

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

AUDIT REPORT

OF

LAWRENCE LIVERMORE NATIONAL LABORATORY

LIVERMORE, CALIFORNIA

AUDIT NUMBER YMP-93-04  
JANUARY 11-15, 1993

Prepared by: Amelia I. Arceo Date: 2/1/93  
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Approved by: D. G. Horton For Date: 2/10/93  
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## **1.0 EXECUTIVE SUMMARY**

As a result of Quality Assurance (QA) Audit YMP-93-04, the audit team determined that, except for QA Program Elements 5 and 13 which no implementation occurred since the last audit and QA Program Element 18 which had insufficient implementation, Lawrence Livermore National Laboratory (LLNL) is satisfactorily implementing an effective QA program in accordance with the LLNL Quality Assurance Program Plan (QAPP) document and implementing procedures for QA Program Elements 1, 2, 6, 12, 16, and 17.

The audit team identified three deficiencies during the course of the audit. The deficiencies were corrected prior to the postaudit meeting. Therefore, no deficiencies resulted in the issuance of Corrective Action Requests (CARs).

## **2.0 SCOPE**

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

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

### **QA PROGRAM ELEMENTS**

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

The following QA program element was not reviewed during the audit because LLNL has no activities for which this element applies.

- 9.0 Control of Processes

## TECHNICAL AREAS

The scope of the audit did not include 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 or Technical Area</u>
Amelia I. Arceo, Audit Team Leader (ATL) Yucca Mountain Quality Assurance Division (YMQAD)	12.0, 13.0, 17.0
A. Edward Cocoros, Auditor, YMQAD	1.0, 2.0, 5.0
Mario R. Diaz, Auditor, YMQAD	6.0, 16.0, 18.0

No Observers participated in the audit.

### **4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED**

The preaudit meeting was held at LLNL office in Livermore, California on January 11, 1993. A daily debriefing and coordination meeting was held with LLNL management and staff, and daily audit team meetings were held to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at LLNL office in Livermore, California on January 15, 1993. Personnel contacted during the audit are listed in Attachment 1 to this report. The list includes an indication of those who attended the pre- and postaudit meetings.

It should be noted that the LLNL Fission Energy and Systems Safety Program (FESSP) Deputy Associate Director, who the Technical Project Officer (TPO) and QA Manager report to, requested to have a meeting with the audit team to find out the status/progress of the audit first-hand. During this meeting, he expressed his full support for the YMP QA Program and offered his help when needed to implement the program.

### **5.0 SUMMARY OF AUDIT RESULTS**

#### **5.1 Program Effectiveness**

The audit team concluded that, in general, the LLNL QA Program was being fully implemented, except for QA Program Elements 5 and 13 which no implementation occurred since the last audit and QA Program Element 18 which had insufficient implementation, and for this reason was determined to be satisfactory. In addition, one recommendation was presented to the auditee for consideration.

**5.2 Stop Work or Immediate Corrective Actions or Additional Actions**

There were no Stop Work Orders nor related documents issued.

**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 the audit.

**5.5 Summary of Deficiencies**

The audit team identified three deficiencies during the audit. The deficiencies were corrected prior to the postaudit meeting.

A synopsis of the deficiencies corrected during the audit are detailed below.

**5.5.1 Corrective Action Requests (CARs)**

No CARs were issued.

**5.5.2 Deficiencies Corrected During the Audit**

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

1. Contrary to the requirement of Quality Procedure (QP) 033-YMP-QP 1.0, " Organization," an organization chart illustrating the organizational structure and reporting relationships incorrectly depicted the official title of the U.S. Department of Energy (DOE) Director, YMQAD. This was corrected during the audit by the issuance of 033-YMP-QP 1.0, Revision 3, Change Notice (CN) 1.0-3-1, dated January 12, 1993.
2. Contrary to the requirement of LLNL QAPP, 033-YMP-R5, Revision 0, CN :R 5-0-1, Paragraph 1.0 states that documents include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities are

satisfactorily accomplished. 033-YMP-QP 16.0, Revision 3, did not contain any quantitative or qualitative criteria to determine when a CAR is significant or not. This was resolved by the issuance of 033-YMP-QP 16.0, Revision 4, on January 15, 1993, which contains those requirements.

3. Contrary to the requirement of 033-YMP-QP 18.0, Revision 4, Paragraph 18.0.5.1 which states that all applicable program elements for project activities are audited at least annually, Criterion 1 was not audited during the Fiscal Year 1992 (FY 92). This deficiency was satisfactorily corrected with a special surveillance (S93-14) performed on December 14, 1992 through January 8, 1993, to verify compliance with Criterion 1 requirements and the issuance of FY 92 Audit Schedule, Revision 3, dated January 14, 1993 to reflect the special surveillance performed.

#### **5.5.3 Follow-up of Previously Identified CARs**

Follow-up was made to previously identified open and closed deficiency documents.

CARs YM-92-064 and -065 are open. Request for extension of corrective action completion date to January 29, 1993 was granted by YMQAD to allow LLNL more time to evaluate all the instruments listed on the Measuring and Test Equipment (M&TE) Status List since March 16, 1989. Corrective actions were ongoing during the audit.

CAR YM-92-066 was closed on December 17, 1992. No follow-up could be done because no audit was performed since the CAR was closed.

CARs YM-92-067 and -068 which were closed on December 17, 1992, were evaluated during this audit. It was determined that corrective action was effective and no similar deficiencies were detected.

CAR YM-92-017 is open. Corrective action response was accepted on January 13, 1993 with completion date of January 29, 1993. Corrective actions were ongoing during the audit.

## **6.0 RECOMMENDATIONS**

The following recommendation resulted from the audit and is presented for consideration by LLNL management.

- 6.1 The annual evaluation of supplier does not contain sufficient information. The supplier evaluation process should be formalized to provide detailed documented evidence of the method used, the attributes verified, and the justification for the determination.

## **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 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>
Alegre, B.	LLNL/KMI/Records Adminis.		X	
Arceo, A.	YMQAD/ATL	X		X
Blink, J.	LLNL/Deputy Project Leader			X
Bryan, B.	LLNL/Project Administration	X	X	X
Clark, J.	LLNL/Secretary	X	X	X
Clarke, W.	LLNL/TPO	X	X	
Chou, C.	LLNL/FESSP Deputy Associate Dir.			X
Cocoros, A.	YMQAD/Auditor	X		
Diaz, M.	YMQAD/Auditor	X		
Halsey, B.	LLNL/Task Area Leader	X		X
Hamati, R.	LLNL/KEL QA Engineer	X	X	X
Holmes, T.	LLNL/Training Coordinator	X	X	X
Krantz, P.	LLNL/Bendix/Doc. Control and Calibration Coordinator			X
Lin, W.	LLNL/Task Leader		X	
Podobnik, J.	LLNL/YMP PCM	X		X
Rainwater, G.	LLNL/KMI/Adminis. Specialist		X	
Rainy, D.	LLNL/Plan., Sch., Cost Analyst	X		
Reveli, M.	LLNL/Task Leader	X		
Schwartz, R.	LLNL/YMP Dep. QA Manager	X		
Steward, S.	LLNL/Task Leader		X	
Stout, R.	LLNL/TAL	X		X
Wilder, D.	LLNL/TAL	X	X	X
Wolfe, D.	LLNL/QA Manager	X	X	X

PCM = Project Control Manager  
 KMI = Kirk Meyer Inc.  
 TAL = Technical Area Leader  
 YMP = Yucca Mountain Site Characterization Project  
 KEL = Kaiser Engineers

## ATTACHMENT 2

### Audit Details

The following is a summary of the LLNL QA program activities covered during the audit. A list of objective evidence reviewed, by document identification and title, is given 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 implementing procedure 033-YMP-QP 1.0. The selected requirements are listed below.

- The organization structure, lines of communication, authority and assigned functional responsibilities of persons and organizations performing activities affecting quality are established.
- Any changes to the organization charts since the last audit and the responsibilities and authorities of the new position/personnel are documented per 033-YMP-QP 2.1.
- The TPO defines procedures and requirements necessary to assure achievement of quality objectives defined by the QAPP. A mechanism is used to define those procedures and requirements.
- The TPO communicates on a regular basis with the QA Manager regarding the effectiveness and adequacy of the YMP QA Program.
- The TPO communicates with the YMP Project Manager on the status of the QA program.
- The QA Manager performs independent reviews of the QAPP, QP Manual and Technical Implementing Procedures (TIPs) in order to verify for the YMP Leader, their appropriateness, effective execution, and maintenance.
- The QA Manager maintains liaison with senior management positions and this effort is documented.
- The Resource Planning and Control Manager monitors program activities and reports deviations from schedules and budgets; and maintains task and activities files.



Based on the examination of the above requirements, implementation of QA Program Element 1.0 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 implementing procedures 033-YMP-QP 2.1, QP 2.8, QP 2.9, and QP 2.10. The selected requirements are listed below.

- A method is used to assure applicable requirements or changes of the LLNL QAPP are included in the LLNL instructions and procedures.
- QPs contain the minimum sections required by this procedure.
- At least one independent reviewer reviewed each procedure.
- The reviewer was provided with a memo, identifying the comment due date, clarifying information and any special instructions.
- Scientific Investigation Plans (SIPs) that have been submitted to Yucca Mountain Site Characterization Project Office (YMPO) for approval are identified by Document Control as "Approved For Interim Use" until YMPO approval is obtained.
- When a procedure is a complete or general rewrite, the issued document will indicate: Complete Rewrite or General Rewrite
- A log of controlled document revisions and CNs is maintained.
- QA records related to QP 2.1 are maintained.
- QA Grading (QAG) Reports addressed the information required by Exhibits A, B, C, and D of QP 2.8.
- Each Grading report is assigned a unique LLNL QAG number.
- QAG documentation, when is in final form, are approved by Reviewers and Project Leader.
- LLNL, contractor and subcontractor personnel were provided required indoctrination training.
- A training matrix is prepared by the TPO in conjunction with the QA Manager and annotated by the TAL.

- Personnel were trained on specific QA procedures prior to performing activities that affect quality or within 60 days of date of certification.
- All QP and TIP CNs are evaluated by the QA Manager to determine if training (retraining) is required and notifies the training coordinator if required.
- Retraining was given to individuals whose annotated training matrices indicate that they require training to specific procedures when revision or change notices were issued and were evaluated by the QA Manager for retraining.
- If training to revised procedures is not required, it is documented by the QA Manager.
- Individuals who do not perform work subject to QPs and TIPs, are exempted from training other than indoctrination.
- Training materials are approved by the Training Coordinator prior to use.
- The following records are retained as QA records relative to QP 2.9:
  - Trainer Preparation Sheet.
  - Sample copies of Training Evaluation Records.
  - Copies of signature pages documenting that retraining to revised procedure is not required.
  - Sample copies of read and sign training memos.
  - Printout of personnel trained.
- A position description prescribing the minimum qualification requirements for personnel was prepared and approved by the manager/supervisor.
- A personal resume for a project-position candidate was prepared by the candidate.
- The personal resume was verified by confirmatory documentation obtained by LLNL Human Resources Division.
- Upon initial assignment to the Project or a change in position description, the TAL/QA Manager verifies that the individual's training and experience are commensurate with the position description by completing a Management Certificate.
- Based on personal observation, the TAL/QA Manager performs and documents an annual Management Recertification for each person assigned to perform YMP activities.

- Personnel Qualification Records required to be prepared, processed and retained as lifetime QA records for each person assigned to participate in the YMP include:
  - Position Description
  - Personnel Resume
  - Management Certification
  - Management Recertification
  - Training documentation
- Personnel qualification records are filed in a combination lock fire-proof repository in the training office.

Based on the examination of the above requirements, implementation of QA Program Element 2.0 is satisfactory.

Implementation procedures 033-YMP-QP 2.0, QP 2.2, QP 2.3, QP 2.4, QP 2.5, QP 2.6, QP 2.7, and QP 2.11 were not verified due to the lack of activity during this audit period.

#### **5.0 TECHNICAL IMPLEMENTING PROCEDURES**

There was no implementation of procedure 033-YMP-QP 5.0 since the last audit; therefore, the adequacy of implementation of QA Program Element 5.0 could not be determined.

#### **6.0 DOCUMENT CONTROL**

The evaluation of this QA program element was based on the examination of the objective evidence to determine compliance with selected requirements from the implementing procedure 033-YMP-QP 6.0. The selected requirements are listed below.

- Controlled distribution of documents is made using Receipt Acknowledgement Form (RAF)
- Personnel not responding to a RAF within 20 working days are notified by Document Control of Delinquent Status and same information is incorporated into the QA Action List.
- Project Administrator/Designee authenticate the Table of Contents and revisions to it.
- Major changes to controlled documents have the same level of review and approval as the original issue.
- Original and revisions to controlled documents are retained in QA records and copies transmitted to U. S. Department of Energy (DOE) YMPO.

- Authenticated distribution list indicating that RAFs are returned and kept as QA records.

Based on the examination of the above requirements, implementation of QA Program Element 6.0 is satisfactory.

## **12.0 CONTROL OF MEASURING AND TEST EQUIPMENT**

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 033-YMP-QP 12.0. The selected requirements are listed below.

- The M&TE Master Status List identifies the M&TE authorized for use on the YMP.
- The Master Status List is issued and updated periodically.
- The required accuracy for M&TE is specified in the manufacturer's specification.
- The calibration frequency has been established and is consistent with the manufacturer's recommendations.
- The calibration certificates contain the appropriate information required.
- The accuracy of standards used for calibration was equal to or better than the instrument calibrated.
- The calibration laboratories and individuals who perform "User Calibration" maintain standards traceable to the National Institute for Standards and Technology (NIST).
- Appropriate calibration stickers are placed on YMP instruments used for quality-affecting activities.
- Calibration records are handled by the Calibration Coordinator as QA records.

CARs YM-92-064 and -065 in this area are still open pending completion of corrective actions.

Based on the examination of the above requirements, implementation of QA Program Element 12.0 is satisfactory.

### **13.0 HANDLING, STORAGE AND SHIPPING**

There was no implementation of procedure 033-YMP-QP 13.0 since the last audit; therefore, the adequacy of implementation of QA Program Element 13.0 could not be determined.

### **16.0 CORRECTIVE ACTION**

The evaluation of this QA program element was based on the examination of the objective evidence to determine compliance with selected requirements from the implementing procedure 033-YMP-QP 16.0. The selected requirements are listed below.

- How other conditions adverse to quality (not from trends, audits or surveilances) are reported to the QA Manager.
- Significant CARs contain documentation provided by the affected party that deals with extent of the deficiency, root cause, remedial action and corrective action to prevent recurrence.
- The adequacy and completion of the specified corrective action is recorded on Item 21 of the CAR form.

Based on the examination of the above requirements, implementation of QA Program Element 16.0 is satisfactory. However, compliance to the requirements of 033-YM-QP 16.2, "Trend Analysis," could not be verified due to lack of activities in this area.

### **17.0 QUALITY ASSURANCE RECORDS**

The evaluation of this QA program element was based on the examination of the objective evidence to determine compliance with selected requirements from the implementing procedure 033-YMP-QP 17.0. The selected requirements are listed below.

- Record Source transmits records to the Local Records Center (LRC) no later than 10 working days after the records are completed.
- Record Source verifies that record packages are complete and identified in accordance with procedure requirements.
- Record transmittals are inspected by the LRC to assure that they are legible, identifiable, complete, suitable for microfilming, and are properly authenticated.
- The signature authentication list is maintained.

- The receipt and acceptance of records by the LRC is documented and logged .
- The revision of previously accepted records package is identified by referencing the original record or package. The record is identified as a revision, a supplement to a previous record, or as superseding the previous record, and is authenticated by the original record source or by someone with equivalent technical or administrative knowledge and authority.
- The LRC transmits records to the Central Records Facility (CRF) using the LRC Transmittal Form approximately once per week, or every two weeks depending on volume of records, but no later than 30 working days after the records are received and accepted.
- The records are protected from damage, deterioration and loss by the Task Leader/Record Source and the LRC by copying, dual storage, using appropriate containers and limiting access to the files to only those authorized on the access list.

The recommendation made in the previous audit (YMP-92-21) to modify the generic statements, "This record is adequate for its intended purpose. All blanks are intentional...." on Records Package Transmittal Form Table of Contents was implemented. The form was revised, and the statements became checklist items, that are checked, when applicable to the records package.

Based on the examination of the above requirements, implementation of QA Program Element 17.0 is satisfactory.

## 18.0 AUDITS

The evaluation of this QA program element was based on the examination of the objective evidence to determine compliance with selected requirements from implementing procedures 033-YMP-QP 18.0, 033-YMP-QP 18.1, and 033-YMP-QP 18.2. The selected requirements are listed below.

- Audit Schedule is issued at the beginning of the fiscal year and contains required information.
- Subcontractors are audited on a triennial basis with documented evaluations on an annual basis.
- Surveillance schedule (s) are issued for the fiscal year and contains required information.
- When required, checklist are used for surveillances.

- **Surveillance reports containing applicable and required information are approved by the QA Manager within 20 calendar days of the completion of the surveillance.**
- **Required records for surveillances are kept as QA records.**

**Insufficient implementation has occurred in QA Program Element 18.0 in order to determine compliance. However, the area of surveillances is considered satisfactory, based on the examination of the above requirements.**

**ATTACHMENT 3**

**List of Objective Evidence Reviewed During the Audit**

**OA Program Element 1.0. "Organization"**

Compliance with the following procedure was reviewed:

033-YMP-QP 1.0 Revision 3, "Organization"

Objective Evidence Reviewed:

Fission Energy and Systems Safety Program Organization, dated January 1993

YMP Participant List, 9/30/92

YMP Memorandum, T. Holmes to Distribution, dated 12/2/92, Subject: Current Staff Update

LLNL YMP Organization Chart, 1/12/93

QP 1.0, CN 1.0-3.1

Requirements Traceability Network, Requirements Matrix Report, re: DOE/RW-0333P, Quality Assurance Requirements and Description Document (QARD), Revision 0

LLNL YMP Staff Meetings Agenda for 11/3/92, 11/10/92, 12/1/92, 12/7/92, and 1/5/93

W. L. Clarke to C. Gertz, YMP Status Report, November 1992, Record ID No.

LLYMP9212051, 12/16/92

FY93 LLNL YMP Audit Schedule, Rev. 0, 10/1/92

FY93 LLNL YMP, Surveillance Schedule, Rev. 0, 10/12/92

Surveillance Reports, S93-03 and S93-14

D. Wolfe to D. Wilder, Memo Subject: Required Planning Actions, dated 12/28/92

QA Action Item List, 1/8/92

Files for Waste Project Tasks and Activities

Program Activities-Schedules and Budget Reports, 9/11/92

**OA Program Element 2.0. "Quality Assurance Program"**

Compliance with the following procedures was reviewed:

033-YMP-QP 2.1, Rev. 4, CN 2.1-4-1, CN 2.1-4-2, "Preparation, Approval, and Revision of Procedures, Requirements, Plans and the QAPD"

033-YMP-QP 2.8, Rev. 2, CN 2.8-2-1, CN 2.8-2-2, CN 2.8-2-3, and CN 2.8-2-4, "Quality Assurance Grading"

033-YMP-QP 2.9, Rev. 3, CN 2.9-3-1, "Indoctrination and Training"

033-YMP-QP 2.10, Rev. 4, "Qualification of Personnel"



**Objective Evidence Reviewed:**

**033-YMP-QP 2.1**

**Instructions/Procedures:**

033-YMP-QP 1.0, Rev. 3	033-YMP-QP 2.1, Rev. 3, CN 2.1-4-1
033-YMP-QP 4.0, Rev. 3, CN 4.0-3-1	033-YMP-QP 6.0, Rev. 3, CN 6.0-3-1
033-YMP-QP 16.0, Rev. 3	033-YMP-QP 17.0, Rev. 4, CN 17.0-4-1
033-YMP-QP 18.0, Rev. 4	SIP-WF-02, Rev. 0
SIP-NF-1, Rev. 1	ISP-PA.01, CN 1
D20-53b-0, CNs 3 and 4	TIP-YM-12, Rev. 0
TIP-YM-09, Rev. 0	

**Request for Review forms for the following documents:**

SIP-WF-02, Rev. 0  
D20-53b-0, CNs 3 and 4  
TIP-YM-12, Rev. 0  
TIP-YM-09, Rev. 0

QA Document Review Log for "Procedures"  
QA Document Review Log for "TIPs"  
QA Document Review Log for "Software Plans"

**033-YMP-QP 2.8**

QA Grading Reports: L-059, Rev. 0 and L-060, Rev. 0  
QA Grading Package Log

**033-YMP-QP 2.9**

**Training Records Packages for:**

Mike Revelli	Ron Schwartz	Jose Johnson
John Nitso	Jack Mitchell	Gary Johnson

Matrix for training needs for LLNL and YMP personnel for implementing quality procedures, L. Ballou to J. Blaylock, 3/9/89  
Training requirements for QA personnel, W. Clarke and D. Wolfe, dated 5/8/92  
Training requirements for technical personnel, W. Clark and D. Wolfe, dated 5/8/92  
Darleen Good memo to YMP Participants, Requesting the reading of QP 1.0, Revision 2, CN 1 and signing document, 3/26/92  
Training Module for QP 1.0, Revision 2, 12/12/91  
Classroom Training Lesson, "Refresher Course for Technical Personnel," 7/28/92

033-YMP-QP 2.10

Personnel Records Packages for:

Mike Revelli  
John Nitso

Ron Schwartz  
Jack Mitchell

Jose Johnson  
Gary Johnson

The following records were reviewed for the above listed individuals:

Position Descriptions

Personnel Resumes

Human Resource Verification Documents

Management Certification and Recertification Documents

Fire-proof repositories for personnel records

Implementing Procedures not verified due to lack of activity:

033-YMP-QP 2.0, Rev. 0, CN 2.0-0-1, CN 2.0-0-2, CN 2.0-0-3, "Assurance"

033-YMP-QP 2.2, Rev. 0, CN 2.2-0-1, "Peer Review"

033-YMP-QP 2.3, Rev. 0, CN 2.3-0-1, CN 2.3-0-2, "Management Assessments"

033-YMP-QP 2.4, Rev. 0, CN 2.4-0-1, CN 2.4-0-2, "Technical Review"

033-YMP-QP 2.5, Rev. 0, CN 2.5-0-1, "Acceptance of Data Not Generated Under the  
Control of the YMP QAPP"

033-YMP-QP 2.6, Rev. 1, CN 2.6-1-1, CN 2.6-1-2, "Readiness Reviews"

033-YMP-QP 2.7, Rev. 1, CN 2.7-1-1, "Stop Work Order"

033-YMP-QP 2.11, Rev. 0, CN 2.11-0-1, "Qualification and Certification"

QA Program Element 6.0, "Document Control"

Compliance with the following procedure was reviewed:

033-YMP-QP 6.0, Rev. 3, "Document Control"

Objective Evidence Reviewed:

Use of RAF for the following personnel (from April 92 through November 92):

R. Hamati

R. Spence

B. Viani

J. Ueng

T. Holmes

D. Chestnut

H. Leider

S. Steward

H. Weed

D. Wilder

G. Henshall

R. Stout

W. Halsey

R. Russo

M. Lewis

G. Johnson

The following procedures and/or changes were verified for compliance of the use of RAFs by personnel required to be notified of those changes:

D-20-44, Rev. 1  
D-20-45, Rev. 1  
D-20-53a, Rev. 2, CN 1 only  
D-20-53b, Rev. 0, CNs 3 and 4 only  
SIP-WF-02, Rev. 0  
TIP-CM-3, Rev. 0  
QAG-L047, Rev. 0  
QAG-L001, Rev. 0, CNs 1 and 2 only  
QP, Rev. 55

Delinquent notification for overdue responses to RAFs of following personnel: R. Stout, G. Johnson, D. Chestnut. All of them are related to the issuance of QP, Revision 55. Table of Contents for QAPP, Revision 22 and QP, Revision 55  
Delegation of signature for Toni Holmes, dated June 11, 1992  
Major changes through CNs as follows:

CN 1 for D-20-53a, Rev. 2  
CNs 3 and 4 for D-20-53b, Rev. 0

Transmittals of the above listed procedures to the LRC

QA Program Element 12.0, "Control of Measuring and Test Equipment"

Compliance with the following procedures was reviewed:

033-YMP-QP 12.0, Revision 4, "Control of Measuring and Test Equipment"

Objective Evidence Reviewed:

M&TE Master Status List of Calibrated Instruments dated 1/7/93, 12/1/92, 11/2/92, 10/8/92, 9/8/92, and 8/6/92.

Documentation dealing with the status of the following M&TE:

<u>Instrument</u>	<u>ID No.</u>	<u>Mfg/Model</u>	<u>Last Cal</u>	<u>Cal Exp</u>	<u>Cal. By</u>	<u>NIST Test No.</u>
Mass Standards	WN251(A-F)	Troemner	2/22/91	2/22/96	NIST	822/247805
Weight Set	3411	Troemner	2/22/91	2/22/96	Troemner	731/243669
Electronic Balance	5276477	Mettler/PM16N			User Calibrated	
Electronic Balance	5263187	Mettler/AE200			User Calibrated	
pH Meter	003214	Orion/720A			User Calibrated	
Uranium Analyzer	5256127	Chemchek/KPA-11			User Calibrated	

Applications Technical Data - Mettler AM/PM/SM Balances and Scales specified information for electronic balance PM16N, ID. No. 5276477 (readability, weighing range, reproducibility)

Weight Traceability Certificates for Electronic Balances ID Nos. 5276477, and 5263187 revealed that these were maintained/serviced every 6 months by Heusser Instrument Company, as required by Task Leader Weed/Nguyen, Scientific Notebook No. 143, entry dated 9/11/91. Balances were serviced 5/18/92, 11/19/92, next service date is 5/20/93.

Calibration by user documented on Scientific Notebook No. 155, "UO2 Dissolution Experiments" for Electronic Balances AE200 and PM16N, Page 30, by S. Steward. Balances were calibrated using manufacturer's instructions. Same notebook documented dilution of UO2 Standards using NIST traceable Standard 3164. Uranium Analyzer ID No. 5256127, Chemcheck/KPA-11 was used.

Certificate of Analysis for SRM 3164 Spectrometric Standard Solution Uranium Lot 190305, (Page 110 of Scientific Notebook No. 00141, entry dated 6/12/91 of Records Package LLYMP9204089, NNA.920515.0030).

The following calibration records packages of instruments removed from the Master Status List were transmitted by the Calibration Coordinator to the LRC:

LLYMP9209211, Scintillation Counter ID No. 4161323, transmitted 9/2/92  
LLYMP9209212, Spectrometer ID No. 4260941, transmitted 9/2/92  
LLYMP9209219, Spectrophotometer ID No. 920268, transmitted 9/2/92  
LLYMP9209210, Pulse Generator ID No. 4778699, transmitted 9/2/92  
LLYMP9209209, Power Meter Head ID No. 4913045, transmitted 9/2/92  
LLYMP9212096, Supplement to LLYMP9209210, Pulse Generator ID No. 4778699, transmitted 12/16/92

#### QA Program Element 16.0, "Corrective Action"

Compliance with the following procedure was reviewed:

033-YMP-QP 16.0, Rev. 3, CN 16.0-3-1, "Corrective Action"

Objective Evidence Reviewed:

033-YMP-QP 16.0, Rev. 4, "Corrective Action"

Personnel interviewed to explain process used to document conditions adverse to quality

discovered by personnel other than QA personnel were: W. Lin, S. Steward, D. Wilder  
Significant CAR LLNL-013

Documented evidence of CARs LLNL-007, 010, 012, 013, 016, 017 and 018

OA Program Element 17.0, "Quality Assurance Records"

Compliance with the following procedure was reviewed:

33-YMP-QP 17.0, Revision 4, CN 7.0-4-1, "Quality Assurance Records"

Objective Evidence Reviewed:

Records transmitted to the LRC by the Record Sources :

Record ID LLYMP	Record Date	Trans'l Date	Record Source	Subject
9209209	8/31/92	9/2/92	P. Krantz	Power Meter Head ID No. 4913045
9209210	8/31/92	9/2/92	P. Krantz	Pulse Generator ID No. 4778699
9209211	8/31/92	9/2/92	P. Krantz	Scintillation Counter ID No. 4161323
9209212	8/31/92	9/2/92	P. Krantz	Spectrometer ID No. 4260941
9209219	8/31/92	9/2/92	P. Krantz	Spectrophotometer ID No. 920268

Records verified with the Log:

Record ID LLYMP	Record Date	Receipt Date	Record Source	Document Title
9212117	12/21/92	12/21/92	W. Clarke	Letter to Gertz for Programmatic Approval of Draft Paper Engineered Barrier Environment by D. Wilder
9212127	12/21/92	12/22/92	W. Clarke	Letter to Gertz Request for Programmatic Review and App. of Draft Validation of Hydrogeochemical Codes Using the New Zealand Geothermal System by W. Glassley.
9211111	11/17/92	11/18/92	W. Clarke	Letter to Gertz Request for Review & App. of Draft Manuscript "Selection Candidate Container Materials for the Conceptual Waste Package Design for a Potential High Level Nuclear Waste Repository. at YMP" by R. Van Konynenburg, W. Halsey, etc.
9212105	12/15/92	12/22/92	W. Clarke	CAR-YM-92-064 and CAR-92-YM-065; Audit 92-21
9212143	12/21/92	12/25/92	E. Campbell	Scientific Notebook SN No. 00145, Synergistic Applications.

Records Package Transmittal Form Table of Contents of the following:

Record ID LLYMP	Record Date	Receipt Date	Record Source	Document Title
9211062	11/10/92	11/10/91	S. Steward	Addition to Page 1 of Scientific Notebook (SN) 00141
9211059	11/2/92	11/10/92	S. Steward	Back-up Data for SN00141, Series 1
9211058	11/6/92	11/10/92	S. Steward	Back-up Data for SN00141, Series 2A
921118	11/16/92	11/19/92	T. Holmes	Completed Training Module for QP 6.0, R2 and QP 18.3 R3
92118A	11/15/91	11/16/92	T. Holmes	Trng Module QP 6.0, R2
92118B	2/23/89	11/16/92	T. Holmes	Qual. of Inst. B. Bryan
P92118C	2/29/91	11/16/92	T. Holmes	Trng. Module QP 18.0, R3

Signature Authentication Lists dated 6/11/92, 7/29/92, 9/1/92, 10/1/92, 11/1/92, 12/1/92, 1/1/93

Incoming Mail List ( a computerized print-out of Incoming and Outgoing Mail) for the months of December, November, October, September, and August 1992. This list serves as the log for receipt and acceptance of records. Copies of this log are also stored on disks by the records administrator.

Records revised:

LLYMP9211062, Addition to Page 1 of SN 00141 (LLYMP9204089, Accession Number NNA920415.0030) Record Source/Date - S. Steward/11/10/92,

LLYMP9211061, Addition to Page 1 of SN00124 (LLYMP9206117) Accession Number NNA920629.0080, Record Source/Date - S. Steward/11/10/92

LLYMP9212096, Supplemented Calibration Instrument Pulse Generator #4778699 (LLYMP9209210) Accession Number NNA921020.0135, Record Source/Date - P. Krantz/ 12/16/92

Records Transmitted to Central Records Facility (CRF) using the LRC Transmittal Form:

Transmittal Record ID No.	Transmitted By/Date	Records Transmitted Record Date	Records Transmitted Record ID	Record Title/Subject
YMP9301019	B. Alegre 1/4/93	12/1/92	9212116	CAR-LLNL-018
		12/21/92	9212143	SN 00145
		12/16/92	9212051	YMP Status Report

		12/15/92	9212105	CAR YM-92-064 and -065
		12/17/92	9212106	Request for Prog. Review
YMP9211060	B. Alegre	11/6/92	9211058	Back-up data SN00141, Series 2A
	11/10/92	11/2/92	9211059	Back-up data SN00141, Series 1
YMP9211064	B. Alegre	11/10/92	9211061	Addition to SN00124, NNA920629.0080
	11/10/92			Addition to SN00141, NNA920415.0030
		11/10/92	9211062	

Records Access List Approved by B. Bryan on 5/14/92

One hour fire-resistant containers for record storage by the following record sources:

R. Hamati

P. Krantz

J. Clark

QA Program Element 18.0, "Audits"

Compliance with the following procedure was reviewed:

033-YMP-QP 18.0, Rev. 4, "Audits"

Objective Evidence Reviewed:

Audit schedule for FY 92, Rev. 2, September 30, 1992 and Rev. 3, January 1, 1993

Audit schedule for FY 93, Rev. 0, October 1, 1992

FY 92 evaluations of following subcontractors:

LLNL Electronic Services Group  
Pacific Northwest Laboratories  
Argonne National Laboratory

033-YMP-QP 18.1, Rev. 4, "Surveillances"

Surveillance schedule for FY 93, Rev. 0, October 12, 1992

Checklists of Surveillance S93-01

Surveillance Reports of S93-01, S93-02, S93-03 and S93-14

Transmittal IDs LLYMP 9211081, 9212141, 9301040 to LRC for surveillance records of S93-01, S93-02, S93-03