

U.S. DEPARTMENT OF ENERGY  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
OFFICE OF QUALITY ASSURANCE  
AUDIT REPORT  
FOR AUDIT OF  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
LAS VEGAS, NEVADA  
AUDIT NO. YMP-92-15  
MAY 4 THROUGH 7, 1992

PRIMARY ACTIVITIES EVALUATED:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action

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Approved by: Donald G. Horton Date: 5/29/92  
Donald G. Horton  
Director  
Office of Quality Assurance

## EXECUTIVE SUMMARY

This report contains the results of the the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Audit YMP-92-15 of the Yucca Mountain Site Characterization Project Office (YMPO) that was conducted in Las Vegas, Nevada, on May 4 through 7, 1992. This limited scope internal audit, by a team of auditors from the Yucca Mountain Quality Assurance Division of the Office of Quality Assurance, evaluated implementation of six of the 20 Quality Assurance (QA) Program elements described in the OCRWM Quality Assurance Program Description Document (QAPD), DOE/RW-0215, Revision 3, including Interim Change Notice 3.1. This was done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements. The six elements evaluated were:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action

Overall, for the QA Program elements audited, YMPO implementation of the OCRWM QAPD and implementing procedures is effective. Three of the six QA Program elements audited (QA Program elements 1.0, 2.0, and 16.0) are being implemented satisfactorily, and the effectiveness of implementation of QA Program elements 4.0, 7.0, and 15.0 could not be determined due to lack of activity.

There was either no implementation or insufficient implementation to determine effectiveness of six procedures, Administrative Procedure (AP)-4.1Q, Quality Management Procedure (QMP)-04-02, QMP-04-03, QMP-07-04, QMP-15-01, and Quality Assurance Administrative Procedure (QAAP) 2.6

The audit team identified one deficiency during the audit. This deficiency, which dealt with lack of objective evidence that proper training had been completed, was determined to be isolated and it was corrected during the audit.

Follow-up verification regarding Corrective Action Request (CAR) YM-92-007, which dealt with unsatisfactory Procurement Document Control, indicates that the remedial and preventative actions taken to date are satisfactory, and this CAR can be closed after successful verification that QMP-04-03 has been effectively implemented.

One of several areas/activities within the YMPO that the audit team considered a strength worthy of note, was the continued use of the process used during the audit whereby the audited organization tracked areas where improvement may be needed based on the outcome of interviews with auditors. Implementation of this process resulted in timely and effective action to prevent potential deficiencies, and resulted in an improved QA program.

During the audit, several areas were identified within the YMPO organization where there were opportunities for improvements. These areas were identification of organizational responsibility within procedures and clarification of training assignments. See Section 7 of the Audit Report for details.

## 1.0 INTRODUCTION

This report contains the results of the the DOE OCRWM Audit YMP-92-15 of the YMPO conducted in Las Vegas, Nevada on May 4 through 7, 1992. This audit was performed in accordance with the approved Audit Plan (Reference: Correspondence YMQAD:JB-5775, dated April 2, 1992).

## 2.0 AUDIT SCOPE

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

In addition to follow-up on open CARs, a representative sample of discrepancies and recommendations identified during previous QA audits and surveillances of YMPO was included in the scope of this audit to determine the effectiveness of YMPO corrective actions.

YMPO activities associated with the following QA Program elements were audited:

### Program Elements

- 1.0 Organization
- 2.0 Quality Assurance Program
- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action

The following QA Program element was not audited since YMPO has no activities to which this element applies; this function is performed by OCRWM YMQAD:

- 18.0 Audits

Although the scope of the Audit Plan indicated that QA Program element 11.0, Test Control, would be audited, the audit did not cover this element since all YMPO test control activities are covered in QA Program elements 3 and 20, within the QAPD.

No YMQAD activities nor technical activities were audited. YMQAD activities are covered by a separate OQA internal audit and technical activities are covered by OQA audits of Participants and other affected organizations.

### 3.0 AUDIT TEAM AND OBSERVERS

The list of audit team members and observers can be found in Enclosure 1.

### 4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The pre-audit conference was held at YMPO facilities in Las Vegas, Nevada, on May 4, 1992. Daily coordination meetings were held with YMPO management and staff, and daily audit team/observer meetings were held to discuss issues and potential deficiencies. The audit was concluded with a post-audit conference held at YMPO facilities in Las Vegas, Nevada, on May 7, 1992. A list of auditors, observers, and personnel contacted during the audit is included in Enclosure 2. The list includes an indication of those who attended the pre- and post-audit conferences.

### 5.0 SUMMARY OF AUDIT RESULTS

#### 5.1 Program Effectiveness

Overall, for the QA Program elements audited, YMPO implementation of the OCRWM QAPD and implementing procedures is effective. Three of the six QA Program elements audited, QA Program elements 1.0 "Organization," 2.0 "QA Program," and 16.0 "Corrective Action," are being implemented satisfactorily. The effectiveness of implementation of QA Program elements 4.0, "Procurement Document Control," 7.0, "Control of Purchased Items and Services," and 15.0, "Control of Nonconforming Items," could not be determined due to lack of activity.

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

**AP-4.1Q, Procurement**

**QMP-04-02, YMPO Procurement Actions**

**QMP-04-03, Technical Directives**

**QMP-07-04, Supplier Evaluation/Qualified Suppliers List**

**QMP-15-01, Control of Nonconformances**

**QAAP 2.6, Readiness Reviews**

Follow-up verification regarding CAR YM-92-007, which dealt with unsatisfactory procurement document control, indicates that the remedial and preventative actions taken to date are satisfactory and this CAR can be closed after successful verification that QMP-04-03 has been effectively implemented.

There were several areas/activities within YMPO that the audit team considered a strength worthy of note and these areas will be discussed in this audit report. Some noted areas of strength are:

1. CAR tracking, reminder, and coordination activities were excellent.
2. The continued use of the process during the audit whereby the audited organization tracked areas where improvement may be needed based on the outcome of interviews with auditors. Implementation of this process resulted in timely and effective action to prevent potential deficiencies and resulted in an improved QA program.
3. The exemplary support of the Science Applications International Corporation (SAIC) QA personnel who provided QA Program consultation, and the DOE/SAIC Training personnel who provided training program consultation during the audit.
4. Although the one deficiency identified during this audit was determined to be isolated, YMPO management decided to process procedural changes in the area of organization, training and procurement to strengthen the procedures and lessen the possibility of recurrence.
5. The accessibility and cooperation of YMPO management and staff.

**5.2 Programmatic Audit Activities**

Details of programmatic audit activities can be found in Enclosure 3.

### 5.3 Summary of Deficiencies

The audit team identified 1 deficiency during the audit and it was resolved prior to the post-audit conference. A synopsis of the deficiency corrected during the audit is presented in Section 6.0 of this report.

## 6.0 SYNOPSIS OF DEFICIENCIES

### 6.1 Corrective Action Requests

No CARs were issued.

### 6.2 Deficiencies Corrected During the Audit

Deficiencies which are considered isolated in nature and only require remedial action, can be corrected during the audit. The following deficiency was identified and corrected during the audit:

1. QMP-02-01, Revision 5, Step 21, requires that the supervisor monitor the performance of employees involved in activities affecting quality and determine the need for additional training. If needed, the Supervisor will assign training to the employee to adapt to changes in technology, methods, or job responsibilities. QMP-02-01, Revision 5, Step 15, indicates an employee must have documented evidence of training to the applicable document governing the work performed, prior to performing quality- affecting activities.

Contrary to the above, no documented evidence could be found that an employee (a Technical and Management Support Services (T&MSS) Consultant) involved in processing the results of Technical Assessments had been trained to QMP-02-08, Technical Assessment. Investigation during the audit revealed that, out of 43 individuals checked including three other consultants, this was the only case of missing documentation. A letter signed by the individual, that attested to the fact that the employee had read QMP-02-08 prior to the work being performed, was placed in the training files of the individual.

This letter also included a statement signed by the organization's secretary, indicating the original record had been sent to Training. In addition, the work performed by this individual was reviewed extensively in a YMQAD Surveillance, YMP-SR-92-002, and found to be satisfactory.

## 7.0 RECOMMENDATIONS

During the audit, several areas were identified within the YMPO organization where there were opportunities for improvements. The following recommendations are offered for YMPO management consideration:

1. Although a review of job position descriptions did not reveal any deficiencies, it was noted that some procedures identify job tasks as being the responsibility of an individual that has a functional title such as Technical Data Manager, Technical Data Base Administrator, or Regulatory Interactions Branch Administrator. The relationship of these functional titles within the YMPO organization is not always readily apparent and it is not clear what basis, if any, was used for selection of the individuals named to accomplish these tasks. YMPO management should review all procedures to identify all instances whereby job task functional titles exist; determine if the procedure is clear regarding the organizational relationship of the job task functional title; and, evaluate whether or not a basis of selection of individuals to perform the job task is needed.
2. When procedures are revised by an Interim Change Notice (ICN) or revision, the Responsible Director is supposed to recommend training, and obtain the training organization's indication of the number of days required to complete training. The training organization then issues a notice to all affected supervisors that the procedure has been changed. This notice reflects the training recommendation of the Responsible Director, includes a listing of those personnel who have been baselined to the procedure, and indicates that the supervisor may, if he or she wishes, require training even if the recommendation of the Responsible Director is that "no training is required."

In some instances, this has led to confusion regarding training (reading) assignments. In those instances where the recommendation is "no training is required," even employees who are baselined to the procedure will receive no training assignment unless his or her supervisor takes action to notify training that training is needed. YMPO management should review this process and determine if there are ways to clarify the process such that everyone understands how training by reading assignment works. One way might be to conduct a mandatory training session for all employees that would explain how the process works, and appraise them of their responsibilities regarding baseline training. In addition, the procedures governing approval and issuance of procedures and assignment of training, could be revised to clarify the process.

## 8.0 LIST OF ENCLOSURES

- Enclosure 1: Audit Team Members and Observers
- Enclosure 2: Personnel Contacted During the Audit
- Enclosure 3: Audit Details
- Enclosure 4: Objective Evidence Reviewed During the Audit

ENCLOSURE 1

AUDIT TEAM AND OBSERVERS

AUDIT TEAM

<u>Name</u>	<u>QA Program Element/Area Assignment</u>
Richard E. Powe	1, Audit Team Leader
Sandra D. Bates	2, Training
Anthony E. Cocoros	2 (See Supplemental Assignment Notes), 15, & 16
Neil D. Cox	2 (See Supplemental Assignment Notes)
Robert H. Klemens	4, 7, and CAR YMP-92-007 follow-up

Supplemental Assignment Notes

Neil D. Cox:

1. Readiness Review, QAAP 2.6
2. Technical Assessment Review, QMP-02-08

Anthony E. Cocoros:

1. Quality Assurance Grading, AP-5.28Q
2. Determination of Importance of Items and Activities, AP-6.17Q
3. Quality Review Board (QRB), Branch Technical Procedure (BTP)-QRB-001

OBSERVERS

John W. Gilray, Nuclear Regulatory Commission (NRC)

ENCLOSURE 2

PERSONNEL CONTACTED DURING THE AUDIT

<u>Name</u>	<u>Organization</u>	<u>Title</u>	<u>Contacted</u>		
			<u>Pre-Audit</u>	<u>During Audit</u>	<u>Post-Audit</u>
Barton, R. V.	DOE/YMP	Asst. Deputy Manager	X	X	X
Sandra D. Bates	SAIC/YMQAD	QA Auditor	X	X	X
Blanchard, M. B.	DOE/YMP	Deputy Project Manager	X	X	X
Carruth, S.	TRW/M&O	LRC		X	
Chadwick, P. A.	SAIC/T&MSS	Training Div. Director		X	
Chaffin, N.	RSN	Micrographics Operator	X		
Chandler, D. K.	SAIC/T&MSS	Deputy Project Manager	X		
Clanton, U. S.	DOE/YMP	Chief, SIB	X	X	
Paul L. Cloke	SAIC/T&MSS	Supervisor, Sci. Inv.		X	
Cocoros, A. E.	SAIC/YMQAD	Auditor	X	X	X
Neil D. Cox	SAIC/YMQAD	QA Auditor	X	X	X
Cruz, B. G.	TRW/M&O	Project Integ. CM/CCB	X		
Stephen R. Dana	SAIC/YMQAD	Audit Team Leader	X	X	X
John L. Day	LANL/LATA	QA Verification Coordinator	X	X	X
Dixon, W. R.	DOE/YMP	Director, POCD	X		
Steve Donahue	LANL	Software Config.Mgr.		X	
Dyer, J. R.	DOE/YMP	Director, RSED	X	X	
Estella, J. W.	SAIC/T&MSS	QA Staff Advisor	X	X	X
Ferguson, J. E.	RSN	Records Manager		X	
Foley, M. I.	SAIC/T&MSS	Senior Staff	X	X	
Gertz, C. P.	DOE/YMP	Project Manager	X		
Gil, A. V.	DOE/YMP	RIB Physical Scientist		X	
Gilray, J.	NRC	Observer	X	X	
Girdley, A.	DOE/YMP	SIB Physical Scientist		X	
Grassmeier, K. F.	DOE/YMP	Chief, OCB	X		
Harper, J. B.	SAIC/T&MSS	Project Management	X	X	X
Harrison-Giesler, D.J.	DOE/YMP	Chief, FEB	X	X	
Helms, R. G.	SAIC/T&MSS	Project Management	X	X	X
Helton, D. L.	DOE/YMP	Information Management	X		
Horton, D. G.	DOE/OQA	Director, OQA		X	
Jacobson, J.	SAIC/T&MSS	CRF Supervisor		X	
Jiu, R.	TRW/M&O	Engineer Scientist			X
Jones, S.	DOE/YMP	Chief, RIB	X	X	
Klemens, R. H.	SAIC/YMQAD	Auditor	X	X	X
Kozai, W.	DOE/YMP	PCB Staff	X		X
McCarthy, R. A.	SAIC/T&MSS	Training Manager	X	X	X
Mikkelson, D.	TRW/M&O	CM Specialist			X
Newbury, C. M.	DOE/YMP	TAB Physical Scientist		X	
Petrie, T.	DOE/YMP	Chief, ESB		X	
Phillips, G.	DOE/YMP	Contracts Specialist	X	X	X

<u>Name</u>	<u>Organization</u>	<u>Title</u>	<u>Contacted</u>		
			<u>Pre-Audit</u>	<u>During Audit</u>	<u>Post-Audit</u>
Powe, R. E.	SAIC/YMQAD	Audit Team Leader	X	X	X
Rehkop, E. C.	DOE/YMP	Training Officer	X	X	X
Rixford, C.	TRW/M&O	LRC Supervisor		X	
Roberts, P.	TRW/M&O	Records Analyst	X	X	
Royer, D.	DOE/YMP	Chief, SB (Acting)	X	X	
Royer, K. L.	SAIC/T&MSS	QRB Adm. Assistant	X	X	
Simecka, W. B.	DOE/YMP	Director, EDD	X	X	
Spence, R. E.	DOE/YMQAD	Director, YMQAD	X	X	
Sullivan, J. T.	DOE/YMP	Physical Scientist		X	
Thomure, D.	REECo	Records Mgmt. Supervisor		X	
Verna, B. J.	SAIC/T&MSS	EDD Staff	X	X	X
Wheeler, S. T.	TRW/M&O	Records Mgmt. Liaison	X	X	X
Wilson, W. A.	DOE/YMP	Site Manager	X		
Zimmerman, J.	TRW/M&O	Plans & Proc. Manager	X		X

ACRONYMS:

- CRF - Central Records File
- EDD - Engineering and Development Division
- ESB - Exploratory Studies Branch, EDD
- FEB - Field Engineering Branch, EDD
- LRC - Local Records Center
- OCB - Operations Control Branch, POCD
- OQA - Office of Quality Assurance, OCRWM
- PCB - Project Control Branch, POCD
- POCD - Project and Operations Division
- QRB - Quality Review Board
- RIB - Regulatory Interactions Branch, RSED
- RSED - Regulatory and Site Evaluation Division
- SB - Systems Branch, EDD
- SIB - Site Investigations Branch, RSED
- TAB - Technical Analysis Branch, RSED
- YMQAD- Yucca Mountain Quality Assurance Division

ENCLOSURE 3

AUDIT DETAILS

The following is a summary of the QA Program elements and activities covered during the audit. A list of objective evidence reviewed during this audit is shown in Enclosure 4. The full document identification number, revision status, and title for documents referenced below can be found in Enclosure 4.

1. Element 1.0 "Organization"

The evaluation of the QA Program element, "Organization," was conducted to determine compliance to Section 1 of the OCRWM QAPD, DOE/RW-0215, and YMPO QMP-01-01. The evaluation included questioning key DOE personnel assigned to the YMPO to determine their degree of understanding of the organizational structure, lines of communication, authority, duties, and responsibilities. It was found that personnel had a clear understanding of both the requirements for the DOE YMPO organization, and how those requirements are being implemented. The following DOE personnel were interviewed: Two Division Directors and six Branch Chiefs.

In addition, a review was performed of 11 quality-affecting APs and other QMPs to verify that positions and titles were consistent with those utilized in Section 1 of the QAPD and QMP-01-01. The results of this review provided evidence of compliance. The following procedures were reviewed:

APs:	1.18Q	3.5Q	5.1Q
	5.2Q	5.3Q	5.32Q
	6.4Q		

QMPs:	02-01	02-08
	04-03	07-04

Several job tasks within procedures were identified as being the responsibility of an individual with a title, such as Technical Data Manager. In some instances, it was not clear which Branch or Organization had responsibility. For example, according to the Technical Data Management Plan the Regulatory and Site Evaluation Division (RSED) Director is responsible for designating the Technical Data Manager; however, the procedure, AP-3.1Q, did not tell who was responsible for designating the Technical Data

Manager. In each case, letters were found designating who had been assigned the title. Follow-up investigation revealed that the job position description of the individual assigned included the fact that the individual had been assigned the task described. A recommendation regarding this situation can be found in Section 7.0 of this audit report.

Evaluation of the procedure for "Stop Work," QAAP 16.2, was also included within QA Program element 1.0. There have been no Stop Work Orders issued since the last audit of the YMPO; however, personnel interviewed were cognizant of procedural requirements.

A detailed description of the attributes checked are included in the following QMP-01-01, paragraphs: 3.0, 4.5, 4.5.1, 4.5.2, 4.5.3, 4.6, 4.6.1, 4.6.2, 4.6.3, and Attachment 1.

As a result of this audit, ICN 2 to QMP-01-01, Revision 3, was generated to clarify use of the proper Glossary.

2. Element 2.0 "Quality Assurance Program"

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

- a. Readiness Review - The documentation package for the one Readiness Review conducted since the last audit of this program element was being compiled for submittal to the Local Records Center (LRC). Therefore, the package is not a completed record and no audit of this activity was conducted. There was not enough activity to determine satisfactory implementation of QAAP 6.2.
- b. Technical Assessment Review - Two Technical Assessment Review (TAR) data packages had been submitted to the LRC during the period since the last audit.

One of these, TAR No. YMP/90-2, "Geologic and Geographic Evidence Pertaining to Structural Geology in the Vicinity of the Proposed Exploratory Shaft, Yucca Mountain, Nevada," was a subject of a surveillance, YMP-SR-92-002 (February 28, 1992). The surveillance found the implementation to be in compliance with the approved procedure. However, during this audit, objective evidence of QMP-02-08 training of the compiler of the data package could not be found. This deficiency was corrected during the audit (See Section 6 of the Audit Report for details). Although this deficiency was corrected during the audit, YMPO and SAIC/T&MSS management took the following steps to strengthen the program:

- o Processed changes to QMP-01-01, Standard Procedure (SP)-1.28 and SP-1.42 to establish clarification of training requirements and provide the Training organization with information regarding the assignment of work to contractors and consultants. (Note: SPs are not part of YMPO's procedures, they apply to work performed by SAIC.)
- o Processed a message to all SAIC/T&MSS supervisors regarding the need to review baseline training requirements, especially for consultants.

The other data package was "Technical Assessment Review of Project Requirements Documents," which was logged into the LRC on January 29, 1992. This package consisted of over 11,000 pages. Many minor deficiencies were observed in the Review Comment Record Sheets; however, the Review Chairperson and his supervisor attested in a signed statement that "Any illegible, uncorrected, or incomplete information does not impact future, in-process, or completed work." The auditor found nothing to contradict this statement. All comments were resolved. Therefore, the implementation of QMP-02-08 is considered satisfactory.

- c. Determination of the Importance of Items and Activities - The evaluation of this element was conducted by reviewing objective evidence and dialogue with YMP-assigned personnel, relative to the applicable QA requirements documents.

The implementation of AP-6.17Q, Revision 0, and ICN Nos. 1, 2, and 3, "Determination of the Importance of Items and Activities," was evaluated by verifying procedural requirements and establishing that:

- o The Assessment Team (AT) Manager has issued a current document appointing the required AT Leaders.
- o The AT Controlled List is current.
- o The Q-List and Quality Activity List (QAL) were compiled using the required format and contain references supporting basic information for each item and activity, and a statement indicating if they were placed on the list by Direct Inclusion.
- o The Project Requirement List was compiled using the required format.

- o The items or activities were placed by Direct Inclusion on their respective lists using the proper methods and are approved by the QRB.

The review of the above requirements revealed that the implementation of AP-6.17Q was satisfactory.

- d. Quality Assurance Grading and Quality Review Board - The implementation of AP-2.8Q, Revision 2, and ICN No. 1, "Quality Assurance Grading," and BTP-QRB-001, "Branch Technical Procedure: Quality Review Board" was evaluated by verifying the following:
  - o The QRB consisted of the required personnel.
  - o The training requirements for QRB members and Technical Advisors were established by the Chairman, and the personnel had been properly trained in a timely manner.
  - o Evaluation packages of Quality Assurance Grading (QAG) Reports, Quality Lists, Quality Activities, and Project Requirements Lists, are assigned a QRB identification number and entered into a log and tracked. A total of 297 packages were listed in the log, of which 39 had been entered since the last audit.
  - o The Evaluation Package QAL-06, Revision 5, was reviewed by the QRB. A set of guidance and general review criteria was provided to all by the Chairman.
  - o The eight reviewers completed QRB Review Comment forms and forwarded them to S. Smith.
  - o The QRB Chairman conducted a review meeting to evaluate the reviewer's comments to QAL-06, and issued a Quality Review Board Record. The package was then given to the AT to consider the QRB responses.
  - o The QRB Chairman conducted a final review meeting to review the package for technical completeness, and to discuss with the AT Leader the recommendations made by the QRB to them. At the conclusion, a vote was held as to the package acceptance.

- o If the vote was for acceptance, the Chairman signed and dated the Activity List, Revision 5.
- o The QRB record was prepared as required.
- o QAG Reports are completed, documented using the proper form, and they are approved by the QRB Chairman. Thirty QAG Reports were reviewed with no problems noted.

To the extent audited, the implementation of procedures AP-2.8Q and BTP-QRB-001 is satisfactory.

- e. Personnel Selection, Indoctrination, Training, and Qualification - Hardcopy and data base employee records were evaluated to verify compliance with training requirements established in QMP-02-01. Detailed descriptions of attributes checked are included in paragraph 5.0, steps 2, 9, 10, 17, 18, 19, 20, 21 (note), 22, 23, 29, 30, 30 (notes), 40, 41, and 42.

Lesson plans for personnel training were evaluated to verify compliance with requirements established in QMP-02-09. Detailed descriptions of attributes checked are included in paragraph 5.0, steps 7, 10, 14 (a and b), 15, 16, 17, 21 (note), 22 (a and c). A status report was prepared to verify compliance to guidelines established for DOE System 80 privileged records.

The tracking system, consisting of a data base plus hardcopy files, was evaluated for compliance with QMP-02-01. Step 15 was checked for verification that employees performing QA activities receive required training prior to conducting those activities.

Baseline requirements for a random sample of employees were matched with ongoing training required by the Quality Assurance Requirements Document (QARD), Revision 4, Section 2.8, paragraph 6. Included were procedural changes or revisions, changes in employee positions that require updates to training matrices, and assignment changes. The following personnel files were reviewed:

Jeremy Boak	Paul Mairose
G. Kenton Beal	Paul Mudra
Paul Cloke	Claudia Newbury
Ivan Cottle	Garth Phillips
John Gandi	Chris Pflum
Kathleen Grassmeier	Timothy Sullivan
Steve Hans	Terry Tait
Susan Jones	Mike Voegele

New personnel files evaluated for training compliance requirements included the following:

Scott Borg John Gray Mark Edwards Joel Hall

Terminated employee files reviewed for compliance to training requirements included the following:

K. C. Betzel	Kim Church	George Derner
Lee Carpenter	David Dobson	Gary Roberson
Charles Caudill	Cindy Eghbalnia	

QRB members, Alternates, Technical Advisors, and Assessment Team member files were reviewed for ongoing training to AP-5.28Q, AP-6.17Q, and BTP-QRB-001, as applicable.

Ram Murthy	Howard Akins	Pam Roberts
Ed McCann	Paul Standish	Bill Jacobs
Mike Harris	Paul Cloke	Stan Klein
Dewey Hulbert	John Thies	Keith Kersch
Steve Smith	Tom Pysto	Bernie Verna
Mike Voegele	Larry LaMonica	James A. Blink
Dwight Hoxie	Leo J. Klamerus	Joe F. Schelling

Procedures checked against employee baseline requirements and ongoing training requirements included the following:

Procedure	Revision/ICN	Effective Date of Procedure
AP-1.10Q	R5	4/15/92
AP-1.18Q	R0	3/2/92
AP-5.1	R2/I1	3/3/92
AP-5.27Q	R1	5/6/92
AP-5.28Q	R2/I1	11/9/90
AP-6.17Q	R0/I3	2/7/92
QMP-02-01	R5	3/5/92
QMP-02-08	R1	5/1/92
QMP-03-09	R3/I2	11/13/91
QMP-04-03	R0	5/15/92 (Not yet released)
QMP-06-04	R4/I2	3/16/92
QMP-07-04	R2	1/29/92
BTP-QRB-001	R1	10/26/90

Procedures checked to verify that requests for proficiency training were made and that instructional objectives, lesson plans, and training documentation were included are as follows:

AP-1.18Q	R0	3/2/92
QAAP 16.1	R4	11/12/91
QAAP 16.2	R1	11/12/91
QMP-02-01	R5	3/5/92
QAAP 18.2	R5	1/3/92

The following Quality Administrative Procedures (QAPs) are scheduled to be released by Headquarters:

QAP 3.5                      QAP 5.1                      QAP 6.2

Las Vegas LRC microfilm reels were checked for compliance to restrictive labeling to satisfy DOE System 80 requirements. Personnel files were targeted on the Records Information System (RIS) computer system and checked for compliance with RIS labeling requirements.

Microfilm Reels		Personnel	
90097	90204	Terry Tait	Kenton Beall
90094	90208	Paul Mudra	Joseph Calovini
90202	90495	Linda Fox	Richard Bullock
90203	90496	Shariyar Dadkhah	Robert F. Pritchett
90563		Ivan Cottle	Linda Linden
		Julie Canepa	

Central Records Facility microfilm reels were checked for compliance to restrictive labeling to satisfy DOE System 80 requirements. Personnel files were targeted on the RIS computer system and checked for compliance with RIS labeling requirements.

Microfilm Reels		Personnel	
90668	90777	Carl Gertz	Kent Johnson
90669	90785	Maxwell Blanchard	S. Johnson
90678d	90804	Wendy Dixon	N. T. Snyder
		Edgar Petrie	J. Wilson

Based on interview and review of objective evidence, QA Program element 2.0 is being implemented satisfactorily

3. Element 4.0 "Procurement Document Control"

Quality Management Procedure QMP-04-02, Revision 0, ICN No. 1, "Yucca Mountain Project Procurement Actions."

The audit team verified that no new contracts have been issued since the last YMPO audit in February of 1992, (i.e. QMP-04-02 has not been implemented).

An evaluation was performed to determine the status of corrective actions for CAR YM-92-007. The results are as follows:

- o The audit team verified that records of procurement documents do exist. A portion of a basic contract is submitted to the records center up to a specific date, with annual updates until the contract is completed. SAIC No. 31987 (basic contract) was partially submitted to the records center (through September 1991) when 422 pages were submitted on January 31, 1992. Another submission will be made one year later in January 1993 and so on, until the contract is completed.

- o A matrix entitled, "Technical Direction Letters - Quality Assurance" was developed and issued on February 6, 1992. This matrix, now titled "YMPO Matrix of Contractors," will be updated at least monthly in the future and used as a management tool. Reference letter YMP-RVB-3369 from R. V. Barton, dated May 7, 1992.
- o A new system has been developed to permit the quick retrieval of Technical Direction Letters (TDLs) which did not have a "Y" designation. A listing of all TDLs, starting with the first one dated July 13, 1990, was issued on May 7, 1992. The "Y" designation has been added to the Work Breakdown Structure number of every TDL.
- o QMP-04-03, "Technical Directives," was approved on April 13, 1992 with an effective date of May 15, 1992, which will allow time for "read and sign" training. Formal classroom training will be given as soon as training is developed. Reference letter YMP:RVB-3370 from R. V. Barton, dated May 7, 1992.

All responses are considered acceptable and ready for verification.

Since no procurement activities have occurred which implement QMP-04-02, and QMP-04-03 has not yet become effective, satisfactory implementation of this element could not be determined. This QA Program element is still being controlled under the Interim Plan described in CAR YMP-92-007. (No Implementation)

4. Element 7.0 "Control of Purchased Items and Services"

QMP-07-04, Revision 1, ICN Nos. 1, 2, and 3, "Supplier Evaluation/Qualified Suppliers' List."

The audit team verified that there have been no activities associated with this QMP since the last audit (YMP-92-07) was performed in February 1991.

Since no procurement activities have occurred which implement QMP-07-04, satisfactory implementation of the element could not be determined. (No implementation)

5. Element 15.0 "Control of Nonconforming Items"

Since neither QMP-15-01 nor AP-5.27Q have been implemented, satisfactory implementation of this element could not be determined. (No implementation)

6. Element 16.0 "Corrective Action"

The evaluation of this element was conducted by reviewing objective evidence and dialogue with YMPO assigned personnel.

Seven CARs processed since the last audit, were reviewed for processing, in accordance with QAAP 16.1, Revision 4, "Corrective Action," specifically for the following items:

- o Responses were prepared using the criteria specified.
- o Responses were issued within time requirements.
- o If a response time extension was required, it was requested formally prior to the due date, and the a new required date was met.
- o If an amended response was required, it was provided by the requested date.
- o If an amended response time extension was required, it was requested formally prior to the due date, and the new required date was met.
- o The corrective action was completed by the due date.
- o If a corrective action time extension was required, it was requested formally prior to the due date, and the new required date was met.

The responses for all of the CARs were prepared as required and the due dates were satisfied for six of the CARs. The remaining one required a time extension which was requested in accordance with requirements, and is not due until after the audit. Four CARs required amended responses and all procedural requirements were met.

The corrective action completion dates were within the time frame of the audit for three of the CARs and all met the dates, although one required a time extension which was properly requested and met. The completion dates of the remaining CARs are not due until after the audit.

A great improvement in YMPO operations since the last audit was the development and implementation of a Desk Procedure (in response to Audit YMP-91-I-01, Recommendation 3) which describes the process used to track, remind personnel, and coordinate activities involved with the successful closing out of CARs that are issued to and are the responsibility of YMPO as a result of QAAP 16.1 activities.

To the extent audited, QA Program element 16.0 was found to be satisfactory.

ENCLOSURE 4

OBJECTIVE EVIDENCE REVIEWED DURING AUDIT  
(Examples of)

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

General to all QA Program elements:

Requirement Documents

DOE/RW-0214, Revision 4, OCRWM, ICN 4.1, OCRWM QARD

DOE/RW-0215, Revision 3, OCRWM QAPD, ICN 3.1

1.0 ORGANIZATION

Procedures

QMP-01-01, Revision 3, Organization, ICN 1

QAAP 16.2, Revision 1, Stop Work

Miscellaneous

YMP/91-39, Technical Data Base Handbook (Oct. 91)

2.0 QUALITY ASSURANCE PROGRAM

Procedures

QAAP 2.6, Revision 2\*, Readiness Review

AP-1.18Q, Revision 0, Records Management: Las Vegas Record Source Implementation

AP-5.28Q, Revision 2, Quality Assurance Grading, ICN 1

AP-6.17Q, Revision 0, Determination of the Importance of Items and ICNs 1, 2, & 3, Activities

QMP-02-01, Revision 5, Project Office Indoctrination and Qualification Training

QMP-02-08, Revision 0, Technical Assessment Review, ICNs 1, 2, 3 & 4

QMP-02-08, Revision 1, Technical Assessment Review

QMP-02-09, Revision 1, Development and Conduct of Training, ICNs 1 & 2

BTP-QRB-001, Revision 1, Quality Review Board

SP-1.42, Revision 3, Job Assignment/Quality Assurance Classification

Technical Assessment Review Packages

YMP/90-2, Revision 0, TAR Geologic and Geophysical Evidence Pertaining to Structural Geology ..., 1/10/90

(No ID Number) TAR of Project Requirements (entered the LRC on 1/29/92)

Miscellaneous

Letter RSED:JRD-1717 from C. P. Gertz to J. H. Nelson, dated January 30, 1992, assigning responsibility to Paul Mairose as TAR Document Coordinator

Letter YMP:RVB-3272 from C. P. Gertz to J. W. Bartlett, dated May 4, 1992, regarding the Semiannual Status of Planned Readiness Reviews (one nearing completion and three for August and September).

Document Approval Sheet for AP-1.18Q, Revision 0, which replaced QMP-17-01

Letter RAM:das:L92-162, McCarthy to Distribution, dated April 16, 1992.

Letter RAM:das:M92-172, McCarthy to Distribution, dated April 27, 1992, providing Semi-Annual Training Matrix Report.

Letter RAM:das:L92-218, McCarthy to Distribution, dated 5/6/92, providing training information to supervisors regarding QMP-01-01, Revision 3, ICN 2

Training Assignment forms for QMP-04-03, Interoffice Memorandum, Bostian to Distribution, dated May 5, 1992, requesting input from management regarding training assignments required.

Document Action Request, dated 4/30/92, for a change to QMP-06-04, Revision 4, which would provide specific instruction regarding preparation of forms YMP-007-R2 and YMP-054-R0 for training required.

Letter RAM:das:L92-167, McCarthy to Foust, dated April 21, 1992, providing a list of personnel authorized to access DOE System 80 and other privileged records submitted to the Las Vegas LRC by the Yucca Mountain Site Characterization Project Office (YMPO) Training Center.

Interoffice Memo, McCarthy to Training File, dated April 21, 1992, providing a list of personnel who have access to the Training Department files.

Lesson plans for procedures AP-1.18Q, R0, QAAP 18.2, R5, QAAP 16.1, R4, QAAP 16.2, R1, and QMP-02-01, R5, were checked for compliance to QMP-02-09 requirements.

Lists of personnel trained to procedures AP-5.28Q, AP-6.17Q, QMP-04-03, and BTP-QRB-001, were retrieved from the computer data base. Selected names were selected for comparison to baseline requirements.

List of personnel: Quality Review Board Members, Alternates, Technical Advisors, Assessment Team

ICN 4 (Draft) to SP-1.28, Revision 5, "Control of Purchased Items and Services"

Draft Revision to SP-1.42, Revision 3, "Job Assignment/Quality Assurance Classification"

YMP/90-55, Revision 0, Q-List

YMP/90-56, Revision 5, QAL

YMP/90-57, Revision 5, Project Requirements List

YMP/90-58, Revision 0, Supporting Documentation for Evaluation of Items Important to Safety

YMP/90-59, Revision 0, Supporting Documentation for Evaluation of Items Important to Waste Isolation

YMP/90-60, Revision 5, Supporting Documentation of Evaluation of Activities for the Quality Activities List

Letter, JDW:LBL:lcr:L91-6828, J. Waddell to C. Gertz, dated 3/19/91, appointing L. LaMonica to fill two Assessment Team Leader positions

Assessment Team Controlled List, Revision 17, dated 3/27/92, Page 4

QRB Chairman approval documents (signed and dated) for Quality List, Revision 0, Quality Activities List, Revision 5 and Project Requirements List, Revision 5

List of QRB Members and Alternates, Technical Advisors, and Assessment Team Members

QA Log dated May 4, 1992

Checklist for QAG Reports

Letter, JDW:LBL:slt:L91-7598, J. Waddell to C. Gertz, submitting Package No. QAL-6 for evaluation, dated 10/29/91

Letter dated 10/29/91, R. Murthy to Distribution, forwarding Package No. QAL-6 for action

Guidance and Review Criteria prepared by S. Smith to be used in the QRB review of Package QAL-6

QRB Checklist for AP-6.17Q

QRB Combined Checklist for AP-2.58Q and BTP-QRB-001

QRB Record (Meeting Minutes), dated 12/4/91

QRB Record (Meeting Minutes), dated 12/5/91

#### 4.0 PROCUREMENT DOCUMENT CONTROL

##### Procedure

AP-4.1Q, Revision 0, Procurement, ICNs 1, 2, & 3

QMP-04-02, Revision 0\*, YMPO Procurement Actions, ICN 1

QMP-04-03, Revision 0, Technical Directives

##### Procurement Documents

Management Agreement between Richland Field Office and Yucca Mountain Site Characterization Project Office - Dated 2/13/92.

##### Technical Direction Letters

92-2328d	92-1332	92-2461
92-2389	92-1213	92-1707
92-2016	92-1679	92-2321
92-1635	92-1880	92-2827
92-1636	92-1881d	92-2780
92-2301	92-1680	92-2853
92-2318	92-1941	92-2854
92-2056	92-2814	92-2708
92-3085	92-3062 (In Process)	
92-3044 (In Process)		

##### Miscellaneous

Matrix of Technical Direction Letters (TDLs) - Dated 2/6/92

Letter YMP:RVB-954 dated 11/22/91 from Gertz, on Amendment to Interim Guidance.

Matrix List of TDLs with "Y" Designators added to Work Breakdown Structure Numbers.

Letter YMP:RVB-3370 dated 5/7/92 from R. V. Barton on Training for QMP-04-03.

Letter YMP-RVB-3369 dated 5/7/92 from R. V. Barton on Matrix of Contractors.

## 7.0 CONTROL OF PURCHASED ITEMS AND SERVICES

QMP-07-04, Revision 2\*, Supplier Evaluation/Qualified Suppliers List

## 15.0 CONTROL OF NONCONFORMING ITEMS

### Procedures

AP-5.27Q, Revision 0\*, Control of Nonconforming Items

QMP-15-01, Revision 2\*, Control of Nonconformances, ICNs 1 & 2

## 16.0 CORRECTIVE ACTION

### Procedure

QAAP 16.1, Revision 4, Corrective Action

### QA CAR Packages

YMP 91-086

YMP 92-024

YMP 92-008

YMP 92-027

YMP 92-017

YMP 92-031

YMP 92-019

YMP 92-032

YMP 92-022

YMP 92-033

YMP 92-023

Quality Assurance Grading Reports

(YMPO) EDD-005  
(YMPO) RSED-013, 021, 022, and 023  
(YMPO) PCQAG-003  
(T&MSS) REP-1, 1A, 2, and 3  
(T&MSS) D12543 A  
(T&MSS) TNG-001  
(USGS) G1232621, 1232622, 1233133b, 1233133, and 1233131aI  
(RSN) RSN-GR-04, 029, 031, 032, 035, and 036  
(LANL) LANL-25, 31, 33, 34, and 35  
(LLNL) LLNL-QAG-012

Miscellaneous

EDD:WBS-3238, W. B. Simecka to Distribution, 5/1/91, Assignment of B. J. Verna as YMPO CAR Coordinator

Desk Procedure, YMPO Corrective Action Request Tracking Reminder and Coordination Process, dated 4/28/92, issued by B. J. Verna

YMPO Open CAR Status, 5/4/92, B. J. Verna

CARs and SDRs Action Tracking system, 4/22/92

Letter, dated 2/24/92, B. J. Verna to R. Dyer, Subject: CAR Due Date Reminder

Trend Analysis Chart, "CAR Response Log" - YMPO, 4/29/92

QA CAR Log Application, Closed CARs by YMP, dated 4/4/92

QA CAR Log Application, Open CARs by YMP, dated 4/4/92

\* Insufficient activity, therefore implementation effectiveness is considered "No implementation."