

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR

AUDIT NO. 91-03

OF

LOS ALAMOS NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

MARCH 25 THROUGH MARCH 29, 1991

Prepared By: Richard E. Powe Date: 2/12/91  
Richard E. Powe  
Audit Team Leader

Approved By: James Blaylock Jr. Date: 2/12/91  
Donald G. Horton, Acting Director  
Office of Quality Assurance

## 1.0 SCOPE

This audit will evaluate the Los Alamos National Laboratory (Los Alamos) Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by the Office of Civilian Radioactive Waste Management (OCRWM). This will be done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

A representative sample of discrepancies identified during previous OCRWM audits and surveillances of Los Alamos will be included in the scope of this audit to determine the effectiveness of Los Alamos corrective actions. -

The programmatic elements and technical areas to be audited, as well as those programmatic elements not included in this audit, are identified in Section 4.0 of this plan.

## 2.0 AUDIT SCHEDULE

Team/Observers Badging	8:00 a.m., March 25, 1991, Los Alamos, New Mexico*
Pre-Audit Team/Observers Meeting	8:30 a.m., March 25, 1991, Los Alamos, New Mexico
Pre-Audit Conference	9:30 a.m., March 25, 1991, Los Alamos, New Mexico
Audit Activities	10:30 a.m. to 4:00 p.m., March 25, 1991**
	8:00 a.m. to 4:00 p.m., March 26 - 28, 1991**
	8:00 a.m. to 11:30 a.m. March 29, 1991
Post-Audit Conference	2:00 p.m., March 29, 1991 Los Alamos, New Mexico

\* Initial badging and pre-audit meeting will occur at the facilities of Los Alamos Technical Associates (LATA), 1257 40th Street, Los Alamos, New Mexico.

\*\* There will be daily debriefings starting at 4:15 p.m.

### 3.0 REQUIREMENTS TO BE AUDITED AND APPLICABLE REFERENCES

The requirements to be audited will be contained in the pre-approved programmatic and technical checklists. These checklists will be developed from the latest available revision of the following documents:

- Los Alamos QA Program Plan and implementing procedures.
- Yucca Mountain Site Characterization Project Office (YMPO) Administrative Procedures--Quality (APQs).

The conduct of the audit will be guided by the following:

- Quality Assurance Administrative Procedure QAAP 18.2, Revision 3, "Audit Program."
- QAAP 16.1, Revision 3, "Corrective Action Requests."
- YMP Audit Observer Inquiry.
- Policy for Participation of State, Tribal, and NRC Representatives as Observers on U.S. Department of Energy (DOE) Audits, dated July 14, 1987.
- Headquarters Observation of YMP Quality Assurance.

### 4.0 ACTIVITIES TO BE AUDITED

#### Programmatic Elements:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 3.0 Scientific Investigation Control and Design Control (including Software Control)
- 4.0 Procurement Document Control
- 5.0 Instructions, Procedures, Plans, and Drawings
- 6.0 Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Items (Samples and Data)
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Storage and Shipping
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

The following Programmatic Elements will not be included in the scope of the audit since Los Alamos currently has no activities to which these elements apply:

- 9.0 Control of Processes
- 10.0 Inspection
- 11.0 Test Control
- 14.0 Inspection, Test, and Operating Status

Technical Areas

Technical Specialists will review and evaluate the following technical activities:

<u>WBS Number</u>	<u>Title</u>	<u>SCP Reference</u>
1.2.3.2.1.1.1	Mineralogy, Petrology, and Rock Chemistry of Transport Pathways	8.3.1.3.2.1
1.2.3.2.1.1.2	Mineralogic and Geochemical Alteration	8.3.1.3.2.2
1.2.3.2.1.2	Stability of Minerals and Glasses	8.3.1.3.3
1.2.3.3.1.2.2	Water Movement Tracer Tests	8.3.1.2.2.2
1.2.3.4.1.1	Ground-Water Chemistry Model	8.3.1.3.1

In addition, the above technical activities will be evaluated to determine adequacy in the following areas:

1. Technical qualifications of scientific investigation personnel.
2. Understanding of procedural requirements as they pertain to scientific investigation activities.
3. Adequacy of technical procedures.
4. Development of scientific investigation planning documents, study plans, work supporting the Site Characterization Plan (SCP), and any related work products.

If the audit team identifies a need to verify additional programmatic or technical areas during the audit, they will be added to the audit checklist(s) and verified accordingly.

## 5.0 AUDIT TEAM MEMBERS

James Blaylock--Audit Manager, DOE/Yucca Mountain Quality Assurance  
Division (YMQAD), Las Vegas, Nevada  
Richard E. Powe--Audit Team Leader, Science Applications International  
Corporation (SAIC)/YMQAD, Las Vegas, Nevada  
Neil D. Cox--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Donald J. Harris--Auditor, Harza Engineering/YMQAD, Las Vegas, Nevada  
John S. Martin--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Kenneth T. McFall--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Charles C. Warren--Auditor, MAC Technical Services Company/YMQAD,  
Las Vegas, Nevada  
Richard L. Weeks--Auditor, SAIC/YMQAD, Las Vegas, Nevada  
Paul L. Cloke--Lead Technical Specialist, SAIC/YMQAD, Las Vegas, Nevada  
Ardyth M. Simmons--Technical Specialist, DOE/YMQAD, Las Vegas, Nevada

## 6.0 AUDIT CHECKLISTS

The following checklists will be used in conjunction with this audit:

91-03-1 Programmatic Checklists  
91-03-2 Technical Checklists