

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 YMP-94-02
DECEMBER 6 THROUGH 9, 1993

Prepared by:

Donald J. Harris

Date: 1/6/94

Donald J. Harris
Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by:

Donald G. Horton

Date: 1/13/94

Donald G. Horton
Director
Office of Quality Assurance

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ENCLOSURE

1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Performance Based Audit YMP-94-02, the Audit Team determined that overall, Reynolds Electric and Engineering Company, Inc. (REECo) was satisfactory in meeting the program requirements, management commitments and expectations for the Kiewit/PB Subcontract preparation and award, procurement and processing of commercial-grade items, and corrective action related to the REECo QA Program Plan and implementing procedures for QA Program Elements 4.0, "Procurement Document Control" and 7.0, "Control of Purchased Items and Services."

The performance based evaluation of process effectiveness and product acceptability was based on 1) proper implementation of the procedures' critical process steps; 2) use of trained and qualified personnel working effectively; 3) safety, quality and cost conscious attitudes; 4) documentation that substantiated quality of the products, and 5) acceptable results and the quality of the end products.

The audit was performed based on direct observation of the activities in process, interviews with auditee personnel, and review of pertinent documents for performance based information in the selected designated areas. The auditors analyzed and evaluated the information gained throughout this process in order to make a determination whether or not the performance was satisfactory.

The Audit Team did not identify any deficiencies requiring the issuance of a Corrective Action Request (CAR). Three recommendations resulting from the audit are detailed in Section 6.0 of this report.

2.0 SCOPE

This performance based audit of REECo was an audit which evaluated the effectiveness of selected processes, and the quality of the resultant end products associated with REECo activities performed under QA Program Elements 4.0 and 7.0.

The Audit Team evaluated the effectiveness of the processes in meeting program requirements, management commitments and expectations for the subcontract preparation and award to Kiewit/PB, procurement and processing of commercial-grade rockbolts and accessories and corrective actions related to QA Program Elements 4.0 and 7.0.

Follow-up on previously issued CARs relating to the QA program elements audited was performed. Results of this follow-up are described in Section 5.5.1 of this report.

The QA program elements/requirements evaluated during the audit, in accordance with the published audit plan, are as follows:

QA PROGRAM ELEMENTS/REQUIREMENTS

- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services

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</u>	<u>Areas Evaluated</u>
Donald J. Harris, Audit Team Leader Yucca Mountain Quality Assurance Division (YMQAD)/Quality Assurance Technical Support Services (QATSS)	Kiewit/PB Subcontract preparation and award and corrective action related to QA Program Elements 4.0 and 7.0
Cynthia Humphries, Auditor, YMQAD/QATSS	Rockbolts and Accessories
John S. Martin, Auditor, YMQAD/QATSS	Rockbolts and Accessories
Charles C. Warren, Auditor, YMQAD/QATSS	Kiewit/PB Subcontract preparation and award
Kenneth R. Hooks, Observer U.S. Nuclear Regulatory Commission (NRC)	
Bruce Mabrito, Observer, NRC	
William L. Petrie, Observer, Management and Operating (M&O) Contractor	
Ronald B. Berlien, Observer, M&O	

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The preaudit meeting was held at the REECo office, at the Bank of America Center (BAC) in Las Vegas, Nevada on December 6, 1993. A daily debriefing and coordination meeting was held with the REECo management and staff and daily Audit Team/Observer meetings were held to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at the REECo office at the BAC in Las Vegas, Nevada, on December 9, 1993. Personnel contacted during the audit are listed in Attachment 1 to this report. The list includes an indication of those who attended the preaudit and postaudit meetings.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

The Audit Team concluded that the procurement process and product acceptability was satisfactory based on the evaluation of the procedures' critical process steps; the required qualifications and training of the personnel; safety, quality and cost conscious attitudes of the personnel interviewed; documentation that substantiated the quality of the product, and the acceptability of the end product. Three recommendations were presented to the auditee for consideration and are listed in Section 6.0 of this report.

5.2 Stop Work or Immediate Corrective Actions or Additional Actions

There were no Stop Work Orders nor related documents issued.

5.3 Performance Based Audit Activities

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

5.4 Technical Audit Activities

No technical activities were included within the scope of the audit.

5.5 Summary of Deficiencies

No deficiencies were corrected during the audit or documented on a CAR.

5.5.1 Follow-up of Previously Identified CAR

Corrective action to CAR YM-93-055, which was identified during the previous audit (YMP-93-12) regarding procurement of commercial-grade materials, was verified and the CAR was subsequently closed.

5.5.2 Deficiencies Corrected During the Audit

None

6.0 RECOMMENDATIONS

The following recommendations resulted from the audit and are presented for consideration by REECo Management:

1. It is recommended that REECo personnel in the Logistical Support Department (LSD) be required to receive training on the requirements of the Quality Assurance Requirements and Description (QARD) document, U.S. Department of Energy DOE/RW-0333P, Section 4.0, "Procurement Document Control." This section of the QARD delineates project requirements for procurement document control that are applicable to the activities performed by the logistical support personnel. This training is not required by REECo's QA Program; however, it would provide insight into the upper-tier program requirements.
2. It is recommended that REECo consider revising procedures to indicate that subcontracts may be awarded to suppliers prior to full approval of the suppliers quality program if appropriate restrictions are placed on the supplier in the subcontract. Subcontract 1-YUC-01-2, was issued to Kiewit/PB without the Kiewit/PB quality program being approved for all work to be performed under the subcontract scope of work. Restrictions for performance of work by Kiewit/PB were included in the REECo Approved Suppliers List (ASL) rather than in the subcontract in accordance with REECo's QA Program procedures.
3. It is recommended that REECo revise their Management Control MC-03.0 series of procedures related to procurement to resolve procedural inconsistencies with the System Acquisition and Method (SAM) procedures, and the Standard Operating Procedures (SOPs); and somehow sanction these procedures (i.e., SAMs and SOPs) as being applicable to the Yucca Mountain Site Characterization Project (YMP). The SAMs and SOPs have been approved by DOE as meeting the federal government's Federal Acquisition Regulations (FARs) and Department of Energy Acquisition Regulations (DEARs).

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Audit Details

Attachment 3: Objective Evidence Reviewed During the Audit

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.	REEC Co, MCS, Sr. Eng.		X	
Barker, M.	REEC Co, Training Admin.		X	
Berlien, R.	M&O, Observer	X		X
Buchari, M.	REEC Co, DQC Observer	X		
Constable, J.	REEC Co, QA Specialist II		X	
Diaz, M.	YMQAD, Gen. Eng.			X
Faiss, E.	REEC Co, Princ. Staff Assist.	X		X
Gardella, B.	REEC Co, Control Dept. Mgr.	X		X
Gilray, J.	NRC, On-Site Rep.	X		X
Glasser, W.	REEC Co, PQAM	X	X	X
Gratza, W.	REEC Co, Sr. QA Specialist	X	X	X
Greene, H.	QATSS, QA Div. Mgr.	X		
Hackbert, D.	REEC Co, Sr. QA Specialist	X	X	X
Hannaway, D.	REEC Co, Sr. MCA		X	
Harris, D.	QATSS, Lead Auditor	X		X
Hooks, K.	NRC, Observer	X		X
Humphries, C.	QATSS, Auditor	X		X
Koss, D.	REEC Co, Assist. Div. Mgr.			X
Leonard, T.	REEC Co, Constr. Dept. Mgr.	X		
Limon, K.	REEC Co, IMD Mgr.	X		
Mabrito, B.	NRC, Observer	X		X
Martin, J.	QATSS, Auditor	X		X
Mason,	REEC Co, Drill. Dept. Mgr.	X		
Maudlin, R.	QATSS, Sr. QA Specialist			X
McCracken, M.	REEC Co, Sr. Buyer		X	
McGoldrick, J.	REEC Co, Chief Purch. Agent	X	X	X
Petrie, W.	M&O, Observer	X		X
Pritchett, R.	REEC Co, TPO	X	X	X
Reite, E.	REEC Co, Sr. QA Specialist	X		
Rodgers, T.	QATSS, Audit Lead	X		X
Rommel, R.	REEC Co, Project Eng.			X
Spence, R.	YMQAD, Director			X
Straub, S.	REEC Co, LSD Mgr.	X	X	X
Sunday, R.	REEC Co, Purch. Agent		X	X
Warren, C.	QATSS, Auditor	X		X
Williams, B.	REEC Co, Office Assist. III		X	
Williams, E.	REEC Co, QA Specialist II		X	
Wilson, P.	REEC Co, Sr. QA Specialist	X	X	

ATTACHMENT 1
(Continuation)

Acronyms

DQC = Document Quality Control
IMD = Information Management Department
MCA = Management Control Agent
MCS = Management Control Supervisor
PQAM = Project Quality Assurance Manager
TPO = Technical Project Officer

ATTACHMENT 2

Audit Details

The following is a summary of REECO QA Program activities covered during the audit. Due to the unique aspects of performance based audits in addition to requirements, additional evaluations are made based on Management Objectives (MOs) as performance standards considered necessary to ensure these goals. The following summary reflects incorporation of these objectives as standards. The list of objective evidence reviewed and specific procedures audited is provided in Attachment 3.

PROCUREMENT OF SERVICES FROM KIEWIT/PB UNDER REECO SUBCONTRACT 1-YUC-01-2.

- Determine through the review of the Kiewit/PB contract that scope of work, technical requirements, bases for acceptance and QA requirements, are consistent with the procurement request from the requester. (Procedure Critical Step [PCS])
- Determine through the review that controls were in place to ensure the applicable regulatory requirements, and design bases were included or referenced in the procurement document. (PCS)
- Determine through the review that the contract contains the requirements for: (PCS)
 - The supplier to have a documented QA program based on the scope of the contract.
 - The supplier to pass on the appropriate QA requirements to any subtier.
 - Supplier identification of documents of the purchaser/client that implements requirements applicable to the supplier.
 - Rights of access for inspection or audit by the purchaser, Office of Civilian Radioactive Waste Management (OCRWM) or designee authorized by the purchaser.
 - Provision for establishing hold points.
 - Documents required to be submitted for information, review or acceptance and timeframe for submittal.
 - QA records, retention time, and records disposition requirements.

- Nonconformances and purchasers approval of use-as-is and repair dispositions.
- Review the approved procurement document and determine if it was reviewed by the REECo technical and quality organizations.
- Review the Procurement Document Package and determine if it was classified as quality-affecting (It is Important to Waste Isolation/It is Important to Safety). (PCS)
- Review the Request for Quotation (RFQ) to ascertain if it contained a detailed description (scope) of work reflective of the requesters procurement request and the RFQ was issued to two or more prospective sellers. (MO)
- Verify the Technical Evaluation Team evaluated the RFQ submittals to predetermined criteria and issued a Technical Evaluation Team Report. (MO)
- Verify that controls for procurement of quality-affecting services are adequate to assure that the providers are technically capable of performing the services in accordance with the procurement document requirements. (MO)
- Adequate controls have been applied to the evaluation and approval of quality programs for suppliers of quality-affecting services. (MO)
- Subcontracts for quality-affecting services are awarded only to suppliers with quality programs approved by the REECo QA Manager. (PCS)
- Quality programs of suppliers are approved and the supplier placed on the ASL prior to award of a subcontract. (PCS)
- Subcontract files contain a copy of the REECo QA approved quality manual. (MO)
- Controls for verification of quality-affecting services are adequate to determine compliance with specified requirements. (MO)
- Verify that REECo's implementing procedures/instructions for procurement of services provide adequate controls to meet QA program requirements. (MO)
- Personnel performing quality-affecting work related to procurement of services are appropriately qualified prior to performing work. (PCS)
- Qualification requirement for personnel performing quality-affecting work related to procurement of services are commensurate with personnel duties and responsibilities. (PCS)

- **Training (required reading) by personnel performing quality-affecting activities related to procurement of services was appropriate to the conduct of their work. (PCS)**
- **Was the process used to procure the Kiewit/PB contract considered to be effective? (MO)**
- **Will the Kiewit/PB contract accomplish the desired intent and add quality (i.e. value added) to the program? (MO)**

Results:

Based on review of Subcontract 1-YUC-01-2 (Kiewit/PB) and supporting documentation, review of personnel training and qualification records, and interviews with REECo management, QA and procurement personnel, it was determined that REECo has adequate controls in place to meet program requirements and management commitments which provide for the effective procurement of quality-affecting services. This area is considered to be satisfactory.

ROCK BOLTS AND ACCESSORIES

The evaluation of rockbolts and accessories was based upon interviews with REECo personnel and examination of objective evidence to determine the effectiveness of the process for the procurement of these items. The specific requirements selected for evaluation of program effectiveness are listed below.

- **Determination that controls for the stipulation of QA requirements, technical requirements and design basis requirements are instituted for procurement activities. (MO)**
- **Assessment of whether reviews and approvals of procurement documents were completed prior to the letting of Purchase Orders (POs). (PCS)**
- **Determination that suppliers of quality-affecting items were qualified prior to the letting of the PO or that provisions had been made for material dedication. (PCS)**
- **Assessment of the controls in place for material dedication and conformance to QA requirements, technical requirements, and basis of design documents. (PCS)**
- **Determination that upon receipt of items, adequate controls are in place for receipt inspection and acceptance. In addition, determination that attributes relative to acceptance criteria are in agreement with QA requirements, technical requirements and design basis documents. (MO)**

- Determination that controls were in place for the status of materials relative to their acceptability. (MO)
- Determination of whether measures for the control (i.e., marking and/or labeling) of materials assures traceability to shipments received and receipt inspection documentation. (PCS)
- Determination of the adequacy of the controls in place for qualification and certification of inspection and test personnel. (MO)
- Determination that personnel performing quality-affecting work related to procurement services have an adequate understanding of procedural requirements and that training is current. (MO)
- Determination of the adequacy of handling and storage of materials and that controls are in place for the preservation, handling, storage, cleaning (as required) and shipping. (MO)

Results:

The evaluation of process for the procurement of rockbolts and accessories was based upon; REECo personnel interviews, review of procedural critical steps, and evaluation of objective evidence. This included drawings, specifications, Field Change Requests (FCRs), PO's receipt inspection documentation, material dedication test reports, audit/survey report, vendor catalog, Nonconformance Reports (NCRs), and deficiencies documentation.

Based upon the above, it was determined that REECo has adequate controls in place to meet program requirements and management commitments which provide for the effective procurement of quality-affecting hardware with satisfactory results from this audit.

CORRECTIVE ACTIONS RELATED TO QA PROGRAM ELEMENTS 4.0 AND 7.0:

- Perform a detailed analysis of existing and former problems identified during the previous 12 months for problems associated with QA Program Elements 4.0 and 7.0. Document the selected documents evaluated, and the associated problem and the identified cause. Consider the following documents: (MO)
 - CARs
 - NCRs
 - Management Assessments
 - Monthly Reports
 - Trend Program
- Based on the results of the above checklist question, determine if the CAR and NCR remedial action was appropriate; and for those requiring action to preclude recurrence, was the proposed action appropriate to resolve future problems? (MO)

- **Have management assessments identified problems in QA Program Elements 4.0 and 7.0, and if so, has the problem been resolved promptly and completely? (MO)**
- **Has a trend program been established and does the trend program reports reflect the CAR and NCR generated in the area of interest? (MO)**
- **Did the responsible organization follow up corrective actions in an aggressive manner, and did they interface with the quality verification organization in developing their proposed corrective actions? (MO)**
- **Have corrective actions remained open for an excessive amount of time based on what would be expected for resolution of the identified problem? (MO)**
- **Were requests for extensions repeatedly requested for deficiency documents requiring corrective action, and if so, was documented justification furnished? (MO)**
- **Is the Trend Report distributed to the appropriate managers identified on the REECo YMP organization chart?**
- **Is REECo management system for tracking deficiencies updated to reflect current status and is the Tracking System Report distributed to the organizations responsible for the corrective action? (MO)**
- **Interview the REECo management personnel that are related to problems associated with procurement and control of purchased items and services, and determine based on the interviews if: (MO)**
 - **Communications and cooperation between the functional disciplines, line management, and the verification organization was adequate and responsive to each others needs.**
 - **The responsible managers' reviews the Deficiency Reports and provide direction for the resolution of the deficiency, or do they leave the resolution to their staff?**
 - **The responsible managers review both the internal and external audit reports and management assessments, and consider incorporation of the recommendations?**
 - **The responsible management reviews the Deficiency Tracking System Report and monitor it for status of their organization's corrective action responsibilities? Do the managers have the report readily available?**

- There was mechanism to escalate problems to upper management? If so, identify the process or procedure.

The Audit Team has determined that REECo was effective in implementing their Corrective Action Program which resulted in overall consistently acceptable results. The deficiency documents were appropriately dispositioned, and the remedial and corrective actions to prevent recurrence were determined to be satisfactory with closure of the document within the MO timeframe. In one instance, it appears that the corrective action to prevent recurrence for Deficiency Notice DN-93-002 was not effective in resolving procedural inconsistency, as evidenced by REECo's issuance of DN-94-003 for similar procedural inconsistencies identified in Audit/Survey REECo-001-94.

Overall, the Corrective Action Program for problems associated with QA Program Elements 4.0 and 7.0 is considered to be satisfactory.

ATTACHMENT 3

Objective Evidence Reviewed During the Audit

Requirement Document:

DOE/RW-0214, Revision 4, Interim Change Notices (ICNs) 4.1 and 4.2, "Quality Assurance Requirements Document"

**PROCUREMENT OF SERVICES FROM PETER KIEWIT/PB UNDER REECO
SUBCONTRACT 1-YUC-01-2**

Procedures Evaluated During The Audit:

Compliance with the critical process steps of the following procedures was evaluated:

MC-02.0, Revision 2, "Quality Assurance Program"
MC-02.4, Revision 0, "Training and Qualification"
MC-02.4.1, Revision 3, "YMP Indoctrination and Training"
MC-02.4.2, Revision 0, "Personnel Qualification and Certification"
MC-02.4.3, Revision 1, "Required Reading"
MC-03.0, Revision 1, "Procurement"
MC-03.1, Revision 1, ICN 1, "Purchase Requisition and Purchase Order Processing"
MC-03.2, Revision 1, "Source Selection and Evaluation"
MC-03.2.1, Revision 0, "Supplier Quality Approval"
MC-03.3, Revision 3, ICN 1, "Source Verification"
MC-03.4, Revision 0, ICN 1, "Subcontracts"

Objective Evidence Reviewed:

Subcontract 1-YUC-01-2, approved 8/9/93 by REECO's General Manager D. L. Fraser

Request for Proposal RFP 1-DH-92 issued 3/30/92

Amendment I, dated 5/14/92

Amendment II, dated 6/16/92

Amendment III, dated 6/19/92

Amendment IV, dated 7/2/92

Amendment V, dated 7/7/92

Letter, Request for Subcontract, dated 1/31/92, signed by T. M. Leonard, Construction Department Manager

Purchase Requisition, Request for Subcontract (quality-affecting), dated 2/3/93, requester T. M. Leonard

Subcontract 1-YUC-01-2, Special Clauses 02, 06, 07, 09, 15, 31, and 44

Subcontract 1-YUC-01-2, Modification II (designates subcontract as quality-affecting)

Letter from R. Sunday, Subcontract Administrator, to T. M. Leonard and W. J. Glasser, dated 11/30/93, reflects approval of the subcontract from the technical and QA organizations

Letter to D. L. Fraser, General Manager REECo, from W. J. White, Acting Assistant Manager for Administration (DOE), dated 3/30/92, authorizes release of RFP 1-DH-92

Source Evaluation Board Report for RFP 1-DH-92, dated 12/21/92

Source Selection Plan (predetermined criteria) for source evaluation and selection, approved by D. L. Fraser (no date)

Source Evaluation Board Handbook DOE/MA 0154

Kiewit/PB Quality Assurance Program Work Plan, dated 8/24/93

Letter, Subject: Acceptance of Kiewit/PB Quality Assurance Program Work Plan, dated 8/24/93 was accepted by W. J. Glasser, dated 9/9/93

REECo ASL, Issue 93-3, Approved 4/12/93

Letter to R. F. Pritchett (REECo) from L. deStwolinski (Kiewit/PB), dated 12/1/93 submitting Phase 2 QA Implementing Procedures

Drafts of the Kiewit/PB QA Implementing Procedures:

MCP-4.0, Revision 0, "Procurement Document control"
MCP-10.0, Revision 0, "Inspection Planning Control"
MCP-15.0, Revision 0, "Control of Nonconforming Items"
MCP-18.0, Revision 0, "Audits"

YMP Qualification Records for the following personnel:

W. J. Glasser, dated 6/20/91
W. J. Gratza, dated 6/25/91
J. P. McGoldrick, dated 7/1/91
S. O. Straub, dated 6/20/91
R. D. Sunday, dated 11/9/92

Position Descriptions for the following personnel:

W. J. Glasser, QA Manager, dated 12/12/90
W. J. Gratza, Sr. QA Specialist, dated 10/1/89
J. P. McGoldrick, Chief Purchasing Agent, dated 10/1/89
S. O. Straub, LSD Manager, dated 10/1/89
R. D. Sunday, Purchasing Agent, dated 5/18/93

YMP Education and Experience Verification records for the following personnel:

W. J. Glasser, dated 6/18/91
W. J. Gratza, dated 6/21/91
R. D. Sunday, dated 11/5/92

YMP Training Requirements Forms for the following personnel:

W. J. Glasser, dated 5/31/91
W. J. Gratza, dated 7/23/91
J. P. McGoldrick, dated 6/7/91
S. O. Straub, dated 6/14/91
R. D. Sunday, dated 10/26/92

Deficiency Notices:

REEC0 DN-94-006
REEC0 DN 94-003

Letter to T. M. Leonard, Construction Department/W. J. Glasser QA Department obtains approval for the Subcontract Technical and Quality Assurance Reviews, from R. Sunday, Contract Administrator, dated 11/30/93

ROCKBOLTS AND ACCESSORIES

Procedures Evaluated During The Audit:

Compliance with the critical process steps of the following procedures were evaluated:

MC-02.4, Revision 0, "Training and Qualification"
MC-02.4.2, Revision 0, "Personnel Qualification and Certification"
MC-03.0, Revision 1, "Procurement"
MC-03.1, Revision 1, ICN 1, "Purchase Requisition and Purchase Order Processing"
MC-03.2, Revision 1, "Source Selection and Evaluation"
MC-03.4, Revision 0, ICN 1, "Subcontracts"
MC-04.0, Revision 1, "Material Control"
MC-04.1, Revision 1, "Material Receiving"

MC-04.2, Revision 1, "Receipt Inspection"
MC-04.3, Revision 1, "Handling, Storage and Shipping"
MC-04.5, Revision 1, "Material Identification"
MC-09.0, Revision 3, "Inspection Program"
MC-09.1, Revision 3, "Inspection Planning and Performance"
MC-09.2, Revision 1, "Training, Qualification, and Certification of Inspection Personnel"

Objective Evidence Examined:

Purchase Orders:

00037-YP-013, dated 2/10/93
1-QYP-01-3, dated 5/28/93
1-QYP-01-3, modification dated 6/3/93

Nonconformance Reports:

NCRs 93-027 and 93-057

Specifications:

YMP-025-1-SP09, Revision 1, Section 2165, "Rock Bolts and Accessories"
YMP-025-1-SP09, Revision 2, Section 2165, "Rock Bolts and Accessories"
YMP-025-1-SP09, Revision 0, Section 2165, "Rock Bolts and Accessories"
American Society for Testing and Materials ASTM F 432-91, "Standard Specification for Roof and Rock Bolts and Accessories"

Drawings:

YMP-025-1-MING-MG142, Revision 2
YMP-025-1-MING-MG143, Revision 2

Field Change Requests:

FCRs 93/512, 93/320, and 94/010

QA Audit/Survey Report:

Audit/Survey Report REEC0-001-94

Deficiency Documentation:

OCRWM CAR YM-93-055
REEC0 DN-94-003, -004, -005 and -006

Receipt Inspection Reports, Technical Inspection Reports (TIRs)

TIR-Y585-93-039 (PO 1-QYP-01-3) for the following items:

1-1/8" x 8' Rockbolts
1-1/8" Couplings
1/4" x 6" x 6" Bearing Plates
1/2" x 8" x 8" Bearing Plates
1-1/8" diameter Heavy Duty Hex Nut
Beveled Washers for 1-1/8" Rockbolt
Flat Washers for 1-1/8" Rockbolt

TIR-Y586-93-005 supplement to TIR-Y585-93-039 (PO 1-QYP-01-3) for the following items:

1-1/8" x 8' Rockbolts
1-1/8" Couplings
1/4" x 6" x 6" Bearing Plates
1/2" x 8" x 8" Bearing Plates
1-1/8" diameter Heavy Duty Hex Nut

The following TIRs are supplemental to TIR-Y585-93-003 for PO 00037-YP-01-3:

TIR-Y586-93-004(A), 7/8" x 10' solid core rockbolts
TIR-Y586-93-004(B), 1/4" x 6" x 6" bearing plate with beveled hole
TIR-Y586-93-004(C), 7/8" diameter heavy duty hex nut
TIR-Y586-93-004(D), Hardened structural washer for 7/8" rockbolt
TIR-Y586-93-004(E), Hemispherical washer for 7/8" rockbolt

The following material test laboratory reports from Raytheon Services Nevada (RSN) were examined for PO 1-QYP-01-3:

1-1/8" x 8' Rockbolts
1-1/8" couplings
1/4" x 6" x 6" bearing plates
1/2" x 8" x 8" bearing pates
1-1/8" diameter heavy duty hex nut

The following material test laboratory reports from RSN were examined for PO 00037-YP-01-3:

7/8" x 10' solid core rockbolts
1/4" x 6" x 6" bearing plate with beveled hole
7/8" diameter heavy duty hex nut
Hardened structural washer for 7/8" rockbolt
Hemispherical washer for 7/8" rockbolt

Vendor Catalog

Williams Form Engineering Co. Inc. Products Catalog

Training Files

The following training files were reviewed for adequacy and current certification:

Juan Constable
Evert Mouser
Diane Hannaway
Val Sorenson

The following training files were reviewed for current Receipt Inspector certification:

Juan Constable
Evert Mouser

CORRECTIVE ACTIONS RELATED TO QA PROGRAM ELEMENTS 4.0,
PROCUREMENT DOCUMENT CONTROL AND 7.0, CONTROL OF PURCHASED
ITEMS AND SERVICES

Procedures Evaluated During the Audit:

Compliance with the critical process steps of the following procedures were evaluated:

MC-02.5, Revision 0, "Management Agreement"
MC-11.1, Revision 2, "Deficiency Notices"
MC-11.2, Revision 2, "Nonconformance Control"
MC-11.3, Revision 1, "Corrective Action"
MC-11.4, Revision 1, "Trending"

Objective Evidence Examined:

CA 93-004
CAR YM-93-055
DN-93-002
DN-93-010
DN-94-003
DN-94-004
DN-94-005
DN-94-006

1993 Management Assessment, dated 11/30/93 from Glasser to Straub - No recommendations in the area of QA Program Elements 4.0 and 7.0

1993 Third Calendar Quarter Trend Evaluation Report and cover letter, W. J. Glasser to Distribution, dated October 4, 1993, reflects three deficiencies in QA Program Element 4.0 in 1993. None in previous years 92 and 91

Quality Program Status Report, REECo YMP, to distribution, R. Spence and YMP REECo Management for 10/4/93 and 7/9/93

The following NCRs were reviewed:

NCR-93-001, Chain Link Fence Fabric, issued 1/28/93, closed 4/4/93
NCR-93-002, Rockbolt Plates, issued 2/10/93, closed 4/7/93
NCR-93-003, Incorrect nuts for rockbolts, issued 3/3/93, closed 5/4/93
NCR-93-004, Welded wire fabric has broken welds, issued 4/15/93, closed 6/10/93
NCR-93-005, Bolts received without certification, issued 5/5/93, closed 5/14/93
NCR-93-006, Skid-Mounted Chemical Tracer Injection System, issued 5/3/93,
closed 7/7/93

Third Quarter 1993 Trend Report dated 10/4/92, distributed to all YMP REECo Managers

Deficiency Document Open Item Status Report - cover letters dated 11/29/93, 11/12/93, 10/4/93, 9/20/93 and 8/13/93 from W. J. Glasser to all YMP REECo Managers