

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR AUDIT YMP-94-09

OF

SANDIA NATIONAL LABORATORIES

ALBUQUERQUE, NEW MEXICO

AUGUST 29 THROUGH SEPTEMBER 2, 1994

Prepared by: Kenneth T. McFall Date: 7/15/94  
Kenneth T. McFall  
Audit Team Leader  
Yucca Mountain Quality Assurance Division

Approved by: D. G. Horton Date: 7/18/94  
Donald G. Horton  
Director  
Office of Quality Assurance

## 1.0 SCOPE

This audit, to be performed by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD), will evaluate the Sandia National Laboratories (SNL) 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 accomplished by verifying implementation and effectiveness of the system in place, as well as compliance with requirements

In addition to the follow-up on open Corrective Action Requests, a representative sample of deficiencies identified during previous QA audits and surveillances of SNL will be included in the scope of this audit to determine the effectiveness of SNL corrective actions.

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

## 2.0 AUDIT SCHEDULE

Pre-audit Team/Observer Meeting	8:00 a.m., August 29, 1994 Albuquerque, New Mexico
Pre-audit Conference	9:00 a.m., August 29, 1994 Albuquerque, New Mexico
Audit Activities	10:00 a.m. to 4:00 p.m.* August 29, 1994 Albuquerque, New Mexico
	8:00 a.m. to 4:00 p.m.* August 30 - September 1, 1994 Albuquerque, New Mexico
	8:00 a.m. to 10:00 a.m. September 2, 1994 Albuquerque, New Mexico
Post-audit Conference	11:00 a.m., September 2, 1994 Albuquerque, New Mexico

\* There will be a daily YMQAD Audit Team/Observer meeting starting at 4:00 p.m. and also a daily Audit Team Leader/Observer/SNL meeting starting at 8:00 a.m. to discuss potential deficiencies and establish needed liaison.

### 3.0 REQUIREMENTS TO BE AUDITED AND APPLICABLE REFERENCES

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

- SNL QA Program implementing procedures addressing the OCRWM Quality Assurance Requirements and Description Document (QARD), DOE/RW-0333P, as indicated in the Requirements Traceability Network matrix
- Applicable Yucca Mountain Site Characterization Project Office Administrative Procedures - Quality

The conduct of the audit will be in accordance with the documents (latest revision) listed below:

- Quality Assurance Procedure (QAP) 18.2, "Audit Program"
- QAP 16.1, "Corrective Action"

### 4.0 ACTIVITIES TO BE AUDITED

#### Programmatic Elements

SNL activities associated with the following QA program elements will be audited:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 3.0 Design Control
- 4.0 Procurement Document Control
- 5.0 Implementing Documents
- 6.0 Document Control
- 7.0 Control of Purchased Items and Services
- 12.0 Control of Measuring and Test Equipment
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits
- Supplement I, Software
- Supplement II, Sample Control
- Supplement III, Scientific Investigation.

The following programmatic elements were considered during the development of this audit plan and were determined to be not applicable, since SNL currently has no activities for which these elements apply:

- 8.0 Identification and Control of Items
- 9.0 Control of Special Processes
- 10.0 Inspection
- 11.0 Test Control
- 13.0 Handling, Storage, and Shipping
- 14.0 Inspection, Test, and Operating Status
- 15.0 Nonconformances
- Supplement IV, Field Surveying

If the audit team identifies a need to verify additional programmatic areas during the audit, they will be added to the checklists and verified accordingly.

Technical Elements:

Technical Areas by Work Breakdown Structure (WBS) No./Activity No.

- WBS 1.2.3.2.2.2.1, Activity 365, Conduct Activities to Support Systematic Drilling Program, 1st Hole
- Activity 366, Conduct Activities to Support Systematic Drilling Program, 2nd Hole
- WBS 1.2.3.2.6.2.1, Activity 460, Conduct Soil and Rock Properties Exploration Program
- WBS 1.2.3.2.6.2.2, Activity 470, Conduct Soil and Rock Properties Lab Tests/Material Properties Measurements
- WBS 1.2.3.2.6.2.3, Activity 490, Conduct Soil and Rock Properties Field Tests and Char. Measurements
- WBS 1.2.3.2.7.1.3, Activity 441, Conduct Intact Rock Tests to Support ESF Design
- WBS 1.2.3.2.7.1.4, Activity 443, Conduct Fracture Experiments to Support ESF Design
- WBS 1.2.4.2.1.1.4, Activity 623, Conduct Insitu Design Verification Experiments

Additionally, if time allows, WBS 1.2.4.2.3.2, Activity 683, "Conduct Thermal/Mechanical Analyses of ESF" will be reviewed.

## **5.0 AUDIT TEAM MEMBERS**

Kenneth T. McFall, Audit Team Leader, YMQAD, Las Vegas, Nevada  
Cynthia A. Humphries, Auditor, YMQAD, Las Vegas, Nevada  
James Blaylock, Auditor, YMQAD, Las Vegas, Nevada  
Robert E. Harpster, Auditor, YMQAD, Las Vegas, Nevada  
John R. Matras, Auditor, YMQAD, Las Vegas, Nevada  
Richard L. Maudlin, Auditor, YMQAD, Las Vegas, Nevada  
Mary G. McDaniel, Auditor, YMQAD, Las Vegas, Nevada  
Steven P. Nolan, Auditor, YMQAD, Las Vegas, Nevada  
Richard G. Peck, Auditor, Headquarters Quality Assurance Division (HQAD),  
Washington, D.C.  
Thomas R. Swift, Auditor, HQAD, Washington, D.C.  
Jefferson R. McCleary, Technical Specialist, Management and Operating  
Contractor  
William R. Sublette, Technical Specialist, Technical and Management Support  
and Services Contractor

## **6.0 AUDIT CHECKLIST**

The following checklists will be used to perform the audit:

YMP-94-09-01, Programmatic Checklist  
YMP-94-09-02, Technical Checklist