Department of Energy
Yucca Mountain Project Office
P. O. Box 98608
Las Vegas, NV 89193-8608

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JUN 05 1990

Larry R. Hayes
Technical Project Officer
for Yucca Mountain Project
U.S. Geological Survey
101 Convention Center Drive
Suite 860
Las Vegas, NV 89109

YUCCA MOUNTAIN PROJECT OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT 90-03 OF THE U.S. GEOLOGICAL SURVEY (USGS) SUPPORT OF THE YUCCA MOUNTAIN PROJECT

Please be advised that a team from the Project Office will conduct a QA audit of implementation of the USGS QA Program during the periods of June 25-29, 1990, and July 2-3, 1990. Current plans are for the audit team to hold a pre-audit conference on Monday, June 25, 1990, beginning at 10 a.m. at your facilities in Denver, Colorado. Please arrange for the appropriate USGS personnel to attend the meeting. The preliminary post-audit conference is tentatively scheduled for 2 p.m. on Friday, June 29, 1990. The audit will then continue at the Nevada Test Site (NTS) on July 2-3, 1990. The final post-audit conference will be held on Tuesday, July 3, 1990, in Las Vegas, Nevada, and will address only those issues related to the NTS. Locations will be needed for the pre-audit and post-audit conferences.

The audit will focus on the following areas:

QA Program Elements

1.0 Organization
2.0 Quality Assurance Program
3.0 Scientific Investigation Control and Design Control
4.0 Procurements Document Control
5.0 Instruction, Procedures, Plans, and Drawings
6.0 Document Control
7.0 Control of Purchased Items and Services
8.0 Identification and Control of Items, Samples, and Data
12.0 Control of Measuring and Test Equipment
13.0 Handling, Shipping, and Storage
15.0 Control of Nonconforming Items
16.0 Corrective Action
17.0 Quality Assurance Records
18.0 Audits

In addition to the above listed criteria, Software QA will be the subject of review. The audit of implementation will be primarily based upon the current revision of your implementing procedures and/or the procedures that were in effect when the activity was performed.

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Technical Areas

Technical specialists will review and evaluate the following technical activities:

SITE CHARACTERIZATION PLAN (SCP) NUMBER	TITLE
8.3.1.5.2.1	Characterization of Quaternary Regional Hydrology
Sub-activity (.3)	Evaluation of Past Discharge Areas
Sub-activity (.4)	Analog Recharge Studies
Sub-activity (.5)	Calcite and Opaline Silica Vein Deposits
8.3.1.2.2.7	Hydrochemical Characterization of the Unsaturated Zone
Sub-activity (.1)	Gaseous-Phase Chemical Investigations
Sub-activity (.2)	Aqueous-Phase Chemical Investigations
8.3.1.4.2.2	Characterization of Structural Features Within the Site Area
Sub-activity (.1)	Geologic Mapping of Zonal Features in the Paintbrush Tuff
Sub-activity (.2)	Surface-Fracture Network Studies
8.3.1.2.1.3	Characterization of the Regional Ground-Water Flow System
Sub-Activity (.2)	Regional Potentiometric Level Distribution and Hydrogeologic Framework Studies
Sub-activity (.3)	Forty Mile Wash Recharge Study

In addition, technical specialists will evaluate the above activities to determine adequacy in the following areas:

1. Technical qualifications of scientific personnel.

2. Understanding of procedural requirements as they pertain to scientific investigation activities.

3. Adequacy of technical procedures.

4. Development of study plans, work supporting the Site Characterization Plan, and any related work

If the audit team identifies a need to verify additional programmatic or technical areas during the audit, they will be added to the audit checklist(s) and verified accordingly.

The audit team will consist of the following individuals:

Richard Maudlin, MAC Technical Services Company (MACTEC), Las Vegas, Nevada, Audit Team Leader
D. Brown, CER Corporation, Arlington, Virginia, Auditor-In-Training
James Clark, Science Applications International Corporation (SAIC), Las Vegas, Nevada, Auditor
Neil Cox, SAIC, Las Vegas, Nevada, Auditor
Robert Constable, Yucca Mountain Project, Las Vegas, Nevada, Auditor
Edward Cocoros, MACTEC, Las Vegas, Nevada, Auditor
Kenneth Gilkerson, SAIC, Las Vegas, Nevada, Auditor-In-Training
Donald Harris, Harza, Las Vegas, Nevada, Auditor-In-Training
Kenneth McFall, SAIC, Las Vegas, Nevada, Auditor
Mark Myer, CER Corporation, Arlington, Virginia, Auditor-in-Training
Charles Warren, MACTEC, Las Vegas, Nevada, Auditor
Richard Weeks, SAIC, Las Vegas, Nevada, Auditor
Thomas Higgins, SAIC, Las Vegas, Nevada, Lead Technical Specialist
Bruce Hurley, SAIC, Las Vegas, Nevada, Technical Specialist
Keith Kersch, SAIC, Las Vegas, Nevada, Technical Specialist
Martha Mitchell, SAIC, Las Vegas, Nevada, Technical Specialist
Claudia Newbury, Yucca Mountain Project, Las Vegas, Nevada, Technical Specialist

Observers from the State of Nevada, the U.S. Nuclear Regulatory Commission, the U.S. Department of Energy/Headquarters, or other interested parties may also accompany the team. You will be notified of these observers prior to the audit.

If you have any questions, please contact either James Blaylock at (702) 794-7913 or FTS 544-7913 or Richard L. Maudlin at (702) 794-7290 or FTS 544-7290) of the Yucca Mountain Project QA staff.

James Blaylock for
Donald G. Horton, Director
Quality Assurance
Yucca Mountain Project Office

YMP:JB-3561

Enclosure:
Audit Plan 90-03

cc w/encl:
Ralph Stein, HQ (RW-30) FORS
D. E. Shelor, HQ (RW-3) FORS
K. G. Sommer, HQ (RW-3) FORS
D. Brown, CER Corporation, Arlington, VA
Mark Myer, CER Corporation, Arlington, VA
D. J. Harris, Harza, Las Vegas, NV, 517/T-06
A. E. Cocoros, MACTEC, Las Vegas, NV
R. L. Maudlin, MACTEC, Las Vegas, NV
C. C. Warren, MACTEC, Las Vegas, NV
J. W. Gilray, NRC, Las Vegas, NV
K. R. Hooks, NRC, Washington, DC
J. E. Kennedy, NRC, Washington, DC
Tilak Verma, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
T. H. Chaney, USGS, Denver, CO
Alan Flint, USGS, Las Vegas, NV
J. E. Clark, SAIC, Las Vegas, NV, 517/T-12
N. D. Cox, SAIC, Las Vegas, NV, 517/T-06
J. B. Harper, SAIC, Las Vegas, NV, 517/T-38
T. J. Higgins, SAIC, Las Vegas, NV, 517/T-06
B. W. Hurley, SAIC, Las Vegas, NV, 517/T-13
K. M. Kersch, SAIC, Las Vegas, NV, 517/T-03
K. T. McFall, SAIC, Las Vegas, NV, 517/T-06
J. H. Nelson, SAIC, Las Vegas, NV, 517/T-04
D. D. Porter, SAIC, Golden, CO
C. H. Prater, SAIC, Las Vegas, NV, 517/T-06
R. L. Weeks, SAIC, Las Vegas, NV, 517/T-06