard exists, PSCL provides a documented basis for calibration.
- Calibration standards have greater accuracy than the item being calibrated.
- Where the calibrating standard has the same accuracy as the item being calibrated, the basis for acceptance is documented and authorized by PSCL management.
- M&TE calibration acceptance or rejection is within specific tolerances or the manufacturer's requirements.

- Issuance of a certified report, showing the calibration results; acceptance or rejection.
- Notification of instrument recall within allowable frequency.
- Segregation and tagging of equipment found to be out of calibration.
- For calibrations of instrumentation which were found to not meet specified requirements the PSCL prepares an Out-of-Tolerance Notification.
- Determination that for out of calibration M&TE the following occurs:
 - Determination where the instrument has been utilized,
 - Whether or not the Out-of-Tolerance condition has direct effect on the measurements taken for YMP items and determination of the validity of previously inspected, tested, or data gathered since the last calibration.
- Review and approval/concurrence of Out-of-Tolerance Notifications by the REECo QAO.
- Initiation of NCRs when necessary.

During the course of this audit a sample of PSCL Calibration Reports were carefully examined to assure compliance with the above referenced requirements. In addition, selected calibration procedures were utilized to evaluate calibrations performed by the PSCL. These procedures are MQA-IP-CP-PRESS-1, MQA-IP-CP-TEMP-4, MQA-IP-CP-REC-1 and MQA-IP-CP-GEN-1.

Generally, these procedures were utilized to verify that calibrations were performed in accordance with procedural guidelines, such as; required accuracy of standards, range of calibrations, accuracy and tolerance of instrument, allowable adjustments, required documentation, frequency of calibrations and documentation of calibrations exceeding specified standards.

The results of this examination revealed numerous instances of programmatic noncompliance that can be categorized into three distinct areas. These areas are (1) failure to follow procedural prerequisite in the calibration of M&TE, (2) failure to revise or generate new procedures when the ones in effect were not appropriate to the work being accomplished and (3) a lack of attention to detail as evidenced by the numerous errors encountered in the review of calibration documentation.

As a result, CAR YM-93-033 has been issued to REECo and detailed information of the examples found during the audit are part of this CAR (see Attachment 4 for additional information).

During the course of this audit, it became apparent that the REECo Weapons Program (which operates under a different Quality Program) had previously identified similar conditions that are reflected in CAR YM-93-033. However, in discussions with REECo YMP Management it appears that they were unaware of the deficiencies identified by the REECo Weapons Program. As such, see Recommendation 6.2 of this report.

To preclude further actions that those listed within CAR YM-93-033, REECo issued Memorandum 93-001343, which details actions to be accomplished and documented prior to performing calibrations or releasing instrumentation which has been calibrated to the user organizations. Based upon the issuance of this memorandum, discussions with REECo and separate discussions with the YMQAD Director, it was determined that a Stop Work was not warranted at this time.

Based on the examination of the above requirements, implementation of QA Program Element 12.0, Control of Measuring and Test Equipment, is considered unsatisfactory.

13.0 HANDLING, SHIPPING, AND STORAGE

The evaluation of this QA program element was based on the examination of objective evidence in compliance with MC-04.0, -04.1, -04.3 and -04.5. The selected requirements are listed below:

- The LSD receives material at the Nevada Test Site (NTS) and performs an initial receiving inspection in accordance with MC-04.1.
- Detailed receipt inspections are performed in accordance with MC-04.2.
- The LSD notifies the Material Control Section (MCS) of material receipt and the MCS directs the LSD to place the material in interim storage at a Central Receiving Warehouse or deliver the material to the worksite.
- After receipt of material at NTS, handling, storage, and delivery shall be performed in accordance with MC-04.3.
- Nonconforming material is tagged in accordance with MC-11.2 and physically segregated in a designated HOLD area pending resolution of the nonconformance or return of the material to the supplier.

- Material is marked in accordance with MC-04.5 and whenever possible, remains accessible subsequent to installation.
- The piece count of each shipment being offloaded is compared against the quantities shown on its applicable freight bill and, if a difference is identified, the shipping document shall be noted and a Deficiency Report (DR) prepared and processed.
- Each incoming item is checked for possible freight damage, and if noted, the Freight Bill is noted and a DR is prepared and processed, and the REECo Procurement Traffic Manager is notified.
- Shipping papers for all incoming hazardous material shipments are checked for compliance with U.S. Department of Transportation Regulations and if any deficiency is noted, the REECo Procurement Traffic Manager is notified and a DR prepared and processed.
- That when the Purchasing Document indicates a Technical Inspection Report (TIR), the Technical Inspector is notified and performs the TIR in accordance with MC-04.2.
- Personnel who perform the receipt functions of this procedure for quality affecting items are qualified and certified per MC-02.4.2.
- The TIR is used to document the receipt inspection of project items procured through REECo YMP when one of the stated conditions apply.
- The acceptance of procured items for installation or use in quality affecting applications is accomplished by receiving inspection, vendor/supplier Certificate of Conformance, source inspection, or post-installation testing.
- Personnel who perform technical receipt inspections required by TIRs for quality affecting items shall be qualified and certified as a Level I, II, or III Inspector in the appropriate discipline.
- Any handling process requiring the use of special handling tools and equipment, or hoisting and rigging apparatus, is accomplished by operators experienced or trained in the use of the equipment.
- Special handling tools and equipment or hoisting and rigging apparatus is inspected prior to use and properly maintained in accordance with approved procedures.

- Materials or equipment subject to theft, contamination, or deterioration due to environmental conditions are stored in an enclosed, secured area.
- User Organization generates and maintains Care and Maintenance Instructions (CMI) including instructions, performance frequency and CMI Log.

During the course of the evaluation, objective evidence in the form of purchase requisitions, work orders, receiving/delivery tickets, inspection reports and checklists were reviewed for compliance. The results of the evaluation indicate satisfactory compliance with the procedural requirements and effective control of material receipt storage and delivery.

Based upon the results of the evaluation of QA Program Element 13.0, Handling, Shipping, and Storage, implementation is considered satisfactory.

16.0 CORRECTIVE ACTION

The evaluation of this QA program element was based on the examination of objective evidence to determine compliance with selected requirements taken from implementing procedures, MC-11.1, -11.3, and -11.4.

Implementation of MC-11.1, was performed by examining implementation of the following requirements:

- That the REECo QAO assigns the next sequential number from the DN Log when a DN is generated.
- If the reported condition is determined to be significant that a Corrective Action Report (CAR) is initiated.
- The QAO initiates an NCR, if required.
- Issues the DN to the appropriate manager for investigation and development of corrective action.
- If the condition is determined to not be a valid deficiency the originator is notified.
- An evaluation of completed work is performed and the following information is provided:
- Remedial actions to be taken to correct the existing condition(s), apparent cause, and measures to be taken to prevent recurrence.

- That responsible management responds (relative to proposed corrective action) by the response due date identified on the DN or requests an extension request.
- The QAO evaluates the proposed corrective action to ensure the required actions have been properly addressed.
- Completes corrective action by due date or submits request for an extension.
- Documents verification of corrective action on continuation sheet, the objective evidence reviewed and signs the DN indicating acceptance.
- PQAM approves closure and distributes to appropriate individuals.

Verification of implementation of MC-11.3, was accomplished by the review of the following requirements:

- Conditions considered significant are documented on CARs and the next sequential number is derived from the CAR Log.
- Each CAR is evaluated for a Stop Work condition.
- The responsible organization documents the following on the CAR:
 - Impact on completed work, if applicable, actions to be taken to correct the existing condition(s), root cause, and measures to be taken to prevent recurrence.
 - Responsible organization responds to the CAR by the response due date or requests an extension in writing.
 - The QAO documents acceptance of the proposed corrective action on the CAR and returns the CAR to the responsible organization.
 - If the proposed response is unacceptable, the QAO notifies the responsible organization in writing and the reason for rejection.
 - If upon verification the corrective action is determined to be unsatisfactory or incomplete the QAO documents the unsatisfactory verification and transmits the CAR to the next higher level of management.

- If the verification is found to be satisfactory, the QAO documents the objective evidence reviewed and signs the CAR indicating that verification of corrective action completion was performed satisfactorily and the CAR is closed.
- The PQAM approves the closure of the CAR and makes distribution.

Implementation of MC-11.4, was performed by examination of implementation of the following requirements:

- All deficiencies issued by or to the REECO YMP Division are reviewed by the QAO to detect or analyze adverse trends.
- REECO maintains a Tracking and Trending Data Base to aid in the identification of trends which contains the following;
 - Report Type (i.e., CARs, DN's, NCRs, etc.)
 - Report Nos.
 - Issue or identification date
 - Responsible organization
 - Deficient item or activity
 - Subject of deficiency
 - Apparent root cause
- The QAO reviews the Data Base on a quarterly basis.
- When an adverse trend is identified a CAR or DN are generated.
- Reports are issued on a quarterly basis.

During the course of the evaluation, objective evidence in the form of DN's, CARs, and trend reports were reviewed for compliance. The results of the evaluation indicate satisfactory compliance with the procedural requirements and effective control of deficiency reporting and trend evaluation.

Based upon the above reviews, it was determined that implementation of QA Program Element 16.0 is satisfactory.

17.0 QA RECORDS

The evaluation of this QA program element was based on the examination of objective evidence to determine compliance with selected requirements taken from implementing procedures, MC-12.0, -12.1 and -12.2. The selected requirements are listed below.

- Managers generate a memo to the file which lists the names of personnel within their organization who are authorized to authenticate QA records. Verify that the original memo is in the Information Services Center and a copy is in the Las Vegas Local Records Center (LV LRC) .
- Personnel authorized to authenticate QA records must be qualified to do so as described in MC-2.4.2, Personnel Qualification and Certification.
- Records and Records Packages are legible and complete.
- QA Records and Records Packages are authenticated.
- DOE System 80 qualification, training, and certification records and record packages are marked "Privileged."
- DOE System 80 records on REECo personnel are maintained by the YMP Division Training Administrator.
- DOE System 80 records on subcontractor personnel are maintained by the REECo YMP Contract Administrator.
- DOE System 80 records on both REECo and subcontractor personnel are maintained by the following:
 - IMD
 - LV LRC
 - Central Records Facility
- DOE System 80 record categories.
- DOE System 80 records are only used for the following:
 - QA audits
 - Epidemiological studies...

- Additional routine use as described in Federal Register Notice No. 47FR14284, Appendix B, Parts 1, 4, 7, 8, and 9.
- Access to DOE System 80 records is restricted to the individuals whose records are maintained in the system, authorized supervisory personnel, QA, records management processing personnel, and those provided access under routine use per 47FR14284.
- Managers provide by memo to the Training Administrator with a copy to the IMD a list of the names of personnel authorized access to DOE System 80 records on personnel from within their organization.
- The list is updated as personnel changes take place.
- The TPO provides by letter a list of the names of REECo personnel authorized access to DOE System 80 records to the LV LRC.
- Disclosure of DOE System 80 records has been permitted according to Paragraphs 6.6.4.4 and 6.6.4.6.
- Records are maintained in locked cabinets and that access to computer records is by password only.
- Records are marked "Privileged" and are controlled from the time they are originated. (Originated is the point in time when the initial step is taken in generating the record.)
- IMD maintains these records separately from the rest of the files and stores the records in locked cabinets.
- Microfilm and microfilm boxes in the LV LRC are labeled on two sides "Information Release Restricted" in black ink on pink background.
- The Training Administrator and the IMD restrict access to those allowed access in Section 6.6.4 and those on the Access Lists generated by managers.
- DOE System 80 QA Training and Personnel Qualification records are submitted to the YMP Division Training Administrator who submits these records to the LV LRC.
- The IMD Manager's DOE System 80 access memo(s) are maintained as Project Records.

During the course of the evaluation, objective evidence in the form of lists of personnel authorized to authenticate QA records, and DOE System 80 Training and Qualification Access Lists were reviewed for compliance. The results of the evaluation indicate satisfactory compliance with the procedural requirements and effective control of authenticating and accessing DOE System 80 Privileged Records.

Based on the results of the evaluation of QA Program Element 17.0, Quality Assurance Records, is considered satisfactory.

18.0 AUDITS

The evaluation of the QA program element was based on the examination of the objective evidence to determine compliance with selected requirements taken from implementing procedure MC-13.0, -13.1, and -13.2. The selected requirements are listed below:

- Applicable elements of the YMP QA program are audited at least annually or at least once during the life of the activity.
- External audits are scheduled in accordance with MC-03.2.
- Audit schedules identify the date of the audit, the activities to be audited, and the requirements to which the activities are to audited.
- Audits of each applicable section of a QA program is conducted within one year from the date of the previous audit of the activity.
- The audit schedule is reviewed periodically as necessary by the PQAM.
- The audit plan for each audit identify the audit scope, requirements, audit personnel, activities to be audited, organization to be notified, applicable documents, schedule and written procedures or checklists.
- Auditors are independent of any direct responsibility for the performance of the activities that they are to audit.
- Lead Auditors (LA), Auditors and Technical Specialists are qualified in accordance with MC-13.1, and Appendix F of QAPP 568-DOC-115.
- The ATL ensures that the audit team is prepared before the audit begins.
- The LA provides the audited organization with written notice of the audit which includes the completed Audit/Survey Plan.

- **The Audit Team prepared QA Audit/Survey Checklists.**
- **Audits are performed in accordance with established checklists and/or procedures and the objective evidence reviewed is documented on the checklists**
- **The LA conducted a preaudit meeting with management and/or supervisory personnel, the audit team and, as applicable, supplier personnel of the audited organization.**
- **The audit team, at the conclusion of the audit, conducted a postaudit meeting with cognizant management and/or supervisory personnel of the audited organization to present the audit results, corrected on the spot deficiencies, findings, and to discuss comments and clarify misunderstandings. In addition, Attendees at the meetings signed the Attendance Roster.**
- **The audit report is signed by the ATL and issued within 30 calendar days after completion of the audit to management of the audited organization.**
- **The QA Audits/Survey Report is completed in accordance with the Instruction for Exhibit IV.**
- **Audit findings are documented in sufficient detail to enable corrective action and distributed to the responsible organization in accordance with MC-11.0.**
- **A Log of Audit (Exhibits V) is maintained by the QAO.**
- **The following QA records are submitted by the QAO as a package:**
 - **Audit Orientation**
 - **QA Audit/Survey Plan**
 - **QA Audit/Survey Checklists**
 - **QA Audit/Survey Report**
 - **Preaudit and postaudit Meeting Attendance Rosters**
- **The audit schedule is submitted as an individual QA record.**
- **Records of personnel qualification for auditors and LAs are completed and maintained by the PQAM and that records for each LA are maintained and updated annually.**

- **Training, Qualification and Certification records are handled in accordance with DOE System 80 as described in MC-12.0.**
- **Surveillances are performed to written checklists or surveillance plans, and that the documentation identify characteristics, methods, and acceptance criteria, provide for recording of evidence of results, and accuracy of equipment necessary to perform surveillances.**
- **Surveillance personnel do not report directly to the immediate supervisors who are responsible for the work being surveilled, and are qualified in accordance with MC-02.4.2.**
- **Surveillance activities are documented on the surveillance report in accordance with MC-13.2, Revision 0, Paragraphs 6.4.2 through 6.4.4.**
- **The Surveillance Plan and Surveillance Report are submitted as a QA Records Package by the QAO in accordance with MC-12.0.**
- **A log of surveillances is maintained in the QAO.**

During the course of the evaluation, objective evidence in the form of audit and surveillance record packages, audit and surveillance logs, document submittal receipts for records and records packages, auditor qualification records, and individual training records were reviewed for compliance. The results of the evaluation indicate satisfactory compliance with the procedural requirements and effective control of the audit and surveillance process

Based on the results of the evaluation of QA Element 18.0, Audits, implementation is considered satisfactory.

ATTACHMENT 3

LIST OF OBJECTIVE EVIDENCE REVIEWED DURING THE AUDIT

QA PROGRAM ELEMENT 1.0. "ORGANIZATION"

Procedures:

Compliance with the following procedures was reviewed:

- QAPP, 568-DCO-115, Revision 8,
- MC-01.0, Revision 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

Objective Evidence Reviewed:

REECo Organization Chart, dated 2/8/93

Memoranda:

C.J. Mason to Distribution dated 2/1/93, re: Acting Project Manager
Line of Succession - YMP Division Office dated 5/20/92

QA PROGRAM ELEMENT 2.0. "QUALITY ASSURANCE"

Procedures:

Compliance with the following procedures was reviewed:

- REECo-YMP-MC-02.0, Revision 1, Quality Assurance Program
- REECo-YMP-MC-02.1, Revision 0, Determination of Importance
- REECo-YMP-MC-02.2, Revision 0, Regulatory Compliance for Reporting Defects
- REECo-YMP-MC-02.4, Revision 0, Training and Qualification
- REECo-YMP-MC-02.4.1, Revision 2, ICN 1, YMP Indoctrination and Training
- REECo-YMP-MC-02.4.2, Revision 1, ICN 1 & 2, Personnel Qualification
and Certification
- REECo-YMP-MC-02.4.3, Revision 1, Required Reading
- REECo-YMP-MC-02.4.4, Revision 1, Classroom Training
- REECo-YMP-MC-02.4.5, Revision 2, Developing a Training Course
- REECo-YMP-MC-02.5, Revision 0, Management Assessment
- REECo-YMP-MC-02.8, Revision 1, Preparation, Review and Approval of
QAPP Change Notices
- REECo-YMP-MC-02.9, Revision 0, Readiness Reviews

Objective Evidence Reviewed:

Quality Implementing Plans:

QIP-CND-92-001, Revision 0
QIP-DRD-92-002, Revision 0
QIP-CND-93-001, Revision 0

REECo Logs:

DN Log, dated 02/05/93.
Corrective Action Report Log, dated 11/20/92.
QA Program Plan CN Log, 12/3//91-09/09/92.
Internal QA Audit Log, dated 02/05/93.
Supplier Audit Log, dated 12/04/92.
Surveillance (SR) Log, dated 02/05/93.
Construction and Inspection Plan (CIP) Log for Job Package JP 92-20, 11/30/92-01/29/93.

DNs from DN Log dated 02/05/93:

<u>DN Number</u>	<u>Date Closed</u>
DN-92-008	05/04/92
DN-92-009	05/29/92
DN-92-013	07/17/92
DN-92-014	10/08/92
DN-92-018	02/17/93
DN-92-019	Open
DN-93-005	Open

Corrective Action Report from Corrective Action Report Log dated 11/20/92:

<u>CA Number</u>	<u>Date Closed</u>
CA-92-001	08/13/92
CA-92-002	11/10/92

Audit Reports from Internal QA Audit Log dated 02/05/93:

<u>Audit Number</u>	<u>Report Issue Date</u>
REECo-001-92	03/13/92
REECo-004-92	04/23/92
REECo-007-92	07/08/92

SRs from Surveillance Log dated 02/05/93:

<u>SR Number</u>	<u>Report Issue Date</u>
SR-009-92	08/04/92
SR-011-92	08/13/92
SR-012-92	12/03/92
SR-013-92	12/23/92

Supplier Survey Report from Supplier Audit Log dated 12/04/92:

<u>Audit Number</u>	<u>Report Issue Date</u>
REEC0-S01-93	12/03/92

NCR from Nonconformance Report Log dated 02/02/93:

<u>Audit Number</u>	<u>Date Identified</u>
NCR-93-001	01/27/93

CIPs from Construction & Inspection Plan Log, no date.

Verified the following for designation of QA:N/A:

CIP-92-0001	CIP-93-0001	CIP-93-0005
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Memoranda:

MCB:bw, dated 12/1/92, Barker to File, re qualified instructors for the YMP.
KLL:MDM:gbm, dated 1/28/93, Limon to Erickson thru Caldwell, with Procedure
Review Listing, re: periodic review of procedures

Letter:

RFP:rb, dated 5/4/92, Pritchett to Distribution

Document Transmittal for Copy No. 001 - example

Lesson Plans:

LP-92-001, Revision 0
TR-003, Revision 0
OR-92-001, dated 10/16/92
TR-007, Revision 0

Individual Training Files containing date each required procedure is read for the following personnel:

Gardella, B.R.	Glasser, W.J.	Hackbert, D.A.	Keating, J.J.
Moulder, M.D.	Stethen, A.D.	Watson, M.R.	Wonderly, D.M.

Management Assessment Report, authentication date-6/18/92

Quality Assurance Program Plan Change Notices (QAPPCNs):

<u>QAPPCN</u>	<u>Date Incorporated</u>
92-01	12/31/91
92-03	07/21/92
92-03	07/21/92
92-04	07/21/92
92-05	07/21/92
92-06	08/13/92
92-07	09/09/92
92-08	09/09/92

QA PROGRAM ELEMENT 5.0. "INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Procedures:

Compliance with the following procedures was reviewed:

- REECo-YMP-MC-05.0, Revision 1, Instructions, Procedures and Drawings
- REECo-YMP-MC-05.1, Revision 1, ICN 1, Preparation, Review and Approval of Management Control Procedures
- REECo-YMP-MC-05.2, Revision 1, ICN 1, Preparation, Review and Approval of Technical Control Procedures
- REECo-YMP-MC-05.3, Revision 0, ICNs 1 and 2, Preparation, Review and Approval of Work Procedures

Objective Evidenced Reviewed:

Drafts of the following procedures and applicable revisions and/or ICNs were reviewed:

- REECo-YMP-MC-02.4.1, ICN 1, Revision 2, YMP Indoctrination and Training
- REECo-YMP-MC-02.4.2, ICNs 1 and 2, Revision 1, Personnel Qualification and Certification
- REECo-YMP-MC-02.8, Revision 1, Preparation, Review and Approval of QAPPCNs
- REECo-YMP-MC-3.1, Revision 0, Purchasing Requisition and Purchase Order Processing

REECo-YMP-MC-4.5, Revision 0, Material Identification
REECo-YMP-MC-05.1, ICN 1, Revision 1, Preparation, Review and Approval of
Management Control Procedures
REECo-YMP-MC-05.2, ICN 1, Revision 1, Preparation, Review and Approval of
Technical Control Procedures
REECo-YMP-MC-05.3, ICN 1 & 2, Revision 0, Preparation, Review and Approval of
Work Procedures
REECo-YMP-MC-06.0, Revision 2, Document Control
REECo-YMP-MC-06.1, Revision 2, Control and Distribution of Controlled Documents
REECo-YMP-MC-06.3, Revision 0, Externally Controlled Documents
REECo-YMP-MC-07.0, Revision 1, Work Control
REECo-YMP-MC-07.3, Revision 0, Request for Matrix Support Services
REECo-YMP-MC-09.0, Revision 2, Inspection Program
REECo-YMP-MC-10.0, Revision 0, Measuring and Test Equipment
REECo-YMP-MC-11.0, Revision 1, Problem Identification and Control
REECo-YMP-MC-14.1, Revision 0, Environment, Safety and Health Internal Appraisal
Program
REECo-YMP-TC-581-WP-0001, Revision 0, Blast Hole Drilling for Surface Construction
Activities North Portal..
REECo-YMP-TC-581-WP.0002, Revision 0, Explosives Handling and DrillHole Blasting
for Surface Construction
REECo-YMP-TC-581-SP-0003, Revision 0, Rock Bolting the North Portal Surface Area
REECo-YMP-TC-515-CP-GEN-1, Revision 0, Measuring and Test Equipment
REECo-YMP-TC-528-SP-001, Revision 0, YMP Employee Verification

Individual (TRFs)-DATE READ verification

QA PROGRAM ELEMENT 6.0. "DOCUMENT CONTROL"

Procedures:

Compliance with the following procedures was reviewed:

REECo-YMP-MC-06.0, Revision 2, Document Control
REECo-YMP-MC-06.1, Revision 2, Control and Distribution of Controlled Documents
REECo-YMP-MC-06.3, Revision 0, Externally Controlled Documents

Objective Evidence Reviewed:

Technical Control Procedures:

REECo-YMP-TC-581-SP-001, Revision 0, YMP Employee Verification
REECo-YMP-TC-581-SP-0002, Revision 0, Survey Guidelines Manual
REECo-YMP-TC-583-SP-0002, Revision 1, Drill Rig Inspection Procedure
REECo-YMP-TC-583-SP-0004, Revision 0, CME-850 Rig Up/Rig Down Procedure
REECo-YMP-TC-583-SP-0005, Revision 0, Grounding Systems at Drilling Locations

YMP Procedures Reviewed:

YMP-025-1-SP01, Revision 2, North Portal Pad, Electrical Utilities and Access Roads
YMP-025-1-SP02, Revision 2, Electrical Switchgear Building
YMP-025-1-SP03, Revision 3, Booster Pump Station
YMP-025-1-SP04, Revision 1, Topsoil and Rock Storage Area
YMP-025-1-SP06, Revision 0, Utilities, Water, Sewer, and Drainage
YMP-025-1-SP07, Revision 0, Water System Supply and Distribution
YMP-025-1-SP08, Revision 0, Water Storage Tanks
YMP-025-1-SP09, Revision 0, Starter Tunnel and Portal Structure
YMP-025-1-SP10, Revision 0, Rock Bolts and Accessories

Technical Control Procedure:

REECO-YMP-TC-528-SP-001, Revision 0, YMP Employee Verification

Management Control Procedures:

REECO-YMP-MC-05.2, ICN 1, Revision , Preparation, Review and Approval of Technical Control Procedures
REECO-YMP-MC-07.5, Revision 0, Test Control
REECO-YMP-MC-08.1, Revision 0, Preparation, Review and Approval of Special Process Procedures

Controlled Document Holder Identification Numbers (for documents reviewed for compliance with distribution requirements):

<u>Copy</u>	<u>Procedures</u>
005	MC Procedures with ICNs; MC Procedure Index (MCPI)
006	All MCs; MCPI
042	All MCs; MCPI; QAPP 568-DOC-115
047	All MCs; MCPI
049	MCs with ICNs; MCPI; QIPs
019	YMP-025-1-SPs- 01, -02, -03, -04 for possession of correct documents
020	YMP-025-1-SPs-01, -02, -03, -04, -06, -07, -08, -09 for possession of correct documents
024	YMP-025-1-SP-024 for possession of correct documents

Quality Implementing Plan:

QIP-CND-92-001, Revision 0
QIP-DRD-92-002, Revision 0
QIP-CND-93-001, Revision 0

Distribution Log for Record Submittal

Deficiency Notices:

<u>DN Number</u>	<u>Date Closed</u>
DN-92-016	12/22/92
DN-92-017	12/31/92

Document Issuance Authorization, dated 02/05/93, re: document decontrol of JP 92-10-related documents for Controlled Copy numbers 27, 28, 29, and 30.

Distribution List for MC-08.0, Special Processes, Revision 0, dated 02/19/92

Controlled Document Distribution Change Requests for the following:

<u>Individual</u>	<u>Date</u>
Warriner, D.R.	12/03/92
Taylor, L.D.	02/05/93
Seppe, S.M.	10/28/92

Master Index of Controlled Documents dated 02/02/93

Document Issuance Authorization, dated 12/15/92, 92-010780, NNA.930122.0083

Document Transmittal for Controlled Copy numbers 27, 28, 29, and 30, dated 02/05/93

Example of Document Transmittal, date N/A

Records Packages:

92-009830	NNA.921203.0074
92-010225	NNA.930114.0124
92-010313	NNA.930114.0126
92-009953	NNA.921216.0065

QA PROGRAM ELEMENT 12.0. "CONTROL OF MEASURING AND TEST EQUIPMENT"

Procedures:

Compliance with the following procedures was reviewed:

MC-10.0, Revision 0, ICN 1, Measuring and Test Equipment

MQA-IP-CP-MASS-3, Revision 1, Calibration of Electronic Balance and Mass Comparator

MQA-IP-CP-PRES-1, Revision 1, Calibration of Pressure Gauges 0 to 100 PSI
 MQA-IP-CP-REC-1, Revision 1, Calibration of Chart Recorders
 MQA-IP-CP-TEMP-4, Revision 2, Calibration of Thermocouple
 TC-515-CP-GEN-1, Revision 0, Measuring and Tests Equipment

Objective Evidence Reviewed:

PSCL Calibration Reports and Requests examined:

<u>Item Description:</u>	<u>PTL. No.:</u>	<u>Date of Calibration:</u>	<u>Instrument Owner:</u>
Liquid Permmeter A.T.M. Gauge	Y1061	5/18/92	RSN
Thermometer	3108	11/12/91	USGS
Press. Gauge Absolute	Y 10065	7/22/92	SAIC
Chart Recorder	Y 10106	3/14/92	REEC _o
Barometer/Altimeter	Y 10249	6/3/92	SAIC
Balance	Y 10320	7/2/92	USGS
3 Channel Recorder	Y 20000	12/14/92	REEC _o
Scanning Digital Thermocouple	STD. 102	2/4/91	PSCL/REEC _o

PSCL Standards Verified for Traceability to NIST or Equivalent:

<u>Item Description:</u>	<u>PTL. No.:</u>
High Pressure Piston	Std. 121
Digital Pressure Indicator	Std. 34
Digital Pressure Indicator	Std. 33
Digital Pressure Indicator	Std. 35
Pressure Controller/Calibrator	Std. 110
Primary Pressure Standard	Std. 5
0/100 PSI Gauge	Std. 40
0/600 PSI Gauge	Std. 38
Torque Calibrator	Std. 22B
3000 Lbs. Force Cell	Std. 12
Optical Flat	Std. 10
Class S Weights	Std. 1

Calibration Procedures Reviewed vs. Documented Calibrations:

MQA-IP-CP-PRES-1, Revision 2, Calibration of Pressure Gauges 0 to 1000 PSI (Low Pressure)

MQA-IP-CP-TEMP-4, Revision 1 and 2, Calibration of Thermocouple (Electronic Temperature Probe)

MQA-IP-CP-REC-1, Revision 1, Calibration of Chart Recorder
MQA-IP-CP-MASS-3, Revision 1, Calibration of Electronic Balance and Mass
Comparator

QA PROGRAM ELEMENT 13.0. "HANDLING, SHIPPING, AND STORAGE"

Procedures:

Compliance with the following procedures was reviewed:

- MC-04.0, Revision 0, Material Control
- MC-04.1, Revision 0, Material Receiving
- MC-04.3, Revision 0, Handling, Storage, and Shipping
- MC-04.5, Revision 0, Material Identification

Objective Evidence Reviewed:

Purchasing Requisition No. 00026YP-01, for rockbolts and domed rockbolt plates

Work Order No. 7063 to Curtis Steel Co., Inc. for rockbolts and domed rockbolt plates

Receiving/Delivery Ticket No. POPO-0092-01 for rockbolts and domed rockbolt plates
requiring technical inspection

Yucca Mountain Site Characterization Project Field Change Request No. 93/122, changed
document No. YMP025-1-SP09, in re: zinc coating of fencing

NCR-93-001, covering nonconformance of improper galvanizing of chain link fence,
purchased on PR No. 00043-VLS-023

Technical Inspection Report No. Y-585-93-001, covering rockbolts and domed rockbolt plates

Mobile Equipment Operator's Data Sheet for Operator No. 1605-012 dated 6/2/92

Lift truck Operation-Evaluation Form (example)

Forklift Daily Checklist for Forklift No. 75054, 12/15/92-2/8/93

Checklist for Caterpillar D9L, No. 71102 located at North Portal (example)

(PMS) Record Card for No. 71102 (9L Dozer) and Service-due Card dated 6/5/92 - 2/4/93

OA PROGRAM ELEMENT 16.0. "CORRECTIVE ACTION"

Procedures:

Compliance with the following procedures was reviewed:

- MC-11.1, Revision 1, Deficiency Notices
- MC-11.3, Revision 0, ICN 1, Corrective Action
- MC-11.4, Revision 0, Trending

Objective Evidence Reviewed:

Deficiency Notices:

92-014	92-015	92-016	92-017	93-018
93-001	93-002	93-003	93-004	93-005

DN Issuance Letters:

93-000227	93-000763	93-000958
93-001089	93-001127	

Letter of Delegation for Signature Authority: 91-006080

Corrective Actions Reviewed:

CA-92-001 CA-92-002

Trend Reports Reviewed:

- First Quarter 1992, Issued April 7, 1992
- Second Quarter 1992, Issued July 6, 1992
- Third Quarter 1992, Issued October 2, 1992
- Fourth Quarter 1992, Issued January 4, 1993

Data Base Reviewed:

Deficiency Tracking and Trending Data Base dated 2/11/93

OA PROGRAM ELEMENT 17.0. "QUALITY ASSURANCE RECORDS"

Procedures:

Compliance with the following procedures was reviewed:

- MC-12.0, Revision 1, ICNs 1 & 2, Records Management
- MC-12.1, Revision 1, Records Management for Records Sources
- MC-12.2, Revision 1, Records Management for Records Administrators

Objective Evidence Reviewed:

Memoranda:

Personnel Authorized to Authenticate and Correct YMP QA Records dated 1/22/93
Additional Personnel Authorized to Authenticate Quality Assurance Records in the YMP
Drilling Department dated 1/19/93
Authentication Authorization Memo dated 1/19/93
DOE System 80 Training and Qualification Access List Change dated 4/20/92
DOE System 80 Training and Qualification Access List dated 4/30/92
DOE System 80 Training and Qualification Access List dated 4/29/92
DOE System 80 Training and Qualification Access List dated 3/9/92
DOE System 80 Training and Qualification Access List dated 1/8/92
DOE System 80 Training and Qualification Access List dated 1/7/92
DOE System 80 Training and Qualification Access List dated 1/2/92
DOE System 80 Training and Qualification Access List dated 12/19/91
DOE System 80 Training and Qualification Access List dated 12/17/91
Personnel Authorized to Access DOE System 80 Records dated 6/1/92
Personnel Authorized to Access DOE System 80 Records dated 2/11/92
Access list for Training and Qualification Records dated 2/13/92
Access list for Training and Qualification Records dated 1/14/92
Line of Succession - YMP Division Office dated 5/20/92

QA PROGRAM ELEMENT 18.0. "AUDITS"

Procedures:

Compliance with the following procedures was reviewed:

MC-13.0, Revision 2, ICN 1, Audits
MC-13.1, Revision 0, Auditor Qualifications
MC-13.2, Revision 0, ICNs 1 and 2; Surveillances

Objective Evidence Reviewed:

REEC0-S01-93 Supplier Survey Records Package

FY-93 Internal QA Audit Log dated 2/10/93

Audit Records Packages:

REEC0-008-92 REEC0-011-92 REEC0-012-92
REEC0-001-93 (in process)

Lead Auditor Qualification files:

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

FY-93 Audit Schedule dated 10/15/92

Surveillance Log dated 2/5/93

Surveillance Records Packages:

REECo-SR-009-92	REECo-SR-010-92	REECo-SR-011-92
REECo-SR-013-92	REECo-SR-93-001	

Memoranda:

Glasser to File dated 10/14/92, re: Personnel Authorized to Authenticate QA Records
Glasser to File dated 10/14/92, re: Correction of Records

ATTACHMENT 4

INFORMATION COPIES

OF

CORRECTIVE ACTION REQUESTS

ORIGINAL
THIS IS A RED STAMP

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.		6 CAR NO.: <u>YM-93-033</u> DATE: <u>2/12/93</u> SHEET: <u>1</u> OF <u>2</u> QA
CORRECTIVE ACTION REQUEST		
1 Controlling Document REZCo QAPP		2 Related Report No. Audit YMP-93-06
3 Responsible Organization REZCo		4 Discussed With R. Pritchett & W. Glasser
5 Requirement: Reynolds Electric & Engineering Co. (REZCo), Quality Assurance Program Plan (QAPP), Revision 8, Section V, Paragraph 1.0 states in part: "Activities affecting quality shall be prescribed by and performed in accordance with documented instructions, procedures, plans or drawings, of a type appropriate to the circumstances. These documents shall also include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished."		
6 Adverse Condition: In reviewing REZCo's Physical Standards and Calibration Laboratory (PCL) calibration reports, numerous instances were identified in which; (1) calibrations were not performed in accordance with procedures, and (2) procedures were not revised or new procedures generated when the ones in effect were not appropriate to the work accomplished. EXAMPLES: Procedure MOA-IP-CP-PRESS-1, Revision 2, Paragraph 6.3.3, requires that during calibration the instrument (Pressure Gauge) be checked at seven checkpoints: five increasing pressures at 20, 40, 50, 80 and 100 percent of full scale, and two decreasing pressures at approximately 70 and 30 percent. In review of calibration report dated 1/22/92, for instrument No. Y 10065, it was found that the decreasing pressures were not verified. In addition, in review of calibration report dated 6/3/92, for		
9 Does a significant condition adverse to quality exist? Yes <u>X</u> No ___ If Yes, Circle One: A <u>(B)</u> 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 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) Identify the remedial actions to be taken to correct the deficiencies noted in Block 6. 2) Investigation: a. Review calibration reports to determine like instances and		
7 Initiator: <i>J. S. MARTIN</i> Date <u>2-19-93</u>		14 Issuance Approved by: <i>[Signature]</i> Date <u>2/23/93</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

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

CAR NO.: YM-93-033
DATE: 2/12/93
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QA

CORRECTIVE ACTION REQUEST (Continuation Page)

6 Adverse Condition (continued)

instrument No. Y 10249, it was found that the instrument was not tested to full scale nor was it tested with decreasing pressures.

In reviewing calibration report dated 2/4/91, for PSCL Lab Standard No. 102, (Scanning Digital Thermocouple) it was noted that the calibration was performed in accordance with procedure MQA-IP-CP-TEMP-4, Revision 1. In reviewing the procedure it was found that the procedure did not describe the calibration of the digital thermometer via a volt meter which is required for calibration of the standard referenced.

In addition to the above, numerous deficiencies were noted which indicate an overall lack of attention to detail and are:

Calibration report dated 3/14/92, Instrument No. Y 10106, (Chart Recorder) indicates that PSCL Lab Standard No. 40 was utilized during calibration. In review of documentation, it was found that during the date that the calibration was performed, Standard No. 40 did not have a calibration record to indicate that it had a valid calibration.

Calibration report dated 7/2/92, Instrument No. Y 10320, (Balance) references the incorrect procedure revision. The revision noted is Revision 2, when the revision in effect at the time of calibration was Revision 1.

Calibration report dated 12/14/92, Instrument No. Y 20000, (Three Channel Recorder) indicates within the item description that the instrument has a temperature range of 0-150 degrees Fahrenheit. However, in examination of the calibration information it was found that the instrument was calibrated to 300 degrees Fahrenheit. In addition, the calibration report indicated that the allowable tolerance for the instrument to be +/-5% of the full scale. In examination of the procedure MQA-IP-CP-REC-1, Revision 1, it was found that the procedure called for a tolerance of +/-2% of the full scale.

Calibration report dated 11/12/91, references procedure MQA-IP-CP-TEMP-4, Revision 2. In review of referenced procedure, paragraph 6.3.8 states that calibration stickers would be applied in accordance with MQA-IP-CP-GEN-1, Revision 0, Paragraph 6.6. However, no reference is made within Paragraph 6.6 as to how calibration stickers would be applied.

DISCUSSION:

During the course of the audit REECO issued Memorandum 93-001343, which details actions to be accomplished and documented prior to performing calibrations or releasing instrumentation which has been calibrated to the user organizations. Based upon the issuance of this Memorandum, discussions with REECO and separate discussions with the YMQAD Director, it was determined that a Stop Work Order was not warranted at this time.

13 Recommended Action(s) (continued)

- provide results thereof.
- b. Determine impact and report results (i.e., Is calibration voided since procedures referenced do not describe calibration?)
 - c. Generate NCRs if required and notify users.
 - d. Identify measures to correct these deficiencies.
- 3) Identify Root Cause of the deficiencies.
 - 4) Identify method to preclude recurrence.