

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR AUDIT YMP-93-17

OF

SANDIA NATIONAL LABORATORY

ALBUQUERQUE, NEW MEXICO

SEPTEMBER 13 THROUGH 17, 1993

Prepared by: Charles C. Warren Date: 8.9.93
Charles C. Warren
Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by: Donald G. Horton Date: 8/12/93
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 verifying compliance with requirements.

In addition to follow-up of any 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 the 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 this audit, are identified in Section 4.0 of this audit plan.

2.0 AUDIT SCHEDULE

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| Pre-Audit Team/Observer Meeting | 8:30 a.m., September 13, 1993 Albuquerque, New Mexico |
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| Pre-Audit Conference | 9:00 a.m., September 13, 1993 Albuquerque, New Mexico |
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| Audit Activities | 9:30 a.m. to 4:00 p.m. September 13, 1993 Albuquerque, New Mexico |
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8:00 a.m. to 4:00 p.m.
September 14-16, 1993

8:00 a.m. to 11:30 a.m.
September 17, 1993

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| Post Audit Conference | 1:00 p.m., September 17, 1993 Albuquerque, New Mexico |
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There will be daily Audit Team Leader/Observer/SNL meeting at 8:15 a.m. and a daily YMQAD Audit Team/Observer meeting starting at 4:00 p.m. to discuss potential deficiencies and establish needed liaison. Both daily meetings will be held at locations provided by SNL.

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:

- OCRWM Quality Assurance Requirements and Description document
- SNL Yucca Mountain Site Characterization Project (YMP) Quality Assurance Program Description document
- SNL Software Quality Assurance Plan
- SNL Implementing Procedures
- Applicable YMP Administrative Procedures (Quality)

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

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

4.0 ACTIVITIES TO BE AUDITED

QA Program Elements:

- 3.0 Design Control
- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Materials, Parts, Components, and Samples
- 15.0 Control of Nonconforming Items
- 19.0 Computer Software
- 20.0 Scientific Investigations

The following QA program elements were considered during development of this audit plan and found to be not applicable, since the current SNL QA Program has no activities for which these elements apply:

- 10.0 Inspection
- 11.0 Test Control
- 14.0 Inspection, Test, and Operating Status

Technical Areas:

Technical Specialists will review and evaluate the processes used for the following technical activities:

Work Breakdown Structure (WBS) Number/Activity Number and Title

- 1.2.3.2.6.2.1/460, Surface Facilities Exploration Program
- 1.2.3.2.6.2.2/470, Surface Facilities Laboratory Tests and Material Property Measurements
- 1.2.3.2.6.2.3/490, Surface Facilities Field Tests
- 1.2.3.2.7.1.1/420, Laboratory Thermal Properties Develop Procedures and Conduct Tests
- 1.2.3.2.7.1.2/430, Laboratory Thermal Expansion Testing Develop Procedures and Conduct Tests
- 1.2.3.2.7.1.4/451, Scoping/Prep Activities for Mechanical Properties of Rock Fractures
- 1.2.4.2.1.1.4/621, Begin Starter Tunnel Construction Monitoring

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

1. Technical qualifications of scientific investigators and design 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, and any related work products.

If the audit team identifies a need to verify additional program elements/technical areas during the audit, they will be added to the audit scope and verified accordingly.

5.0 AUDIT TEAM MEMBERS

Charles C. Warren, Audit Team Leader, Quality Assurance Technical Support Services (QATSS), Las Vegas, Nevada
Kenneth T. McFall, Lead Technical Specialist, QATSS, Las Vegas, Nevada
James Blaylock, Auditor, YMQAD, Las Vegas, Nevada

Robin N. Datta, Technical Specialist, Management & Operating Contractor, Las Vegas, Nevada

Mario R. Diaz, Auditor, YMQAD, Las Vegas, Nevada

John S. Martin, Auditor, QATSS, Las Vegas, Nevada

John R. Matras, Auditor, QATSS, Las Vegas, Nevada

Forrest D. Peters, Technical Specialist, Technical and Management Support Services, Las Vegas, Nevada

Richard L. Weeks, Auditor, QATSS, Las Vegas, Nevada

6.0 AUDIT CHECKLISTS

The following checklists will be used during the audit:

YMP-93-17-01, Programmatic Checklist

YMP-93-17-02, Technical Checklist