

NOV 06 1990

Mr. Dwight Shelor, Acting Associate Director
for Systems Integration and Regulations
Office of Civilian Radioactive Waste Management
U. S. Department of Energy, RW 30
Washington, D.C. 20585

Dear Mr. Shelor:

SUBJECT: SURVEILLANCE OBSERVATION OF THE U.S. GEOLOGICAL SURVEY QUALITY
ASSURANCE PROGRAM

I am transmitting the U.S. Nuclear Regulatory Commission (NRC) Surveillance Observation Report for the U.S. Department of Energy (DOE)/Yucca Mountain Project Office (YMPO) Quality Assurance (QA) Surveillance No. YMP-SR-90-038 of the U.S. Geological Survey (USGS) conducted at Denver, Colorado, and the Nevada Test Site (NTS), on September 10-14, 1990. The NRC staff participated as an observer on the DOE/YMPO surveillance of the USGS QA program.

The NRC staff observed and evaluated the DOE/YMPO QA surveillance to gain confidence that DOE and USGS are effectively implementing the requirements of their QA program pertaining to corrective actions taken with regard to previously identified deficiencies, and to verify the implementation of their QA and technical procedures under Criteria 4, 12, 15, and 16. The staff's evaluation is based on direct observations of the surveillance team members, discussions with the surveillance team and USGS staff, and reviews of pertinent QA and technical records relating to corrective actions and implementation of the USGS QA and technical procedures.

The scope of their surveillance was limited to procedural implementation. No assessment of technical adequacy and qualification of any of the technical documents (study plans and field data) was made during the surveillance. The NRC observer found the DOE/YMPO surveillance of the USGS QA program useful and effective. The surveillance team was familiar with the USGS QA Plan and the relevant QA procedures being implemented. Their checklist for this surveillance was well prepared and utilized in determining the status and adequacy of the QA program under 10 CFR Part 50, Appendix B, Criteria 4, 12, 15, and 16. The team seemed to have a good knowledge of the requirements of the Nevada Nuclear Waste Storage Investigations Quality Assurance Plan (NNWSI/88-9) and applicable QA procedures.

The NRC staff agrees with DOE/YMPO surveillance team's conclusion that the procedural implementation of the USGS QA program under Criteria 4, 12, 15, and

Attachment 3

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16 is adequate. In addition, the staff was satisfied that USGS is closing out deficiencies identified during previous audits and surveillances in a satisfactory manner.

If you have any questions concerning this report, please contact Tilak Verma of my staff at (301) 492-3465 or FTS 492-3465.

Sincerely,

15/ by J. J. Linehan
John J. Linehan, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As Stated

cc: R. Loux, State of Nevada
C. Gertz, DOE/NV
S. Bradhurst, Nye County, NV
M. Baughman, Lincoln County, NV
D. Bechtel, Clark County, NV
D. Weigel, GAO
P. Niedzielski-Eichner, Nye County, NV

SURVEILLANCE OBSERVATION REPORT

1.0 INTRODUCTION

The United States Geological Survey (USGS) is responsible for conducting geologic, geophysical, hydrologic, and seismologic investigations in support of the U.S. Department of Energy's (DOE) waste management and site characterization activities for the Yucca Mountain Project (YMP). The investigations are ongoing at the Nevada Test Site and the USGS offices in Denver, Colorado; Menlo Park, California; and Las Vegas, Nevada.

From September 10-14, 1990, the DOE/Yucca Mountain Project Office (YMPO) conducted surveillance No. YMP-SR-90-038 of the USGS QA program at Denver, Colorado, and at the Nevada Test Site, in accordance with the YMPO Quality Management Procedure, QMP-18-02, Revision 1 "Surveillances." The U.S. Nuclear Regulatory Commission (NRC) staff participated in the surveillance as an observer. This report documents the staff's assessment of the effectiveness of the DOE/YMPO surveillance and the adequacy of the USGS QA program in the areas of corrective actions (CA) taken with regard to previously identified deficiencies and the development and procedural implementation under Criteria 4, 12, 15, and 16.

2.0 PURPOSE

This DOE/YMPO surveillance evaluated the adequacy and status of procedural implementation of the USGS QA program in selected program elements and verified corrective actions taken by the USGS to close out previously identified deficiencies. The NRC staff's purpose in observing this surveillance was to gain confidence that the DOE and its contractors are properly implementing the requirements of QA program by assessing the effectiveness of the DOE/YMPO surveillance and determining the adequacy of the USGS QA program.

3.0 SCOPE

The DOE/YMPO surveillance team selected Criteria 4, 12, 15, and 16 requirements from the NMWSI/88-9 QA Plan and the USGS QAPP for review and assessment of QA program adequacy and status of procedural implementation. The scope of this surveillance did not include any review of the technical adequacy and qualification of the technical products such as study plans, technical procedures, or field data.

4.0 SURVEILLANCE PARTICIPANTS

DOE/YMPO

Donald Harris, HARZA, Team Lead
Frank Kratzinger, SAIC, Team Member
Robert B. Constable, DOE, Team Member

NRC

Tilak R. Verma, Observer

5.0 SURVEILLANCE SUMMARY RESULTS

The DOE/YMPO surveillance team conducted a detailed examination and review of the USGS records, logs and documents to assess compliance with the procedural requirements. The team interviewed several USGS and contractor personnel to assess their knowledge of applicable procedures under each criterion. Adequacy of controls and status of implementation for selected procedures was assessed and documented on the checklist for each of the selected criteria. The surveillance team identified one weakness in the portions of the USGS QA program covered by the surveillance. This weakness was identified as an observation under Criterion 15 (Control of Nonconforming Items) for a lack of a designated hold area for nonconforming items with "Hold Tags." This weakness, if corrected in a timely manner, is not serious enough to affect the adequacy of QA controls or their procedural implementation. The surveillance team concluded that the QA program controls under Criteria 4, 12, 15, and 16 are adequate and their implementation is satisfactory. The surveillance team did not assess the effectiveness of implementation for these criteria of the USGS QA program.

6.0 USGS AND CONTRACTOR PERSONNEL CONTACTED

L. R. Hayes, Technical Project Officer, USGS
T. Chaney, Associate QA Manager, USGS
A. Handy, QA Specialist, USGS
A. Whiteside, QA Advisor, SAIC-Golden
P. Warner, Records Coordinator, USGS
M. Mustard, QA Specialist, USGS
D. Porter, Manager, QA Records Support, SAIC-Golden
R. Luckey, NHP, USGS
J. Woolverton, NHP, USGS
J. Stuckless, NHP, USGS
D. Baldwin, NHP, USGS
J. Ziemba, QA Audit Specialist, SAIC-Golden
J. LaMonica, Records Specialist, USGS
T. Mendez-Vigo, NHP QA, USGS
K. Causseaux, SP Coordinator/NHP, USGS
M. Brooks, QA Specialist, SAIC-Golden

7.0 NRC CONCLUSIONS

The NRC observer found the DOE/YMPO surveillance of the USGS QA program useful and effective. The surveillance team was familiar with the requirements of the NMWSI/88-9 QA Plan and the USGS QAPP. Their checklist for this surveillance was well prepared and utilized in determining the adequacy of QA controls under Criteria 4, 12, 15, and 16 and for assessing the status of completeness and implementation of all the applicable procedures under these criteria. The team was thorough and professional in interviewing the USGS and contractor personnel and in conducting the surveillance.

The scope of this surveillance was limited to procedural implementation. No assessment of technical adequacy and qualifications of any of the technical documents (such as study plans and field data) was made during the surveillance. The surveillance identified one weakness in the USGS QA program under Criterion 15 (Control of Nonconforming Item) and resulted in an Observation for a lack of designated hold area for items with "Hold Tags." This weakness, if corrected in a timely manner, is not serious enough to affect the adequacy of QA controls or their procedural implementation. The NRC staff agrees with the DOE/YMPO surveillance team's conclusion that the USGS QA program provides adequate controls and that the procedural implementation of the procedures under the above criteria is also adequate. In addition, the staff was satisfied that USGS is closing out deficiencies identified during previous audits and surveillance in a satisfactory manner.

QA ACCEPTANCE PROGRAMS

- 1 -

OCT 24 1990

Mr. Dwight Shelor, Acting Associate Director
for Systems Integration and Regulations
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW 30
Washington, D.C. 20585

Dear Mr. Shelor:

SUBJECT: ACCEPTANCE OF PARTICIPANT QUALITY ASSURANCE (QA) PROGRAMS FOR THE
HIGH-LEVEL WASTE GEOLOGIC REPOSITORY

This letter responds to the Stein to Browning letter dated September 12, 1990, requesting the U.S. Nuclear Regulatory Commission (NRC) to accept six of the U.S. Department of Energy, Office of Civilian Radioactive Waste Management (DOE/OCRWM) participant quality assurance (QA) programs for the Yucca Mountain Project (YMP). NRC acceptance has been requested for the following DOE/OCRWM participant QA programs accepted by DOE:

- (1) Lawrence Livermore National Laboratory (LLNL)
- (2) Sandia National Laboratories (SNL)
- (3) Fenix and Scisson of Nevada (FSN)
- (4) Holmes and Narver (H&N)
- (5) Reynolds Electrical and Engineering Co. (REECO)
- (6) U.S. Geological Survey (USGS)

One of the concerns (Objection 2) resulting from the NRC review of DOE's Site Characterization Plan for the YMP, pertained to having a QA program which meets the NRC requirements of Subpart G of 10 CFR Part 60 in place prior to the start of the new site characterization activities. Consistent with previous NRC/DOE agreements, the NRC staff recommended that DOE complete its development and acceptance of DOE and the participant QA programs and then obtain NRC acceptance prior to the start of new site characterization activities. NRC also noted that this objection could be lifted incrementally for individual QA programs and program areas as DOE demonstrated and NRC agreed on their acceptability.

DOE submitted QA Program Plans (QAPPs) for the above program participants for NRC staff review and acceptance in early 1989. DOE concluded that these QAPPs were in compliance with the DOE/YMP 88-9 QA Plan, and consequently, in compliance with the NRC requirements of Subpart G of 10 CFR Part 60 and Appendix B of 10 CFR Part 50. The NRC staff performed its own independent review and concluded in six NRC Safety Evaluations (SEs) issued in October 1989, that these QAPPs addressed the applicable criteria of Subpart G of 10 CFR Part 60 and Appendix B of 10 CFR Part 50. The SEs stated that the participant QAPPs could serve as an adequate framework for developing specific policies, plans, and procedures to implement the QA Program for the YMP.

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FDR WASTE
WM-11 FDC

Attachment 4

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1027
WM-11
A.116

QA ACCEPTANCE PROGRAMS

- 2 -

Before the DOE/OCRWM program participant QA programs could be determined to be acceptable for start of new site characterization activities, it was necessary for DOE to verify and NRC to concur that the participant QAPPs were being effectively implemented. After an initial round of audits on participant program implementation, NRC and DOE agreed at the April 27, 1990, QA Meeting on the criteria to demonstrate that the QAPPs were being effectively implemented. The criteria included the following:

- (1) Review and resolve open QA program deficiencies identified by the DOE auditors that could have a quality or technical impact on output products;
- (2) Identify the extent of the program implementation since the last DOE audit, including the areas of activity audited or surveilled and the end products produced;
- (3) Determine whether the program can be effectively implemented;
- (4) Identify what areas of the program are on hold; and
- (5) State the DOE position of whether the program is adequate for further implementation to conduct new site characterization activities.

The NRC staff has reviewed the information in DOE's September 12, 1990, letter and finds that DOE has provided sufficient information to address the five criteria. The enclosures to the letter for each participant QA program indicate that DOE has reviewed the open QA program deficiencies, and, based on follow-up audits and/or surveillances, determined that, with the exception of open QA issues on procurement, software QA, and access to personnel qualifications for some participants, there were no items that could have a technical or quality impact on output products. The DOE review verified that: a) significant deficiencies previously identified by DOE audits and surveillances have been resolved; b) there are no areas of the QA programs presently affected by a stop work order; and c) open QA issues for procurement, software QA, and access to personnel qualifications are in the process of being resolved. DOE has determined that the QA programs for SNL and LLNL are being effectively implemented and are in compliance with the DOE/YMP 88-9 QA Plan and the applicable NRC QA requirements, and they are acceptable to initiate new site characterization activities. The QA programs for FSN, H&N, REECO, and USGS were also found by DOE to be effectively implemented and to be acceptable to initiate new site characterization activities, pending resolution of the open QA issues for procurement, software QA, and personnel qualifications.

Based on the NRC staff observations of DOE audits and surveillances of the participant QA programs and review of the information provided in DOE's September 12, 1990 letter, the NRC staff agrees with the DOE conclusion that the participant QA programs for SNL and LLNL are acceptable for implementation of new site characterization activities for the YMP. NRC acceptance of the participant QA programs for FSN, H&N, REECO, and USGS is conditional upon satisfactory resolution of the exceptions noted in DOE's September 12, 1990, letter. The open QA issues pertaining to procurement procedures, software QA, and personnel qualifications for the FSN, H&N, REECO, and USGS QA programs should be resolved in the near future. DOE should notify the NRC staff of the

resolution of these exceptions, and receive NRC acceptance of the appropriate resolution prior to the start of any new site characterization work that might be adversely affected by these exceptions.

The NRC staff will continue to monitor the participant QA programs by participating on a selective basis as observers in the DOE/OCRWM surveillance and audit process, or by performing its own independent audits to verify the adequacy and effectiveness of implementation of the DOE/OCRWM and participant QA programs.

Should you have any questions concerning our review, please contact Mr. Kenneth Hooks on (301)/FTS-492-0447.

Sincerely,

151

John J. Linehan, Director
Repository Licensing and Quality Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety and Safeguards

- cc. R. Loux, State of Nevada
- C. Gertz, DOE/NV
- S. Bradhurst, Nye County, NV
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- P. Niedzielski-Eichner, Nye County, NV
- D. Weigel, GAO

DISTRIBUTION

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LPDR	ACNW	PDR	K. Hooks
W. Belke	T. Verma	J. Buckley	

OFC : HLPD *[Signature]* : HLPD *[Signature]* : HLPD : : : :

 NAME: WBelke/wd : KH Hooks : J. Linehan : : : :

 DATE: 10/24/90 : 10/24/90 : 10/24/90 : : : :

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*** BRACKETED PORTIONS INDICATE CHANGES RESULTING FROM 9/18/90 QA MEETING OR ADDED AS A RESULT OF NRC REVIEW ACTIONS.

SUBJECT: STATUS OF NRC/DOE OPEN ITEMS - NOVEMBER 8, 1990

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
I-90 i) QA-F-1 ii) QA-F-2 iii) QA-F-3	DOE Waste Glass QA Program	Open	NRC staff has received Rev. 3 of the QARD which addresses the staff's comments on OGR B-14. The DOE responses have been evaluated and found acceptable by the NRC staff. DOE will be developing a draft position on OCRWM/NRC overview/verification activities. Development of a Memorandum of Understanding (MOU) among DOE-RW, NE, and NE is in question as the idea of an MOU has not been settled among the 3 DOE offices. At the 5/23/90 QA meeting, DOE stated that they intended to meet (Duffy/Shelor) to determine if an MOU is required. At the 9/18/90 QA meeting DOE agreed to look into the status of the MOU and provide a response at the next QA meeting.
-90 RC Items & 11	YMP Q-List and QA Measures	Open	DOE should meet with NRC to discuss and resolve concerns related to Q-List for the YMP and ESF conceptual design. At the 9/18/90 QA meeting, DOE stated they will submit the Q-List and related material for NRC review prior to the next QA meeting.
-90 RC Item: 7	NNWSI Core Handling Procedures	Open	DOE submitted the Core Handling procedures to the NRC staff in a 8/11/89 transmittal (Gertz to

Stein). The issues raised in the YMP Surveillance Report (YMP-SR-89-134) will need to be resolved before this item can be closed. NRC will determine acceptability of implementation and adequacy of procedures when they are issued in final form and subsequently implemented.

At the 9/18/90 QA meeting, DOE indicated that based on the prototype drilling at Apache Leap, the procedures have been revised. When finalized, the procedures will be submitted for NRC review and comment.

4-90
QA-A-1
QA-B-1d (1)
QA-G-3
QA-G-4
QA-G-5

Qualified QA Program before start of new site characterization activities.

Open

DOE has made a commitment to having a qualified QA program before the start of new site characterization activities. However, this item remains open up until the the NRC staff accepts the DOE QA program as qualified for the start of new site characterization activities.

At the 9/18/90 QA meeting, DOE stated that a letter dated 9/12/90 has been submitted to NRC addressing acceptance of the participants QA programs with the exception of LANL. NRC will need to review this acceptance letter and provide a response to DOE.

5-90
Definitions for Conceptual, Title I, II, & III Design.

Closed (2/15/90 QA Mtg.)

6-90
Access to Project Participant's personnel files.

Open

At the 9/18/90 QA meeting, DOE stated that a Federal Register notice was published 8/8/90 concerning the Privacy Act of 1974 with the intent of creating a new system of maintaining training and qualification records of DOE and contractor personnel. If no adverse comments are received on this notice, this system would become effective 10/7/90.

7-90
QA-E-1
Qualification of Existing Data

Open

At the 9/18/90 QA meeting, DOE stated they will provide NRC with the finalized procedure.

8-90	SCA comments	Open	DOE should provide a response to the 7/31/89 NRC SCA QA comments on the DOE SCP.
9-90	DOE response (Stein to Youngblood dated 12/28/88) to 7 NRC concerns for DOE Audit 88-01 of PNL	Closed	DOE letter (Appel to Linehan dated 8/10/89) provided responses.
10-90 QA-G-1; a & d	Responses to NRC Observation Audits		DOE should respond within 30 days after NRC Observation Audit Report transmittal. The DOE responses are to be reviewed and considered by NRC staff in accepting DOE QA programs. DOE should respond to the following NRC staff Observation Audit Reports:
10.a	Holmes & Narver 89-1, 11/1-4/89	Closed	DOE letter (Appel to Linehan dated 6/13/89) provided responses.
10.b	Holmes & Narver 89-2, 4/24-28/89	Closed	(2/15/90 QA Mtg.)
10.c	Sandia Ntl. Lab. 89-3, 9/11-15/89	Closed	(2/15/90 QA Mtg.)
11-90	DOE QA Participants Acceptance Letter Dated 10/24/90	Open	DOE should provide a response to the open items for the following DOE participants' QA programs: FSN - Procurement - Software H&N - Procurement - Software REECO - Privacy Act USGS - Privacy Act

United States Government

Department of Energy

memorandum

DATE: OCT 29 1990

REPLY TO
ATTN OF: RW-3SUBJECT: Qualification of Office of Environmental Restoration and Waste
Management (EM) Quality Assurance Program to Support High-
Level Waste Form ProductionTO
Acting Director, Office of Environmental Restoration and Waste
Management, EM-1

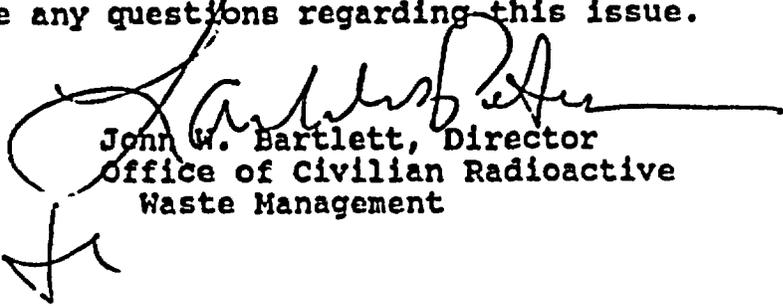
The Office of Civilian Radioactive Waste Management (OCRWM) has evaluated your request for assistance in the qualification of quality assurance programs for the Waste Form Producer Organizations. This memorandum provides OCRWM's position on qualification of EM's quality assurance program, as well as quality assurance programs for Waste Form Producer Organizations that are involved in the startup and operation of waste processing facilities. This includes Operations Offices, Project Offices and Operating Contractors (i.e., West Valley Nuclear Services and Westinghouse Savannah River Corporation). The position stated herein is based on discussions with and endorsement by the OCRWM Office of Quality Assurance and the Nuclear Regulatory Commission (NRC).

OCRWM is not on the critical path for EM's Quality Assurance Program. OCRWM's only role is the review and acceptance of the EM High-Level Waste Quality Assurance Program Description (QAPD) document, DOE/EM/WO/02. Submittal of that QAPD for OCRWM review should be after EM approval. The review of the EM QAPD will be conducted in accordance with the requirements contained in the OCRWM Quality Assurance Requirements Document (DOE/RW-0214) in effect when the Quality Assurance Program Description is submitted. Quality Assurance Program Descriptions from Operations Offices, Project Offices and Operating Contractors are not subject to review and acceptance by OCRWM. OCRWM does, however, request that these QAPDs be submitted for information subsequent to their approval. EM's and other QAPDs will be provided by OCRWM to the NRC for information only. Should the NRC or OCRWM have questions on QAPD content, OCRWM will address those questions to your attention.

In addition to the review for acceptance of the EM Quality Assurance Program Description, OCRWM will conduct audits and surveillances of activities performed by EM. On occasion, OCRWM will observe EM verification activities as well as activities performed by Operation Offices, Project Offices and Operating Contractors. The latter will be performed in concert

with EM's overview of such activities. In either case, the NRC, the State of Nevada, and other affected organizations are extended the opportunity to observe OCRWM verification of High-Level Waste Form Production Activities. Notification will be provided to EM by OCRWM in advance of such activities.

We believe the position stated herein fully supports EM's qualification effort and provides OCRWM with an appropriate level of assurance regarding waste form production. There have been staff level discussions between EM, NRC, and OCRWM on this issue. Please contact me or Mr. Donald G. Horton at 586-8858 if you or your staff have any questions regarding this issue.



John W. Bartlett, Director
Office of Civilian Radioactive
Waste Management



Department of Energy
Washington, DC 20585

October 31, 1990

Mr. John Linehan, Director
Repository Licensing & Quality
Assurance Project Directorate
Division of High-Level
Waste Management
Office of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Linehan:

As discussed in the September 18, 1990 Quality Assurance (QA) meeting, enclosed is an uncontrolled copy of each of the U.S. Department of Energy (DOE) Yucca Mountain Project (YMP) Q-List, Quality Activities List, and Project Requirements List and the DOE YMP Administrative Procedure AP-5.9Q for the Qualification of Data or Data Analyses Not Developed Under the YMP QA Plan. As agreed to in the above referenced QA meeting, the transmittal of these documents should close out the QA Open Items 2-90 (NRC items 9 & 11) and 7-90, QA-E-1, respectively.

If you have any questions about these enclosures, please contact Cori Macaluso at 586-2837.

Sincerely,

Linda J. Desell
Acting Chief for the Licensing
Branch
Office of Systems Integration and
Regulations
Office of Civilian Radioactive
Waste Management

Enclosures:

- 1) U.S. Department of Energy Yucca Mountain Project Q-List, Quality Activities List, and Project Requirements List
- 2) U.S. Department of Energy Yucca Mountain Project Administrative Procedure AP-5.9Q for the Qualification of Data or Data Analyses Not Developed Under the YMP QA Plan

cc:

- R. Loux, State of Nevada
- C. Gertz, DOE/YMPO/NV
- M. Baughman, Lincoln County, NV
- D. Rehtel, Clark County, NV
- S. Bradhurst, Nye County, NV