

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR AUDIT YM-ARP-96-06

OF THE

**CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR**

AT

LOS ALAMOS NATIONAL LABORATORY

**LOS ALAMOS, NEW MEXICO
FEBRUARY 26 THROUGH MARCH 1, 1996**

Prepared by:

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Date: 1/24/96

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Approved by:

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Date: 1/30/96

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Enclosure

1.0 SCOPE

This performance-based audit of Los Alamos National Laboratory (Los Alamos) will be conducted by a team of auditors and a technical specialist from the Yucca Mountain Quality Assurance Division (YMQAD). The audit will evaluate the effectiveness of implementation of Quality Assurance (QA) program requirements for selected activities that resulted in the product identified in Section 4.0 of this plan.

2.0 AUDIT SCHEDULE

Preaudit Team/Observer Meeting	8:30 a.m., February 26, 1996 Los Alamos, New Mexico
Preaudit Conference	9:15 a.m., February 26, 1996 Los Alamos, New Mexico
Audit Activities	10:00 a.m. to 4:00 p.m. February 26, 1996
	8:00 a.m. to 4:00 p.m. February 27 through 29, 1996
	8:00 a.m. to 11:30 a.m. March 1, 1996
Postaudit Conference	1:00 p.m., March 1, 1996 Los Alamos, New Mexico

There will be a daily YMQAD Audit Team/Observer meeting at 4:00 p.m. to review audit progress. Beginning on Tuesday, February 27, 1996, there will also be a daily Audit Team Leader/Observer/Los Alamos management meeting at 8:15 a.m. to communicate audit progress, to discuss potential deficiencies, and to establish needed liaison. Both daily meetings will be held at locations provided by Los Alamos.

3.0 REQUIREMENTS TO BE AUDITED AND APPLICABLE REFERENCES

The requirements to be audited will be contained in a performance-based checklist. This checklist will be developed from Los Alamos's approved and issued QA program procedures, study plans, technical procedures, and the performance objectives established and agreed upon with Los Alamos.

The conduct of the audit will be guided by the documents (latest revision) listed below:

- Quality Assurance Procedure (QAP) 18.2, "Audit Program"

- Administrative Procedure (AP) 16.1Q, "Performance/Deficiency Reporting"
- AP 16.2Q, "Corrective Action and Stop Work"

4.0 ACTIVITIES TO BE AUDITED

The audit team will evaluate implementation of QA program requirements with regards to the generation of "An Unsaturated Zone Flow and Transport Model of Yucca Mountain" (Milestone 3468). Specifically, the utilization of mineralogical and petrographic data will be evaluated for the attributes listed below in support of Work Breakdown Structure (WBS) 1.2.3.4.1.5.1, "Retardation Sensitivity Analysis."

1. Data Identification and Usage.
2. Control of interfaces between the various organizations which provided input to development of the model.
3. Control of documentation and records that provide objective evidence of compliance with QA program requirements.

This audit will not address the activities, such as software/model validation and geochemistry, which were evaluated by Audits YM-ARC-95-11 and YMP-94-08 respectively.

A performance-based audit evaluates products and activities to determine the degree to which they meet program requirements and management commitments and expectations. This evaluation of process effectiveness and product acceptability will be based upon:

- Satisfactory completion of the critical process steps
- Acceptable results and quality of the end product
- Documentation that substantiates quality of products
- Performance of trained and qualified personnel
- Implementation of applicable QA program elements

5.0 AUDIT TEAM MEMBERS

Richard L. Weeks, YMQAD, Las Vegas, Nevada, Audit Team Leader
Patout H. Cotter, YMQAD, Las Vegas, Nevada, Audit Team Leader in Training
Mark Peters, Civilian Radioactive Waste Management System Management and
Operating Contractor/Woodward Clyde Federal Services, Las Vegas, Nevada,
Technical Specialist

6.0 AUDIT CHECKLIST

The following checklist will be used during the audit:

YMP 96-06, Performance-Based Checklist