

**OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**QUALITY ASSURANCE AUDIT PLAN**

**FOR AUDIT YM-ARP-95-14**

**OF**

**LAWRENCE LIVERMORE NATIONAL LABORATORY**

**LIVERMORE, CALIFORNIA**

**AUGUST 21 THROUGH 25, 1995**

Prepared by: *Kenneth T. McFall* Date: 7/19/95  
Kenneth T. McFall  
Audit Team Leader  
Yucca Mountain Quality Assurance Division

Approved by: *Donald G. Horton* Date: 7/24/95  
Donald G. Horton  
Director  
Office of Quality Assurance

## 1.0 SCOPE

This performance based audit of Lawrence Livermore National Laboratory (LLNL) will be conducted by a team of auditors and a Technical Specialist from the Yucca Mountain Quality Assurance Division (YMQAD). The audit team will evaluate the effectiveness of selected processes, and the quality of the resultant end product related to LLNL activity supporting Work Breakdown Structure (WBS) 1.2.2.4.1 and all applicable Quality Assurance (QA) Program Elements.

The scheduled performance based audit of products resulting from work described by WBS 1.2.2.5.1 has been deferred to a future audit when those products will have been completed.

## 2.0 AUDIT SCHEDULE

Pre-audit Team/Observer Meeting	12:30 p.m., August 21, 1995 Livermore, California
Pre-audit Conference	1:00 p.m., August 21, 1995 Livermore, California
Audit Activities	1:30 p.m. to 4:00 p.m. August 21 1995 Livermore, California
	8:00 a.m. to 4:00 p.m. August 22 through 24, 1995 Livermore, California
	8:00 a.m. to 10:00 a.m. August 25, 1995 Livermore, California
Post-audit conference	11:00 a.m., August 25, 1995 Livermore, California

An Audit Team/Observer meeting will be held at 4:00 p.m. daily to review audit progress. Beginning Tuesday, August 22, 1995, there will also be a daily Audit Team Leader (ATL) Observer/LLNL management meeting at 8:15 a.m. to communicate audit progress, 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 performance based and technical checklists. These checklists will be developed from the latest available revision of LLNL's approved, issued study plans, technical procedures, project planning and control system project planning sheets, and the performance objectives established and agreed upon with LLNL management.

The conduct of the audit will be in accordance with 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 conduct a performance based audit of activity supporting WBS 1.2.2.4.1, "Spent Fuel." The specific product chosen as the focal point for this portion of the audit is the publication, "Aqueous Dissolution Rates of Uranium Oxides," and the LLNL Monthly Status Reports for March, April, and May, 1995.

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

- 1) Satisfactory completion of the critical process steps
- 2) Acceptable end product
- 3) Documentation that substantiates quality of the product
- 4) Performance of trained and qualified personnel
- 5) Implementation of applicable QA Program Elements

### **5.0 AUDIT TEAM MEMBERS**

Kenneth T. McFall, YMQAD, Las Vegas, Nevada, ATL  
Stephen R. Dana, YMQAD, Las Vegas, Nevada, Auditor  
Richard J. Herbst, Los Alamos Technical Associates, Technical Specialist

## 6.0 AUDIT CHECKLIST

The following checklists will be used during the audit:

YM-ARP-95-14-01, Performance Based Checklist  
YM-ARP-95-14-02, Technical Checklist