

MEMORANDUM FOR: Mysore Nataraja, HLGE
Richard Weller, HLGE
Seth Coplan, HLHP
Keith McConnell, HLGE
Dave Brooks, HLHP

MAY 05 1992

89001596

THRU: Ken Hooks, HLPD

FROM: John Buckley, HLPD

SUBJECT: INTERNAL AUDIT OF CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

The Center for Nuclear Waste Regulatory Analyses (CNWRA) plans to conduct an internal audit of the CNWRA Quality Assurance (QA) Program during the week of June 2-5, 1992, in San Antonio, Texas. The applicable requirements, documents, and activities to be audited are listed in Sections 2 and 4 of the attached audit plan. Tom Trbovich will be the Audit Team Leader and the Technical Specialists will be selected based on the areas to be audited.

The CNWRA QA auditors will review Criteria I, II, III, V, VI, VII, VIII, IX, XII, XIII, XV, XVII, and XVIII of Title 10 of the Code of Federal Regulations, Part 50, Appendix B.

I have been designated as the NRC Observation Audit Team Leader. The CNWRA programmatic and technical audit checklists should be distributed one to two weeks prior to the audit.

Please inform me (504-2513) no later than May 22, 1992, of any personnel from your section whom you intend to send to observe this audit.

/s/
John Buckley
Quality Assurance Section
Repository Licensing & Quality Assurance
Project Directorate

Attachment: As stated

cc: B. J. Youngblood
J. Linehan
R. Ballard
M. Federline
J. Holonich
S. Fortuna
B. Stiltenspole
M. Silberberg

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NAME:JBuckley/Jh :KHooks
Date:05/5/92 :05/5/92

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OFC :HLPD *JB* :HLPD *JB* *for*

NAME:JBuckley/jh :KHooks

Date:05/5/92 :05/5/92

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DATE: 5/11/92

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

AUDIT PLAN - CNWRA AUDIT 92-1

April 24, 1992

1. AUDIT SCOPE

Audit 92-1 is the sole internal audit of the CNWRA Quality Assurance Program scheduled for 1992. It is a full scope audit of all applicable QA program criteria, and includes evaluation of selected technical activities. The technical activities are selected based upon the level of work accomplished and the time since the activity was last audited. Audit 91-1 was the first audit which included technical activities, so those activities audited in 1991 will not be included in Audit 92-1. Corrective Action Requests initiated as a result of Audit 91-1 and any initiated subsequently shall be verified for proper close-out.

The requirement for annual program audits is satisfied by the June, 1992 schedule for Audit 92-1. Audit 91-1 was conducted during July, 1991. This audit shall be conducted in accordance with QAP-011. Auditors and Technical Specialists shall be qualified in accordance with the CQAM or SwRI Nuclear Quality Assurance Program.

Audit 92-1 shall be conducted as a performance-based audit. Rather than conducting evaluations focused on the QA programmatic criteria, the focus of the audit will be on the technical activities and evaluating the effectiveness of programmatic controls specifically applicable to those technical activities. As a consequence of the technical evaluations, personnel, procedures, records, software, and equipment will be identified upon which the programmatic assessments may be made. Technical and programmatic evaluations of an activity will be simultaneous and integrated.

2. APPLICABLE REQUIREMENTS and DOCUMENTS

The audit checklist shall be based on the applicable criteria of 10 CFR Part 50, Appendix B, the Center Quality Assurance Manual (CQAM), CNWRA plans and procedures. Applicable criteria include:

- I Organization
- II Quality Assurance Program
- III Scientific Investigation and Analysis Control (Includes Software Control)
- V Instructions, Procedures, and Drawings
- VI Document Control
- VII Procurement Control
- VIII Identification and Control of Items, Software and Samples
- IX Control of Processes
- XII Control of Measuring and Test Equipment
- XIII Handling, Storage, and Shipping
- XV Nonconformance Control
- XVI Corrective Action
- XVII Records Control
- XVIII Audits

The CQAM takes exception to Criteria IV, X, XI, and XIV, so these are not included in the scope of the audit. A matrix of QA Criteria and Operating Procedures is attached.

3. Audit Personnel

Audit Team Leader - Tom Trbovich, Certified Lead Auditor, SWRI QA Manager
Auditors - Don Dunavant, Auditor, SWRI QA Staff
Randy Folck, Certified Lead Auditor, SWRI QA Staff
Technical Specialists - To be selected based on the technical areas to be investigated. As necessary, Technical Specialists shall be trained in audit techniques, QAP-011 and in the general CNWRA QA program. Training and qualifications shall be documented.

4. ACTIVITIES TO BE AUDITED

Geologic Setting Task 2 - Regulatory and Technical Guidance Development
20-3702-121 through 127

Geologic Setting Task 3 - Analysis Codes and Methods
20-3702-131 through 133

Performance Assessment Task 5 - Iterative Performance Assessment
20-3702-065

Engineered Barrier System Task 2 - Regulatory and Technical Guidance Development
20-3702-012

Engineered Barrier System Task 3 - Analysis Codes and Methods
20-3702-231 through 232

Thermohydrology Research Tasks 1, 2, & 3
20-3704-021 through 023

Geochemistry Research Task 2 - Geochemical Modeling of Fluid/Rock Interactions
20-3704-012

Geochemical Analog Research Tasks 1-4
20-3704-061 through 064

Sorption Modeling Research Tasks 1-3
20-3704-071 through 073

Audit Technical Specialists shall evaluate the technical activities to determine the following:

- a. Technical qualifications of investigators and analysts.
- b. Understanding of procedural requirements (by the Technical Staff) as they pertain to scientific investigations and analysis activities.
- c. Adequacy of Technical Operating Procedures and Scientific Notebooks.
- d. Adequacy of technical work and appropriateness of conclusions.

5. SCHEDULE (tentative)

Pre-audit conference: June 2, 1992, 8:30 am.
Audit activities: June 2, 1992, 9:30 am - 4:00 pm.
June 3-4, 1992, 8:30 - 4:00 pm.
June 5, 1992, as needed.
Post-audit conference: June 5, 1992, 2:00 pm.

The Audit Team may hold daily caucuses to discuss findings and coordinate activities. The Audit Team Leader shall discuss the progress of the audit and potential findings with CNWRA management on a daily basis.

6. AUDIT CHECKLIST

Audit checklists shall be prepared by the Audit Team, as coordinated by the Audit Team Leader. The checklists may be revised as necessary.

7. AUDIT REPORT

The Audit Report shall be prepared under the direction of the Audit Team Leader in accordance with QAP-011. The report shall be issued within 30 days of completion of the audit.

8. OBSERVERS

Observers from the NRC Division of High-Level Waste Management (HLWM) QA Staff are expected for this audit. Observers from the HLWM technical staff may also attend.

Approved by: Robert Burns date 4/27/92

for Director of QA

Distribution:

J. Latz
Element Managers
T. Trbovich, SwRI QA

Directors
Principal Investigators
A. Whiting, SwRI QA

MATRIX OF 10 CFR 50 APPENDIX B CRITERIA AND OPERATING PROCEDURES

<u>Criterion</u>	<u>Operating Procedure</u>
I.	
II.	QAP-005 QUALITY INDOCTRINATION AND TRAINING QAP-013 QUALITY PLANNING QAP-007 PROFESSIONAL PERSONNEL QUALIFICATION
III.	QAP-001 SCIENTIFIC AND LABORATORY NOTEBOOK CONTROL QAP-002 REVIEW OF CNWRA DOCUMENTS, REPORTS, PAPERS AND PRESENTATION MATERIALS QAP-014 DOCUMENTATION AND VERIFICATION OF ROUTINE CALCULATIONS QAP-015 QUALIFICATION OF EXISTING DATA TOP-001 PROGRAM ARCHITECTURE DEVELOPMENT AND MAINTENANCE TOP-001-06 PROCEDURE FOR REGULATORY REQUIREMENT CATEGORIZATION AND COMPLIANCE DETERMINATION STRATEGY DEVELOPMENT TOP-003-01 PROCEDURE FOR PREPARATION ELECTROCHEMICAL/CORROSION TEST SPECIMENS TOP-004 PROCEDURE FOR CONTROL, PREPARATION, AND CHARACTERIZATION OF GEOLOGICAL MATERIALS TOP-004-01 PROCEDURE FOR PREPARATION OF THIN SECTIONS OF GEOLOGICAL MATERIALS TOP-004-02 PROCEDURE FOR QUALITATIVE X-RAY POWDER DIFFRACTION ANALYSIS OF GEOLOGICAL MATERIALS TOP-005 PROCEDURE FOR ZEOLITE ION EXCHANGE EXPERIMENTS TOP-006 PROCEDURE FOR OBTAINING SEISMIC ROCK MECHANICS TEST SPECIMENS FROM THE FIELD TOP-007 PROCEDURE FOR ASSEMBLING AND TESTING JOINTED-ROCK TUFF SPECIMENS USING A DYNAMIC SIMULATOR WHICH PRODUCES DYNAMIC SHEAR AND COMPRESSIVE NORMAL LOADS TOP-008 CONDUCTING AND VERIFYING CYCLIC POLARIZATION TESTS TOP-009 CONDUCTING AND VERIFYING POTENTIODYNAMIC POLARIZATION TESTS TOP-010 PREPARING SIMULATED J-13 WATER AND ITS MODIFICATIONS

MATRIX OF 10 CFR 50 APPENDIX B CRITERIA AND OPERATING PROCEDURES

<u>Criterion</u>	<u>Operating Procedure</u>
III.	TOP-011 PROCEDURE FOR ASSEMBLING AND INSTALLING HYDRAULIC ANCHOR BOREHOLE EXTENSOMETERS
	TOP-013 TECHNICAL OPERATING PROCEDURE FOR SPECTROPHOTOMETRIC ANALYSIS OF ALUMINUM
	TOP-014 TECHNICAL OPERATING PROCEDURE FOR SPECTROPHOTOMETRIC ANALYSIS OF SILICA
	TOP-015 PROCEDURE FOR DECISION ANALYSIS
	TOP-016 TECHNICAL OPERATING PROCEDURE FOR FIELD COLLECTION OF GEOLOGIC SAMPLES
	TOP-017 FIELD COLLECTION OF WASTE SAMPLES
	TOP-018 CONFIGURATION MANAGE AND CONTROL OF SCIENTIFIC & ENGINEERING COMPUTER CODES
	TOP-019 PREPARATION OF GROUND BOROSILICITE GLASS SPECIMENS
	TOP-020 CLEARING OF STAINLESS STEEL LOCKING VESSELS
	TOP-021 PRODUCT CONSISTENCY TEST (PCT) FOR GLASS
V.	
VI.	QAP-008 DOCUMENT CONTROL
VII.	QAP-003 STANDARD PROCUREMENT DOCUMENT QUALITY REQUIREMENTS FOR SCIENTIFIC INVESTIGATIONS, INTERPRETATIONS AND ANALYSIS SERVICES SUPPLIERS
	QAP-006 ACCEPTANCE AND IDENTIFICATION OF PROCURED ITEMS, SAMPLES, AND SOFTWARE
VIII.	TOP-012 PROCEDURE FOR IDENTIFICATION, CONTROL, STORAGE, HANDLING, SHIPPING, AND ARCHIVING OF SAMPLES
XII.	
XIII.	TOP-012 PROCEDURE FOR IDENTIFICATION, CONTROL, STORAGE, HANDLING, SHIPPING, AND ARCHIVING OF SAMPLES
XV.	QAP-009 NONCONFORMANCE CONTROL
XVI.	QAP-010 CORRECTIVE ACTION
XVII.	QAP-012 RECORDS CONTROL

MATRIX OF 10 CFR 50 APPENDIX B CRITERIA AND OPERATING PROCEDURES

Criterion

Operating Procedure

XVIII.

QAP-004 SURVEILLANCE CONTROL

QAP-011 AUDITS