MINUTES OF THE SEPTEMBER 17, 1992, QUALITY ASSURANCE MEETING

A meeting of the staff of the U.S. Nuclear Regulatory Commission and representatives of the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM), to discuss items of mutual interest with regard to quality assurance (QA), was held at the NRC Headquarters, Rockville, Maryland on September 17, 1992. An attendance list is included with these minutes as Attachment 1. The State of Nevada participated in this meeting by telephone. Churchill County, Nevada and the City of North Las Vegas, Nevada were the only affected units of local government in attendance.

During this meeting, DOE presented information on the following topics: (1) FY93 OCRWM audit schedule; (2) OCRWM evaluation of status of the DOE Office of Environmental Restoration and Waste Management Vitrification Projects Division (EM-343) QA program; (3) update on QA oversight of core drilling and other field activities at Yucca Mountain; (4) evaluation of recent earthquakes near the Yucca Mountain site; (5) update on university QA programs; (6) QA controls on scientific studies and corroborating data; (6) DOE qualification of existing data; and (7) status of integration/consolidation of OCRWM Headquarters and Yucca Mountain Site Characterization Project Office (YMPO) Procedures.

Also during the meeting, NRC presented information on these topics: (1) update on field trip on corrective actions and trending; (2) status of NRC QA open items; (3) NRC summary of observation audits of the Center for Nuclear Waste Regulatory Analyses, Raytheon Services Nevada (RSN), and EM-343; and (4) status of NRC evaluation of OCRWM Participant Quality Assurance Program Description changes.

The meeting began with introductory remarks followed by introduction of the attendees. DOE then presented an update on the FY93 OCRWM audit schedule. DOE stated that the FY93 OCRWM audit schedule should be completed during the week of September 21, 1992. A copy will be transmitted to NRC. DOE noted that the FY93 schedule will be based on conducting two audits per year per participant instead of the one or three audits scheduled in previous years.

DOE asked if NRC had noticed any improvement in the timeliness of DOE providing audit plans and checklists. Both NRC and the State of Nevada agreed that there had been considerable improvement in this area and added that they have been receiving these documents at least one week before the audits. On the other hand, NRC also noted that it has not received notice of any DOE audits taking place beyond October 1992. This has made it difficult for NRC to plan its future activities.

DOE then noted that it is finalizing the revised QA Requirements Document (QARD), a draft of which will be issued for NRC review in early October 1992. The QARD has been under revision since April 1991. DOE expects to hold a public meeting in late October 1992 to discuss the revision. DOE agreed, pending management agreement, to honor a request from the State of Nevada to provide it with a draft of the QARD when the draft is transmitted to NRC. NRC

suggested that DOE should also consider sending the draft to the affected units of local government. DOE noted that the new QARD will no longer refer to the DOE contractors as "participants." Instead, to avoid confusion with other participants in the high-level waste program, they will be called "suppliers." NRC requested that this be noted parenthetically in the QARD to avoid confusion with the introduction of this new terminology.

During this portion of the discussion, NRC noted that it had only received the first of eleven separate OCRWM Headquarters QA surveillance reports. The State of Nevada noted that it had been receiving surveillance reports from YMPO, but not from DOE Headquarters. DOE agreed to look into this matter and ensure that NRC and the State of Nevada receive these and future reports.

Next, NRC reported on its field trip to CER Corporation, Vienna, Virginia, to observe the data base being used to track the status of corrective action requests (CARs) and to denote trending. The NRC staff noted that it had requested to be put on distribution for the monthly CAR tracking and trending data base printouts but had not received them yet. During this meeting, DOE agreed to provide these printouts to both the NRC and the State of Nevada on a monthly basis. This may later be changed to a quarterly distribution if deemed appropriate by all parties.

The OCRWM evaluation of the EM-343 program was discussed next. Both NRC and DOE expressed views that the program has improved. Recent internal audits of EM-343 have shown improvement, which was confirmed by a recent audit observed by NRC staff. The NRC staff's participation in this audit is discussed later in these minutes. The next topic discussed was an update on QA oversight of core drilling and other field activities at Yucca Mountain. DOE provided the briefing charts that are enclosed with these minutes as Attachment 2 to highlight the status of drilling and field activities.

NRC QA Open Items List (Attachment 3). At this time there are only three items remaining on the list. The first item has to do with DOE providing NRC with a list that identifies all DOE approved changes to the Lawrence Livermore National Laboratory (LLNL) QA Program Plan (QAPP) since NRC staff accepted the LLNL QAPP. During the meeting, DOE noted that a YMPO letter dated September 16, 1992 is on its way to OCRWM Headquarters that will close out this item. The second item regarding changes to OCRWM and YMPO participant's QA programs had been closed by the time of the meeting. During the meeting, NRC staff agreed to recommend that the third item also be closed. This item pertained to DOE providing NRC with adequate information for NRC to prepare for observing DOE audits. As previously noted in these minutes, this situation has improved.

NRC than gave a presentation on the audits it had observed since the last QA meeting. NRC had observed the first performance based audit of the CNWRA, an audit of RSN, and an internal audit of EM-343. In general, the NRC noted that all three audits had been conducted effectively and that the programs were being adequately implemented. The NRC staff gave particular

notice of an outstanding performance of the audit team in the EM-343 audit. Summaries of the NRC staff observations of the three audits were distributed at the meeting (Attachment 4).

DOE then led short discussions on the topics of "Evaluation of Recent Earthquakes near the Yucca Mountain Site" and "Update on University QA Programs." During this discussion, The State of Nevada expressed a concern that the earthquake data may not have been tracked adequately. The DOE noted that the U.S. Geological Survey (USGS) and the University of Nevada in Reno (UNR) both had technical procedures in place during the recent earthquake and that UNR works under the USGS QA program. When the earthquake occurred, USGS and UNR had to mobilize quickly. As a result, some deficiencies were later found in a scientific notebook. This led into a discussion on university QA programs. DOE noted that on September 8, 1992, a letter was sent to the State of Nevada that discusses the current and future work of participating universities and delineates to which QA programs the universities are working. Copies of this letter were distributed at the meeting (Attachment 5).

The discussion then turned to "QA Controls on Scientific Studies and Corroborating Data," and "DOE Qualification of Existing Data." DOE pointed out that the scientific studies are derived from the Site Characterization Plan and that there is a study plan for each investigation. The studies may involve one or more participants and each participant has its own QA plan. To date, only the erosion studies are underway and DOE indicated it is attempting to qualify the erosion data.

The final agenda item discussed was "Status of Integration/Consolidation of OCRWM HQ and YMPO Procedures." DOE stated that this information will appear in the new QARD. As previously noted, DOE plans on briefing NRC on this topic at a public meeting in late October 1992.

NRC then invited the State of Nevada and the affected units of local government to express any comments. The Churchill County representatives asked about transportation in general (routes, cask design, etc.) but there was no one at the meeting who had the knowledge to respond to the question. Instead, DOE offered to put the inquirer in touch with the cognizant DOE representative.

In closing, NRC asked about the CAR regarding data collection that was issued during the USGS audit. USGS noted at the meeting that its response to the CAR is due on October 31, 1992. Furthermore, USGS noted that the action will be verified at a subsequent surveillance and NRC will be invited to participate in that surveillance. NRC also offered a few suggestions for correcting the problem of DOE not providing adequate notice of readiness reviews and similar activities. One suggestion was for DOE to maintain a 60 or 90 day calendar of planned activities and to keep NRC apprised.

During the April 30, 1992, NRC/DOE QA meeting, in response to an NRC concern, DOE agreed to state the basis for determining when data is qualified. This information was transmitted to NRC by letter of September 3, 1992. During the September 17, 1992 meeting, DOE asked if NRC agreed with DOE's definition, as stated in DOE's July 20, 1992 letter to NRC, that the data is deemed to be qualified if it was developed after the date on which the participants QA

program was approved by DOE. The NRC staff stated that it understood and accepted this definition.

The meeting was adjourned after tentatively selecting November 19, 1992, as the next NRC/DOE QA meeting date. However, this date may have to be changed pending release of the FY93 audit schedule.

Kenneth L. Kalman 10/28/92

Kenneth L. Kalman
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
U.S. Nuclear Regulatory Commission

Sharon L Skuchko 10/25/92

Sharon L. Skuchko
Regulatory Integration Branch
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy

Attachments:
1. List of Attendees
2. DOE Briefing Charts
3. NRC Open Items List
4. NRC Observation Summaries
5. DOE Letter of September 8, 1992

7/16/92 **NRC/DOE QA MEETING**

ORGANIZATION/NAME	PHONE NUMBER
NRC	
John Buckley	301-504-2513
Bill Belke	301-504-2445
Kenneth R. Hooks	301-504-2447
Ken Kalman	301-504-2428
Jack Spraul	301-504-2446
Pauline Brooks	301-504-3465
John Jankovich (Transportation)	301-504-2454
DOE	
Richard E. Spence	702-794-7504
Sharon Skuchko	202-586-4590
State of Nevada	
Susan Zimmerman	702-687-3744
Churchill County	
Alan Kalt	702-423-5136
James Carter	702-423-5136
City of North Las Vegas	
Nancy Powers	702-649-0268
Jane Kinnee	702-649-0208
EEI	
Tom Colandrea	619-487-7510
M&O	
R. J. Brackett	703-204-8760
CER	
Marc Meyer	703-276-9300
Hank Greene	703-276-9300
Winston and Strawn	
Stan Echols	202-371-5777
Weston	
Wayne E. Booth	202-646-6750
U.S. Geological Survey	
Tom Chaney	303-236-1418

Attachment 1

FIELD ACTIVITIES UPDATE

Completed Boreholes to Date

- Total footage drilled to date (completed holes) - 3,353.7 feet
- Neutron - 15 holes - 1,905.6 total footage (N11, N15, N16, N17, N27, N33, N34, N36, N37, N38, N53, N54, N55, N63 and N64)
- JF-3 - 1,298 feet
- NRG-1 - 150.1 feet

In-Progress Boreholes

- UE25 UZ#16 - 673.4 feet - (As of 9/9/92)
- USW UZ N31 - 42.6 feet - (As of 9/10/92)

FIELD ACTIVITIES UPDATE

(CONTINUED)

Job Packages Status

- Approved - 9
- Being processed for approval - 6

Test Planning Packages

- Approved - 10
- Being processed for approval - 9

FIELD ACTIVITIES UPDATE

(CONTINUED)

Surveillances of Field Activities

- Ten Surveillance Reports Issued (92-001, 92-004, 92-007, 92-008, 92-009, 92-011, 92-013, 92-017, 92-020 and 92-029)

- Organizations Surveilled:

  Raytheon Services Nevada (RSN)

  Reynolds Electrical Company (REECo.)

  Technical and Management Support Services (T&MSS)

  United States Geological Survey (USGS)

  Yucca Mountain Project Office (YMPO)

FIELD ACTIVITIES UPDATE

(CONTINUED)

Surveillances of Field Activities - continued

- **Activity/Organization Surveilled:**

92-001	Neutron Access Borehole Coring	USGS/T&MSS
92-004	ID and Control of Core Samples	USGS
92-007	Neutron Access Borehole Records	RSN/REECo
92-008	Staging/Packaging Neutron Access Borehole Samples	YMPO
92-009	Field Change Control Process Per AP 3.5Q	YMPO
92-011	Records from Implementation of AP 6.4Q	YMPO
92-013	Readiness Review for Drillhole UZ-16	YMPO
92-017	Handling Borehole Samples per BTP-SMF-008	YMPO
92-020	Field Verification per QAP 10-1(Y)	RSN
92-029	Job Package Records	YMPO

FIELD ACTIVITIES UPDATE

(CONTINUED)

Corrective Action Requests

- **Eleven CARs Generated: (None significant)**

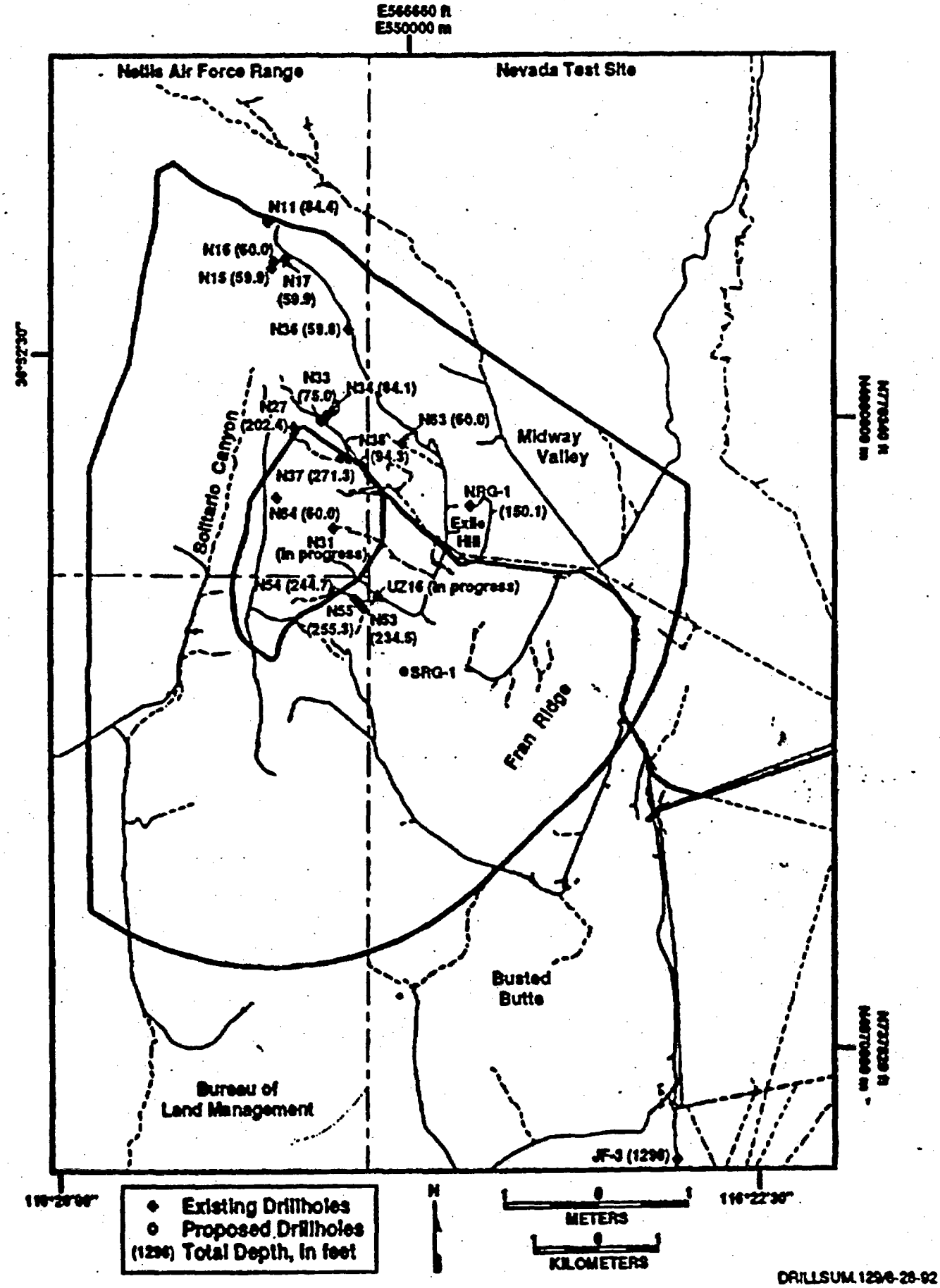
Open CARS:

YM-92-033	Records not traceable to Job Package or Study Plan
YM-92-034	Test pits backfilled prior to inspection or survey
YM-92-038	Revision of Job Package not revised according to procedure
YM-92-039	Personnel not trained to AP 3.5Q (Field Change Control Process) as required
YM-92-040	Procedure does not contain criteria for determination of type of change being processed
YM-92-043	Sample collection procedure not approved prior to drilling UZ-16
YM-92-055	Lack of procedure for drawing and specification acceptance by DOE
YM-92-059	Unqualified data entered into technical data base as qualified
YM-92-061	Surface-based testing requirements document lacks criteria for drilling

Closed CARs:

YM-92-031	Field Verification Plans (FVPs) not incorporated into Job Packages
YM-92-032	Documentation of impact analysis to move Neutron boreholes not included in TPP

YMP DRILLHOLE SUMMARY



COPIES TO:
B.J.Y.
J.L.
J.H.
K.H.
C.A.
J.S.
J.B.
P.B.
K.K.

*** BRACKETED PORTIONS INDICATE CHANGES RESULTING FROM 7/16/92 QA MEETING OR ADDED AS A RESULT OF NRC REVIEW ACTIONS.

FROM: B. BELKE

SUBJECT: STATUS OF NRC/DOE QA OPEN ITEMS - SEPTEMBER 17, 1992

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
10-90	Response to NRC Observation Audit		DOE should respond within 30 days after NRC Observation Audit Report transmittal the following NRC staff Observation Audit Report:
10.e	LLNL	OPEN	(1) Observation noted in the 7/31/91 NRC Obs. report: Changes made to the LLNL QA Program Plan w/o being furnished to NRC as previously agreed to by DOE. At the 8/29/91 and 4/30/92 NRC/DOE QA mtgs., DOE stated it will provide a list to NRC identifying all DOE approved changes since NRC staff accepted the LLNL QA Program Plan.
2-92	Changes to OCRWM and YMP participant's QA programs	OPEN	Review and acceptance of changes to DOE QARD/QAPD, LANL, USGS, REECo, and SNL QA program requirements/ description documents appear questionable and require additional information as discussed at the 4/30/92 NRC/DOE QA mtg. Responses received, review in process by NRC.
3/92	NRC/SAIC Obs. Audit Report.	OPEN	Weakness noted in the 6/19/92 NRC Obs. Audit Report and discussed at the 4/30/92 NRC/DOE QA mtg. Adequate information should be provided to NRC to prepare for observing DOE audits at least one week prior to audit (e.g., checklist or equivalent information).

CNWRA AUDIT

1.0 INTRODUCTION

From June 2-5, 1992, members of the U.S. Nuclear Regulatory Commission (NRC) quality assurance (QA) staff participated as observers in the Center for Nuclear Waste Regulatory Analyses (CNWRA) QA Audit No. 92-1 conducted in San Antonio, Texas. The CNWRA is the NRC's Federally Funded Research and Development Center and is the NRC's primary source of research and technical assistance in the high-level nuclear waste program. This report addresses the effectiveness of the audit and the procedural adequacy and effectiveness of implementation of QA program controls in both programmatic and technical areas.

2.0 OBJECTIVES

The CNWRA objective for this audit was to evaluate the implementation of QA controls associated with CNWRA programmatic and technical activities in meeting the applicable requirements of Appendix B to Title 10, Code of Federal Regulations (10 CFR), Part 50. The NRC staff's objective was to determine: 1) if the audit was performed in such a manner as to provide confidence in the CNWRA audit process and 2) whether CNWRA staff were properly implementing QA program requirements specified in Revision 2 to the Center Quality Assurance Manual (CQAM).

3.0 SUMMARY AND CONCLUSIONS

The NRC staff based its evaluation of the audit process and the CNWRA QA program on discussions with, and direct observations of, the auditors and technical specialists who were on loan from the CNWRA's parent organization, Southwest Research Institute (SwRI), CNWRA staff and reviews of pertinent audit information (e.g., audit plan, checklist, and CNWRA documents). The NRC staff has determined that, overall, Audit No. CNWRA 92-1 achieved its purpose of evaluating the implementation of QA control for programmatic and technical activities. The audit was conducted in a professional manner. The audit team was well qualified and familiar with the QA requirements of the CNWRA program. Their assignments and checklist items were adequately described in the audit plan.

In general, the NRC staff agrees with the audit team's preliminary findings that the CNWRA program controls are being adequately implemented in the areas that were evaluated. The audit team also determined that the technical procedures reviewed were technically adequate, the technical staff was appropriately qualified, and the technical work was adequate. The presence of an NRC technical staff observer at the audit permitted verification of these conclusions with regard to engineered barrier system (EBS). Further, the technical qualifications of CNWRA technical staff and the technical adequacy of the procedures and work products are subject to continuing evaluation by NRC technical staff.

The CNWRA QA personnel should closely monitor the QA program to ensure that future implementation is carried out in an adequate manner. The NRC staff expects to participate in this monitoring as observers and may perform its own independent audit at a later date to determine the adequacy and effectiveness of the CNWRA QA program.

7.0 SUMMARY - NRC STAFF FINDINGS

(a) Observations

As noted by the audit team in CAR 92-01, there are problems associated with the implementation of TOP-018. The NRC staff also believes that TOP-018 could be improved to more effectively control the development and maintenance of computer software. As noted in Section 5.4 (d) of this report, some responses to auditors' questions indicate that the CNWRA technical staff may benefit from additional training to TOP-018. The NRC staff would like to be notified in advance when the auditors verify correction action to close CAR 92-01. The NRC staff plans to closely monitor this portion of the CNWRA QA program to ensure that future implementation is carried out in an adequate manner.

(b) Weaknesses

Integration of the programmatic and technical portions of the audit could have been improved. The NRC staff understands that some of the integration problems were due to the fact that this was the first "performance-based" audit for the audit team. The "performance-based" audit may be more effective when the number of work products increases. In some cases, namely GS Tasks 2/3, evaluating the programmatic controls would have been more effective if there were more technical products to examine.

(c) Good Practices

The audit team was well prepared and conducted a thorough audit in a professional manner even though it was the first CNWRA "performance-based" audit.

The Audit Team Leader did an excellent job of organizing and executing the audit. The practice of reviewing the checklist items at the daily caucus to assure completeness of the checklist items was very effective and useful.

RSN AUDIT

1.0 INTRODUCTION

From June 22-26, 1992, the U.S. Nuclear Regulatory Commission (NRC) staff observed the U.S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management (OCRWM), Office of Quality Assurance (OQA), Quality Assurance (QA) Audit No. YMP-92-18 of Raytheon Services Nevada, (RSN) conducted in Las Vegas, Nevada. The audit was performed by auditors from the DOE/OQA Yucca Mountain Quality Assurance Division.

This report addresses the effectiveness of the DOE/OQA audit and the adequacy and effectiveness of implementation of QA controls in some programmatic/technical areas of the RSN QA program.

2.0 OBJECTIVES

The objective of the DOE/OQA audit was to evaluate the implementation and effectiveness of the RSN QA program in meeting the applicable requirements of the OCRWM Quality Assurance Requirements Document (QARD), the RSN Quality Assurance Program Description Document and associated implementing procedures. The NRC staff's objective was to gain confidence that DOE/OQA and RSN are properly implementing the requirements of the OCRWM QA program in accordance with the QARD and Title 10 Code of Federal Regulations (10 CFR), Part 60, (which references 10 CFR Part 50, Appendix B).

3.0 SUMMARY AND CONCLUSIONS

The NRC staff based its evaluation of the DOE/OQA audit process and the RSN QA program on direct observations of the auditors, discussions with the audit team and RSN and contractor personnel, and reviews of pertinent audit information (e.g., audit plan, checklists, and RSN documents). The NRC staff has determined that DOE/OQA QA Audit No. YMP-92-18 was useful and effective. The audit was well organized and conducted in a thorough and professional manner with minimal logistic delays. The audit team was well qualified in the QA discipline, and its assignments and checklist items were adequately described in the audit plan. The audit team included five auditors and two technical specialists.

The NRC staff observed the audit team's evaluation of programmatic elements 3.0 and 19.0. With regard to these criteria, the NRC staff agrees with the preliminary audit team findings that the RSN QA program has adequate procedural controls in place and implementation in the areas audited is satisfactory.

OCRWM should closely monitor the RSN program to ensure that the deficiencies identified during this audit are corrected in a timely manner and future implementation is carried out in an effective manner. The NRC staff expects to participate in this monitoring as observers and may perform its own independent audits at a later date to assess the RSN QA program.

5.9. Summary of NRC Staff Findings

(a) Observations

The NRC staff did not identify any observations in either the DOE/OQA audit process or the RSN QA program implementation.

(b) Weaknesses

1. The absence of at least one key RSN staff during the audit made obtaining information regarding RSN's design interface and hold control processes very difficult. RSN staff members serving as back-up for missing employee(s) were not in all cases capable of providing requested information to the auditors.

2. Issues not truly within the scope of the audit, such as that concerning the RIB and existing data, should be tabled as soon as possible and addressed at a higher level by YMPO, OCRWM, and NRC, as appropriate. The amount of time spent on this issue could have easily prevented the audit from being completed within its schedule.

(c) Good Practices

1. The audit team was well prepared and was familiar with the QA program requirements.

2. The audit team functioned in a professional manner and provided the observers ample opportunity to ask questions.

3. The ATL was well organized and daily audit team meetings were brief without sacrificing beneficial discussions by auditors.

WBS 1.2.5.7
QA

SEP 0 8 1992

Overnight Mail

Robert R. Loux
Executive Director
Agency for Nuclear Projects
State of Nevada
Evergreen Center, Suite 252
1802 North Carson Street
Carson City, NV 89710

INFORMATION RESPONSE

This is in response to your letter dated July 30, 1992, requesting information regarding the U.S. Department of Energy (DOE) Work Breakdown Structure designation 1.2.10.3 entitled "University Funding." As stated, the monies are being provided to both universities, as well as the Desert Research Institute (DRI) to "evaluate and fund appropriate scientific studies in support of the Yucca Mountain Project." Funding for these independent studies was initiated by the project office in fiscal year (FY) 1989. Subsequent annual funding has been provided through the Energy and Water Appropriation Bill.

Program activities that the three above referenced Nevada institutions are providing support to are as follows:

University of Nevada, Las Vegas (UNLV)
Academic-Industry Partnership for Technology Transfer
Ancillary Federal Research Investments for Impact Mitigation
Crises Communication for the Yucca Mountain Site Characterization Project (YMP)
Studies of Fluid-Flow through Unsaturated Media
Studies of Clusters
Bayesian Decision Theory and Reliability for Performance Assessment
Triaxial Testing Apparatus/Initial Rock Characterization
Rural Economic Development and Transportation
Econometric and Economic Development Studies
A Chemical Fingerprinting of the Groundwater
Using Inductively Coupled Plasma-Mass Spectrometer to Chemically Fingerprint the Groundwater
Identify Organic Tracers
Sample Analysis Verification
International High-Level Radioactive Waste Management Conference
Institute for Computer and Information Science Research
Waste Package Project
Harry Reid Center Laboratory and Mobile Sampling Platform
The National Supercomputer Center for Energy and the Environment

CONCURRENCE
RTG. SYMBOL YMP
INITIALS Powell
DATE 9/11/92
RTG. SYMBOL YMP
INITIALS Robison
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RTG. SYMBOL YMP
INITIALS Spe
DATE 9/3/92
RTG. SYMBOL YMP
INITIALS Blanchar
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RTG. SYMBOL YMP
INITIALS Gert
DATE 9/8/9
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Attachment 5

documents issued prior to the May 31 date had not been integrated into the records center. The NRC staff believes these criteria should have been categorized as indeterminate and will evaluate implementation of these two criteria during a future observation audit of EM-343.

Should you have any questions regarding this letter, please contact W. Belke on (301) 504-2445 or J. Spraul on (301) 504-2446.

Sincerely,

/s/

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

Enclosures: As stated

cc: R. Loux, State of Nevada
T. J. Hickey, Nevada Legislative Committee
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
B. Mettam, Inyo County, CA
V. Poe, Mineral County, NV
F. Sperry, White Pine County, NV
R. Williams, Lander County, NV
P. Goicoechea, Eureka County, NV
L. Vaughan II, Esmeralda County, NV
C. Shank, Churchill County, NV

OFC:	HLPD	:HLPD	:HLPD	:HLPD	:	:
NAME:	WBelke:bl	:JSpraul	:KHooks	:JHolonich	:	:
Date:	08/10/92	:08/10/92	:08/10/92	:08/11/92	:	:

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HLPD r/f 4-H-3

AUG 11 1992

Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D. C. 20585

Dear Mr. Roberts:

SUBJECT: OBSERVATION AUDIT OF THE U.S. DEPARTMENT OF ENERGY, VITRIFICATION PROJECTS DIVISION

This letter transmits the NRC staff comments resulting from its observation of the July 20-24, 1992, U.S. Department of Energy (DOE), Environmental Restoration and Waste Management, Office of Waste Management Projects, Vitrification Projects Division (EM-343) internal audit (Audit No. 92EA-VP-AU-001) in Germantown, Maryland.

The NRC staff found the audit to be satisfactory both from the perspective of the audit team and EM-343 and its contractors. The audit team was well qualified in the quality assurance (QA) discipline, and its checklists were better than average. The audit was well organized and conducted in a thorough and professional manner with minimal logistic delays. The audit team made excellent use of prior audit findings and NRC staff comments resulting from prior observation audits. This resulted in comprehensive preparation, conduct, and conclusion.

The audit team did not include any technical specialists, and no evaluation was made of the technical adequacy of work products. EM-343 management indicated that technical adequacy will be within the scope of future audits and surveillances.

Several EM-343 personnel had been provided copies of the audit checklists before or early into the audit. The NRC staff does not endorse this practice and recommends it be discontinued.

The NRC staff was told that documentation of corrective actions taken as a result of the October 1991 audit was waiting final signature. A copy was not provided to the NRC staff. Consequently, the NRC staff will look at the implementation of these corrective actions during a future observation audit of EM-343.

At the post-audit conference, the audit team concluded that most QA criteria, including Criterion 4, "Procurement Document Control," and Criterion 17, "QA Records," were effectively implemented. However, Criterion 4 was judged on virtually no procurement data, and the Criterion 17 procedure had only been implemented since May 31, 1992. In addition, it appeared that most EM-343

University of Nevada, Reno (UNR)
Analysis and Modeling of Heat Flow in Underground Excavations
Proof-of-Principle Tests for In Situ Rock and Rock Mass Thermophysical Properties Measurement
An Evaluation of Methods and Instrumentation for the Continuous, Accurate and Reliable Measurement of Airflow Quantity
Long-Term Atmospheric Corrosion of Structural Alloys in Deep Underground Environments
An Investigation into the Use of Filters to Control Ionizing Radiation
Instrument Development for Continuous Deformation Monitoring
Survey and Evaluation of Existing Nevada Railroads
Socioeconomic Studies
Southern Great Basin Seismic Network

DRI
Characterization of Southern Nevada Palofaunas
Enhancement of Regional Climate Modeling With a Cloud Cover Climatology
Archaeological Support
Transportation Corridors Flood Hazard Identification

In addition to the above, the following scientific studies are planned for FY 1993:

UNLV
Development of a Geographic Information System (GIS)-Based System for Nuclear Waste Transport Risk Analysis
Geo-Positioning Satellite/GIS Optimal Spent-Fuel Routing System for Yucca Mountain
An Investigation of Microbially-Influenced Corrosion of Waste Containment Packages
Multiplier Comparisons
Migratory Impacts on Rural Communities in Nevada
Heat Tuff Studies
Identification of Subsurface Microorganisms

UNR
Repository Climate Studies with Preclosure Ventilation and Thermal Enhancement
Corrosion Problems of Containment Materials for the Engineering Barrier System at Yucca Mountain
Strength Testing of Calico Hills Tuff
A New Approach to Designing Auxiliary Ventilation Systems for Long, Single Underground Openings
The Analysis of Thermal Loading and Rock Drying
Rock Bolt Performance Project
Evaluation of Rail Spur Digital
Sorption and Biodegradation of Polycyclic Aromatic Hydrocarbons in the Presence of Surfactants
Atmospheric Corrosion Impedance Spectroscopy to Determine Degradation of Coated Metals
Civil Engineering Cluster
Electrical Engineering Cluster

If a more detailed description of the above activities is desired, it will be furnished upon request.

The purpose of the above studies is for the institutions to provide assistance to YMP on scientific and technical studies related to the suitability of the site as a safe repository for the nation's high-level radioactive nuclear waste. In addition, a major objective is to enhance the capabilities and opportunities of the Nevada institutions to become an internationally, as well as a nationally, recognized technology center for waste management research and development. Funding for the above listed activities through FY 1992 was approximately $27 million.

The University of Nevada System (UNS), through UNLV, has been directed to develop a Quality Assurance (QA) program through DOE contract documents. In addition, separate letters were sent to each UNS entity providing guidance on development of QA program requirements (enclosures 1-3). Currently, UNS has submitted a QA plan to DOE which has been reviewed and programmatically accepted. DOE is awaiting UNS management approval of the document and formal submittal to DOE before providing acceptance of the UNS QA program document.

In the meantime, UNS has been performing activities that have been graded to be quality affecting. These activities are being performed under an existing participant's QA program. UNR has been requested to operate the Southern Great Basin Seismic Network jointly with the U.S. Geological Survey (USGS). This work is being performed using the USGS QA program. DRI has been requested to perform climatology studies in accordance with the Technical and Management Support Services contract. No other activities performed by UNS are considered to be quality related at this time.

It is not anticipated that the U.S. Nuclear Regulatory Commission will review and accept the UNS QA plan due to the fact that they are not currently considered a major program participant.

In regard to the technical reports, we have enclosed all reports received by the Yucca Mountain Site Characterization Project Office. However, it is our understanding that additional reports have been generated, and it is our suggestion that the institutions be contacted for same.

ORIGINAL SIGNED BY
CARL P. GERTZ
Carl P. Gertz
Project Manager

YMP:MLP-5360

Enclosures:
1. Ltr, 8/13/91, Horton to Bishop
2. Ltr, 8/13/91, Horton to Hunter
3. Ltr, 8/13/91, Horton to McNellis
4. Reports

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