December 22, 2004

MEMORANDUM TO: C. William Reamer, Director
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety
and Safeguards

FROM: Robert M. Latta, Sr. On-Site Licensing Representative **/RA/**
Project Management Section A
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety
and Safeguards

Jack D. Parrott, Sr. On-Site Licensing Representative **/RA/**
Project Management Section A
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety
and Safeguards

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION ON-SITE LICENSING REPRESENTATIVES' REPORT ON THE YUCCA MOUNTAIN PROJECT FOR SEPTEMBER 1, 2004, THROUGH OCTOBER 31, 2004

The purpose of this memorandum is to transmit the U.S. Nuclear Regulatory Commission (NRC) On-Site Representatives' (OR) report for the period of September 1, 2004, through October 31, 2004.

This report highlights a number of Yucca Mountain Project activities of potential interest to NRC staff. The ORs continue to respond to requests from NRC Headquarters staff to provide various documentation and feedback related to Key Technical Issues (KTIs) and their resolution. During this reporting period, the ORs continued to observe activities associated with Yucca Mountain site activities, KTIs, and audits. The ORs also attended various meetings and accompanied NRC staff on visits to Yucca Mountain.

If you have any questions on this report or its attachments, please call Robert Latta on (702) 794-5048, or Jack Parrott on (702) 794-5047.

Attachments:
1. U.S. Nuclear Regulatory Commission On-Site Licensing Representatives' Report Number OR-04-05 for the Reporting Period of September 1, 2004, through October 31, 2004
2. Table: U.S. NRC On-Site Licensing Representatives' Tracking Report for Open Items Followed in Bi-Monthly OR Report

cc: See attached list

Memorandum to C.W. Reamer from R. Latta and J. Parrott, dated: December 22, 2004
cc:

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R. Massey, Churchill/Lander County, NV
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E. von Tiesenhausen, Clark County, NV
G. McCorkell, Esmeralda County, NV
R. Damele, Eureka County, NV
L. Marshall, Eureka County, NV
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A. Remus, Inyo County, CA
M. Yarbro, Lander County, NV
S. Hafen, Lincoln County, NV
M. Baughman, Lincoln County, NV
L. Mathias, Mineral County, NV
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M. Murphy
S. Joya, NV Congressional Delegation
K. Kirkeby, NV Congressional Delegation
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S. Lynch, State of NV
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J. Mitchell, BSC
D. Beckman, BSC/B&A
M. Voegele, BSC/SAID
B. Helmer, Timbisha Shoshone Tribe
R. Boland, Timbisha Shoshone Tribe
R. Arnold, Pahrump Paiute Tribe
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cc: (Continued)

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J. Kessler, EPRI

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R. Craig, USGS

W. Booth, Engineering Svcs, LTD

C. Marden, BNFL Inc.

J. Bacoch, Big Pine Paiute Tribe of the Owens Valley

P. Thompson, Duckwater Shoshone Tribe

T. Kingham, GAO

D. Feehan, GAO

E. Hiruo, Platts Nuclear Publications

G. Hernandez, Las Vegas Paiute Tribe

K. Finfrock, NV Congressional Delegation

P. Johnson, Citizen Alert

A. Capoferri, DOE/Washington, DC

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A. Robinson, Robinson-Seidler

M. Dayton, City of Las Vegas

D. Wilson, Sen. Reid's Office

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C. Meyers, Moapa Paiute Indian Tribe

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J. Leeds, Las Vegas Indian Center

J. C. Saulque, Benton Paiute Indian Tribe

C. Bradley, Kaibab Band of Southern Paiutes

R. Joseph, Lone Pine Paiute-Shoshone Tribe

L. Tom, Paiute Indian Tribes of Utah

E. Smith, Chemehuevi Indian Tribe

D. Buckner, Ely Shoshone Tribe

V. Guzman, Walker River Paiute

D. Eddy, Jr., Colorado River Indian Tribes

H. Jackson, Public Citizen

J. Wells, Western Shoshone National Council

D. Crawford, Inter-Tribal Council of NV

I. Zabarte, Western Shoshone National Council

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G. Hudlow

D. Irwin, Hunton & Williams

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M. Henderson, Cong. J. Gibbon's Office

D. Duquette, NWTRB

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This report highlights a number of Yucca Mountain Project activities of potential interest to NRC staff. The ORs continue to respond to requests from NRC Headquarters staff to provide various documentation and feedback related to Key Technical Issues (KTIs) and their resolution. During this reporting period, the ORs continued to observe activities associated with Yucca Mountain site activities, KTIs, and audits. The ORs also attended various meetings and accompanied NRC staff on visits to Yucca Mountain.

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cc: See attached list

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U.S. NUCLEAR REGULATORY COMMISSION

ON-SITE LICENSING REPRESENTATIVES' REPORT

NUMBER OR-04-05

FOR THE REPORTING PERIOD OF

SEPTEMBER 1, 2004, THROUGH OCTOBER 31, 2004

Attachment 1

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U.S. NUCLEAR REGULATORY COMMISSION
ON-SITE LICENSING REPRESENTATIVES' REPORT
NUMBER OR-04-05
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PAGE

ACRONYMS AND ABBREVIATIONS

ACRO	TITLE
AMR	Analysis Model Report
BSC	Bechtel SAIC Company, LLC
CAP	Corrective Action Program
CAQ	Condition Adverse to Quality
CNWRA	Center of Nuclear Waste Regulatory Analyses
CR	Condition Report
DOE	U.S. Department of Energy
ECP	Employee Concerns Program
ESF	Exploratory Studies Facility
FDDs	Facility Description Documents
FY	Fiscal Year
GROA	Geologic Repository Operations Area
HLWRS	High-Level Waste Repository Safety
KTI	Key Technical Issue
LA	License Application
LSN	License Support Network
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MOR	Monthly Operating Report
NRC	U.S. Nuclear Regulatory Commission
OCRWM	Office of Civilian Radioactive Waste Management
OR	On-Site Representative
PA	Performance Assessment
PCSA	Pre-closure Safety Analysis
PDIT	Pre-closure/Design Integration Team
PIs	Performance Indicators
PRD	Project Requirements Document

QA	Quality Assurance
QAMA	Quality Assurance Management Assessment
QARD	Quality Assurance Requirements Description
RIT	Regulatory Integration Team
SCWE	Safety-Conscious Work Environment
SDDs	System Description Documents
SNF	Spent Nuclear Fuel
TSPA	Total System Performance Assessment
YMP	Yucca Mountain Project

EXECUTIVE SUMMARY

SITE ACTIVITIES AND DATA ACQUISITION

During this reporting period, an On-Site Representative (OR) observed an entry into Alcove 7 in the Exploratory Studies Facility (ESF). This alcove is sealed off from the ESF, to conduct moisture monitoring tests. Although moisture was observed during this entry, it appeared to be the result of condensation, not seepage.

OBSERVATION OF ANALYSIS AND MODEL REPORT AUDIT

The ORs observed the conduct of Bechtel SAIC Company, LLC (BSC) Quality Assurance Audit concerning the "Analysis and Model Report Review and Records Management Processes."

Based on the ORs' observations, it was determined that the audit appropriately evaluated the AMR review and records management process, including the adequacy of the implementing procedures. The ORs also determined that there was an overall improvement in the quality of the technical products generated by the Regulatory Integration Team.

OBSERVATION OF PROTOTYPE WASTE-PACKAGE-MATERIALS SUPPLIER AUDIT

During this reporting period, the Division of High-Level Waste Repository Safety (HLWRS) staff observed a supplier qualification audit of International Steel Group Plate, Inc., performed by the Joseph Oat Corporation.

BSC/Quality Assurance (QA) personnel performed a surveillance of the Joseph Oat Corporation audit, to evaluate the implementation of its QA Program Manual. As a result of this surveillance, BSC/QA determined that the Joseph Oat Corporation sub-tier supplier qualification process was appropriately implemented. The HLWRS staff did not identify any audit observation inquiries, and the staff determined that this oversight activity was effectively performed.

EVALUATION OF CURRENT TREND INFORMATION

The ORs reviewed the results of the Project's Trend Evaluation Report for the third quarter of fiscal year (FY) 2004. As noted in this report, human performance issues remain the primary causal factor (51 percent), followed by communications related causal factors (27 percent), and management problem causal factors (15 percent). The report also identified an adverse trend relative to the flow-down of requirements into implementing procedures. This adverse trend, involving 31 Condition Reports, was related to inadequacies in the Project Requirements Document (PRD).

In response to these issues, project management initiated a human-performance-improvement initiative to evaluate procedural implementation and performance errors. Project management has also initiated actions to develop a new requirements management program, which is intended to replace the existing PRD.

PRE-CLOSURE/DESIGN INTEGRATION TEAM

In response to emerging issues involving origination and checking of Pre-closure Safety Analysis (PCSA) and Design Engineering products, the Project initiated the Pre-closure/Design Integration Team (PDIT). The primary goal of the team is to ensure that the Pre-closure safety basis is appropriately defined and implemented in an integrated manner in License Application (LA) supporting documentation.

At the conclusion of this reporting period, the PDIT had identified nearly 1000 potential discrepancies between the LA and supporting Pre-closure documentation. Many of these issues related to documents that were still in development, have been effectively resolved by the PDIT and the document authors. However, several hundred of these discrepancies, some of which involve errors in issued documents, had not yet been resolved. Therefore, pending resolution of these items, the ORs will continue to monitor the PDIT process of analyzing and resolving these discrepancies.

YUCCA MOUNTAIN PROJECT MONTHLY OPERATING REPORT MEETING

The ORs attended the Monthly Operating Report (MOR) meeting associated with the Project's September performance data. As indicated during this meeting, project management reviews have identified the potential for additional work related to the LA, including revisions to the PCSA, Total System Performance Assessment LA, and surface-facility-design activities. Evaluation of the workscope and schedules related to these activities are under development.

Human performance initiatives related to the project's error prevention, human performance awareness, and learning culture were also discussed. This area continues to represent a challenge for the project. However, information presented at the MOR indicates that incremental improvements have been identified in the self-reporting culture and error-prevention processes.

QA MANAGEMENT ASSESSMENT REPORT

During this reporting period, the ORs reviewed the results of the FY 2004, Quality Assurance Management Assessment (QAMA) report of the Office of Civilian Radioactive Waste Management.

Based on the results of the QAMA reviews, no conditions adverse to quality were identified. However, the QAMA team did identify a number of recommendations and areas, for improvement, that were subsequently documented in the Corrective Action Plan system. At the conclusion of this reporting period, the U.S. Department of Energy was evaluating the results of the QAMA report and developing program responses to the recommendations.

REPORT DETAILS

INTRODUCTION

The principal purpose of the On-Site Representatives' (ORs') report is to inform U.S. Nuclear Regulatory Commission (NRC) managers, staff, and contractors about information on the U.S. Department of Energy (DOE) programs in repository design; performance assessment (PA); performance confirmation; and environmental studies that may be useful in fulfilling NRC's role during prelicensing consultation. The primary focus of this and future OR reports will be on DOE's programs for subsurface and surface-based testing, PA, data management systems, environmental studies, and quality assurance (QA). Relevant information includes new technical data, DOE's plans and schedules, and the status of activities to support preparation of the License Application (LA). The ORs also take part in activities associated with resolving NRC Key Technical Issues (KTIs). This report covers the period of September 1, 2004, through October 31, 2004.

OBJECTIVES

An OR's mission is to serve principally as a point of prompt information exchange and to identify preliminary concerns with site investigations and potential licensing issues. The ORs carry out this role by gathering and evaluating information, identifying concerns, and bringing more significant issues to NRC management's attention. Communication with DOE is accomplished by exchanging information on data, plans, schedules, documents, activities and pending actions, and resolution of issues. The ORs interact with DOE scientists, engineers, and managers, with input from NRC Headquarters management, regarding the implementation of NRC policies, programs, and regulations. The ORs also focus on such issues as design controls, data management systems, PA, and KTI resolution. A primary OR role is to identify areas in site studies, activities, or procedures that may be of interest or concern to the NRC staff.

1. Site Activities and Data Acquisition

   On September 15, 2004, an OR observed an entry into Alcove 7. Alcove 7 is located 16,610 feet (5064 meters) from the north portal of the Exploratory Studies Facility. The alcove penetrates the Topopah Middle Non-Lithophysal unit for 551 feet (168 meters) from its entrance to the Ghost Dance Fault. Beyond that, it penetrates the Topopah Spring Lower Lithophysal unit. The bulkheads were last closed on June 26, 2003.

   The entry was made under ventilated conditions because of high radon readings. The alcove did not look as wet as the last entry in 2003, possibly because of the ventilation of the alcove. However, there was some condensation observed on wires, rock bolts, and other equipment in the alcove. Although the rock in the crown appeared to be moist toward the rear of the tunnel, there did not appear to be liquid seepage into the alcove. All liquid that was observed appeared to be condensation.

   The bulkheads were constructed in this alcove to conduct moisture-monitoring tests. These tests involve continuous in-situ passive measurements of hydrologic conditions in the rock and alcove atmosphere, as well as qualitative seepage detection behind the

bulkheads. During this entry, the OR observed the removal of the installed seepage detection, (i.e., absorbent pads and bottles). This sampling collection appeared to be adequately performed.

2. Outreach Activities

None during this reporting period.

3. QA and Engineering

3.1 Observation of Analysis and Model Report Audit

The ORs observed the conduct of Bechtel SAIC Company, LLC (BSC) Quality Assurance Audit BQAC-BSC-05-01, concerning the Analysis and Model Report Review and Records Management Processes. The purpose of this compliance-based audit was to evaluate BSC's implementation of the QA program and pertinent procedures for Analysis Model Report (AMR) review and records processing. The scope of this compliance-based audit was limited to a representative sample of AMRs that had undergone revision in accordance with the Project's Regulatory Integration Team (RIT) initiative. Specifically, the audit team evaluated a sample of 10 recently approved AMRs, to assure conformity with QA program requirements related to document review, personnel training and qualification, records management, and scientific analysis/models documentation activities. The audit team also evaluated the corrective actions associated with previously documented Condition Reports (CRs).

As a result of the audit team's reviews, it was determined that the requirements contained in the Quality Assurance Requirements and Description (QARD) document were adequately reflected in the governing procedures, and that the related process controls were appropriately implemented in the AMR record packages. The audit team identified one condition adverse to quality, which involved several related documentation errors. However, the significance of the issues documented in the CR were minor in nature and there were no impacts on the technical adequacy of the AMRs. The audit team also concluded that the corrective actions for previous CRs involving AMR review and records management processes were satisfactory and no repetitive conditions were identified.

Based on the ORs' observations, it was determined that the audit appropriately evaluated the AMR review and records management process, including the adequacy of the implementing procedures. The ORs also determined that the audit team was well-prepared and that there was an overall improvement in the quality of the technical products generated by the RIT. No audit observation inquiries were identified and the ORs determined that the audit was effectively performed.

3.2 Observation of Prototype Waste Package Materials Supplier Audit

On September 15-16, 2004, the Division of High-Level Waste Repository Safety (HLWRS) staff observed a supplier qualification audit of International Steel Group Plate, Inc. performed by the Joseph Oat Corporation. BSC has contracted the fabrication of the prototype waste package to the Joseph Oat Corporation. As defined in the governing

purchase order, the Joseph Oat Corporation procured carbon steel plates from International Steel Group Plate for use as guide rails and the internal structure for the inner stainless steel canister. The purpose of the Joseph Oat Corporation audit was to qualify International Steel Group Plate as a material organization supplying the carbon steel plates for the prototype waste package fabrication.

QA personnel from the Joseph Oat Corporation conducted the supplier qualification audit, to verify the implementation of the International Steel Group Plate QA Program. The Joseph Oat Corporation audit team leader used an approved checklist to examine the following areas: order entry and tracking; program and organization; non-conforming items; corrective actions; staff training and certification; records, procurement, document control, materials control and handling; shipping and storage; fabrication and assembly; inspection; equipment calibration; and software QA.

BSC/QA personnel performed a surveillance of the Joseph Oat Corporation audit to evaluate the implementation of its QA Program Manual. The supplier qualification audit of International Steel Group Plate Inc. did not identify any deficiencies in the QA program, and the surveillance of the Joseph Oat Corporation produced no conditions adverse to quality. The HLWRS staff did not identify any audit observation inquiries, and the staff determined that this oversight activity was effectively performed.

3.3 Evaluation of Current Trend Information

The Project's Trend Evaluation Report for the third quarter of fiscal year (FY) 2004 was released on September 16, 2004. This report, which is an integral part of the Corrective Action Program (CAP), is used to identify patterns and the causes of CRs, such that management can proactively identify resolutions. Source data for this report were derived from CRs and related information associated with the Office of Civilian Radioactive Waste Management (OCRWM) activities.

Based on the analysis of the information contained in this report, the number of CRs identified during the previous 12 months remained relatively constant. On average, 42 quality-affecting CRs were initiated each month and variances from the average were based on audit and self-assessment activities. Therefore, improvements in the CAP system attributed to the new single point CR system, instituted in September of 2003, were not evident. However, there has been an improvement in the number of CRs that were self-identified.

As previously documented in OR Report 04-01, dated April 19, 2004, human performance issues remain the primary causal factor (51 percent), followed by communications related causal factors (27 percent), and management problem causal factors (15 percent). It was also noted that the number of management problems causal factors indicated a statistically significant trend increase. As noted in the trend report, the human performance errors identified in CRs tended to be documentation errors attributable to inattention to detail. Specifically, these errors appeared to be characteristic of not fully implementing procedure steps, and documentation related problems. The trend report also states that: "While these errors were documented in the condition reports as having no impact on safety or quality, they indicate poor work practices."

The report also identified an adverse trend relative to the flow-down of requirements into implementing procedures. This adverse trend, involving 31 CRs, was related to inadequacies in the Project Requirements Document (PRD). Subsequent to the identification of this adverse trend, CR-2343 was initiated to address this problem. The anticipated approach for resolving this issue involves the completion of the new BSC requirements management program, which is intended to replace the existing PRD. However, the ORs identified a concern related to the extent of condition documented in CR-2343, and the apparent repetitive nature of the issues involving inadequate implementation of QARD requirements previously documented in CR-756.

At the conclusion of this reporting period, a human performance improvement initiative was underway to address procedural implementation and performance errors. This effort involves a multi-disciplinary team that will address improving performance through the introduction and use of human error reduction programs. Additionally, a self-assessment is planned for the fourth quarter of FY 2004, to determine how effective the implementation of CR-1497 actions was related to human performance issues, and the adequacy of the Project's planned change management actions. The ORs will continue to monitor the Project's human performance improvement initiative, and the results will be documented in a future report.

3.4 Pre-closure/Design Integration Team

In response to emerging issues involving origination and checking of Pre-closure Safety Analysis (PCSA) and Design Engineering products, the Yucca Mountain Project (YMP) initiated the Pre-closure/Design Integration Team (PDIT). The primary goal of the team is to ensure that the Pre-closure safety basis is appropriately defined and implemented by design engineering (i.e., system and component functionality satisfy design basis requirements) and that the safety basis is properly supported by detailed PCSA calculations. Additionally, the PDIT is to confirm that the Safety Analysis Report is defensible, based on reconciled System Description Documents (SDDs), Facility Description Documents (FDDs), and that PCSA calculations are consistent with current design features.

Based on discussions with the team, the ORs determined that the PDIT will use checklists to review the current set of SDDs, FDDs, PCSA calculations, and other design calculations, as needed. This review is designed to identify inconsistences and discrepancies among these documents, as well as between these documents and the related LA sections, which may impact the defensibility of the post closure safety case. The reviews will specifically focus on those items and supporting documentation that are identified as important to safety. The ORs also ascertained that the PDIT will work with the respective authors of these documents to identify proposed changes to the documents, to address potential inconsistencies and discrepancies found during the reviews, and to ensure that documents are properly completed or revised.

At the conclusion of this reporting period, the PDIT had identified approximately 1,000 potential discrepancies between the LA and supporting Pre-closure documentation. Many of these issues, related to documents that were still in development, have been effectively resolved by the PDIT and the document authors. However, several hundred of these discrepancies, some of which involve errors in issued documents, had not yet been

resolved. Therefore, pending resolution of these items, the ORs will continue to monitor the PDIT process of analyzing and resolving these discrepancies.

3.5 YMP Monthly Operating Report Meeting

On October 28, 2004, the ORs attended the Monthly Operating Report (MOR) meeting associated with the project's September performance data. The purpose of the MOR is to provide senior project management with a periodic update on the status of performance indicators and other program control mechanisms. At the time of this meeting, the YMP management reviews of the LA had been completed. This review identified the potential for additional work related to the LA, including revisions to the PCSA, Total System Performance Assessment (TSPA)-LA, and surface-facility design activities. Evaluation of the workscope and schedules related to these activities are under development. Potential issues related to the completion of the integrated LA chapters include: 1) revision of the AMRs to enhance defensibility; 2) integrated LA chapter alignment with AMRs, design documents, and related information; and 3) completion of verification activities for CR-099 (formerly Corrective Action Report BSC-01-C-001) on model validation.

Topics addressed during the MOR included the status of the Licensing Support Network (LSN), Pre-closure design activities, KTI agreements, and recent project initiatives. Specifically, DOE is developing a path forward for LSN certification that involves planning and scheduling activities for each of the certification collection deficiencies identified by NRC's Pre-License Application Presiding Officer Board. Pre-closure design development efforts for the electrical power and ventilation systems classified as important to safety are in progress. As of the end of September 2004, DOE Licensing had completed the submittal of all 293 KTI agreement responses to NRC, and 111 KTI agreements have been closed. Relative to project initiatives, DOE reported that the annual Safety Conscious Work Environment (SCWE) survey had been completed, with a response rate of approximately 64 percent. The survey data are being analyzed and the results are expected to be released December 2004.

The status of the YMP Annunciator Panel was examined during the MOR. As noted during this discussion, the Project's Leadership Council is currently reviewing the status of the performance indicators (PIs), and recommendations regarding particular annunciator panels are expected in the near future. The effectiveness of the existing suite of PIs to reflect current conditions was also discussed during the MOR. As a result of these discussions, DOE indicated that selected annunciator panels will be retired subsequent to the completion of the related work. DOE also noted that the status of some of the annunciator panels, including those for Engineering/Design and PCSA, may need to be reevaluated, along with corresponding base-line changes.

The significance and impact of Level "A," CR-3235, concerning the transparency, traceability, and technical adequacy of design engineering products, were reviewed during the MOR. BSC management indicated that the charter for the root-cause team has been revised and that an independent review team is evaluating the adequacy of current design engineering and PCSA products, to determine the extent of condition. In conjunction with the root-cause evaluation for CR-3235, a PDIT has been established to address the remaining Pre-closure and design issues necessary to finalize and validate the LA. Activities related to the PDIT are expected to be completed by December 2004.

Human performance initiatives related to the project's error prevention, human performance awareness, and learning culture, were also discussed. This area continues to represent a challenge for the project. However, information presented at the MOR indicates that incremental improvements have been identified in the self-reporting culture and error-prevention processes.

3.6 QA Management Assessment Report

During this reporting period, the ORs reviewed the results of the FY 2004, Quality Assurance Management Assessment (QAMA) report of OCRWM. The purpose of the QAMA was to evaluate the adequacy of the project's resources and personnel and to determine the overall effectiveness of the QA program, to achieve the committed level of quality.

Based on the results of the QAMA reviews, no CAQs were identified, and the team determined that the project's resources and personnel adequately satisfy program technical requirements. The QAMA team also concluded that the QA program is satisfying its purpose and that the program has been effective. However, the QAMA report noted that anticipated QA program changes should be monitored and evaluated in the future, to ensure that program adjustments are appropriately implemented. The QAMA team also identified a number of recommendations/areas, for improvement, that were subsequently documented in the CAP system. These recommendations involved process implementation, human performance requirements application; quality oversight; lessons learned; deficiency characterization; quality program stability; and follow-up on previously identified items.

At the conclusion of this reporting period, DOE was evaluating the results of the QAMA report and developing program responses to the recommendations.

4. General Activities

4.1 Meetings

During this reporting period, the ORs participated in the following meetings:

- September 14-15, 2004, NRC staff, including the ORs, participated in a Technical Exchange with DOE personnel in Las Vegas, Nevada. DOE presented information related to the design of the surface and subsurface facilities that would be included in the proposed LA for a geologic repository. The discussion included details on the PCSA that had been performed to identify systems, structures, and components important to safety in accordance with requirements contained in 10 CFR Part 63 - "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada."

- September 21, 2004, an OR attended the morning session of a public meeting (Appendix 7) held between the NRC Division of HLWRS and DOE staffs and contractors in Las Vegas, Nevada. At this meeting, the results of recently completed aeromagnetic surveys of the Yucca Mountain Region were discussed. Analysis of this data will be used to evaluate the uncertainty regarding buried igneous bodies in the Yucca Mountain Region

and their possible effect on the probability of volcanic disruption of the proposed high-level waste repository.

- September 22-23, 2004, an OR attended an NRC Advisory Committee on Nuclear Waste (ACNW) meeting in Las Vegas, Nevada. The main focus of the meeting was an ACNW-sponsored "Working Group on the Evaluation of Igneous Activity and Its Consequences at a Geologic Repository at Yucca Mountain, Nevada." NRC staff and staff from the Center for Nuclear Waste Regulatory Analyses (CNWRA) presented papers on the “NRC Staff’s Perspective on the Modeling of Magma/repository” and on “Challenges to Modeling Doses Due to Disruptive Igneous Events.”

- September 29, 2004, representatives from the State of Nevada, the counties, interested members of the public, and NRC staff including and OR, participated in a QA meeting with DOE representatives in Las Vegas, Nevada. Topics discussed an update on the status of DOE’s QA program; QA audits and surveillance activities; CAP oversight; trend evaluation/reporting; and the staff’s preliminary review of Revision 17 to the QARD. Video conferencing was made available for participants at NRC Headquarters, Rockville, MD; CNWRA staff at San Antonio, Texas; and NRC Region IV staff, Arlington, Texas.

- October 12, 2004, an OR observed a briefing given to DOE support contractor staff on the OCRWM Employee Concerns Program (ECP). These briefings are being conducted site wide under the direction of the new ECP manager, Julie Goeckner. NRC’s interest in this subject is related to an overall understanding of the Project’s SCWE.

- October 13, 2004, an OR observed a DOE meeting on determining data quality objectives for a proposed background radiological survey for a new road to be built from US Highway 95 at approximately the junction of Highway 95 and Nevada Highway 373 (Lathorp Wells intersection) to the edge of the proposed Geologic Repository Operations Area (GROA). The survey is proposed to be conducted under the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). Potential contamination of this area exists from former activities at the Nevada Test Site, especially those conducted under the Nuclear Rocket Program in Jackass Flats. NRC’s primary interest for the NRC in observing this meeting was the potential for the same methodology to be employed for a background radiation survey of the proposed GROA.

- October 19-20, 2004, an OR observed the semi-annual meeting of DOE's National Spent Nuclear Fuel (SNF) Program held at the Alexis Park hotel in Las Vegas, Nevada. The meeting provided an overview of DOE's SNF program. Topics discussed included the challenges facing the program relative to the characterization, packaging, transportation, waste acceptance, and safeguards and security of DOE SNF going to a potential repository at Yucca Mountain. Also discussed were DOE's latest plans for facilities at Yucca Mountain to dispose of commercial and DOE SNF. Because this meeting was closed to public observation, the NRC staff member attended only as an observer and did not participate.

4.2 Site Visits

On the afternoon of September 21, 2004, an OR led a site visit for ACNW staff and an ACNW consultant, to familiarize them with the site.

U.S. NRC ON-SITE LICENSING REPRESENTATIVES' TRACKING REPORT FOR OPEN ITEMS FOLLOWED IN BI-MONTHLY OR REPORT

OPEN ITEM NUMBER (For Tracking only)	*BRIEF DESCRIPTION OF OPEN ITEM*	*OPEN ITEM OR REPORT NO.*	*DATE OPEN ITEM CLOSED*
AOI-YMSCO-ARC-02-12–01	Identifies the need for DOE OQA to ensure that procedure development and review process include a documented evaluation to verify compliance with the requirements of the YMP's QARD.	OR-03-01	OR Report No: OR-03-03 August 15, 2003
OR Open Item 04-01	A concern regarding the safety analysis of the ground support system in the ESF.	OR-04-01	OR Report No: OR-04-04 October 27, 2004
OR Open Item 03-06	Based on review of CR-756, 12 quality-affecting procedures were approved without meeting the applicable QARD requirements.	OR-03-05	
OR Open Item 03-05	The continued use of unqualified software in quality-affecting technical products appears to be in conflict with the governing requirements of the implementing procedures and the QARD.	OR-03-04	
OR Open Item 03-04	With a tentative date of mid-June to evaluate CAR BSC(B)-03-(C)-107, the RCD has not acted on this CAR in a timely manner and it has remained open for 4 months without resolution.	OR-03-03	OR Report No: OR-03-05 January 12, 2004

OPEN ITEM NUMBER (For Tracking only)	*BRIEF DESCRIPTION OF OPEN ITEM*	*OPEN ITEM OR REPORT NO.*	*DATE OPEN ITEM CLOSED*
OR Open Item 03-03	An evaluation in DOE's progress in implementing corrective actions associated with CAR B.C.-01-C-001, concerning model validation, the OR reviewed TAPS (approx. 43 models). Based on the results, it could not be established if the evaluation criteria will result in the development of models with adequate confidence for the LA.	OR-03-02	
OR Open Item 03-02	During a review of the MII confirmation packages, it was identified that the action statement execution task descriptions and completion schedules for many of the reviewed pkgs had been modified without appropriate justification. Therefore, pending the resolution of this apparent deviation from a commitment to administer the MII in accordance with the requirements of AP-5.1Q, this issue is identified as this OR Open Item.	OR-03-02	OR Report No: OR-04-02 July 8, 2004
OR Open Item 03-01	This Open Item is based on issues on separate DRs: (1) the effective resolution of concerns related to inadequate personnel training; 2) the failure to establish an effective transition plan; and 3) the evaluation of the SCWE issues.	OR-03-01	OR Report No: OR-03-04 October 20, 2003
OR Open Item 02-13	The current status of corrective & preventive actions associated with CAR No. BSC-02-C-01 revealed that not all corrective actions stated had been complete.	OR-02-05	OR Report No: OR-03-05 January 12, 2004
OR Open Item 02-12	Contrary to requirements of the QARD Supplement III 2.4.C, AP-SIII.2Q inappropriately allows for the use of unqualified data. BSC QA procedure change control program failed to identify this issue.	OR-02-05	

OPEN ITEM NUMBER (For Tracking only)	*BRIEF DESCRIPTION OF OPEN ITEM*	*OPEN ITEM OR REPORT NO.*	*DATE OPEN ITEM CLOSED*
OR Open Item 02-11	Based on surveillance not identifying specific problems with software functionality for codes tested, 7 - including NUFT, did not pass ITP and/or VTP surveillance.	OR-02-05	OR Report No: OR-03-06 February 18, 2004
OR Open Item 02-10	Pending appropriate evaluation and documentation of the design control attributes associated with requirements of 10 CFR 63.44 and 10 CFR Part 21.	OR -02-04	
OR Open Item 02-09	Pending revision of engineering procedures, to include appropriate design verification considerations.	OR-02-04	OR Report No: OR-03-06 February 18, 2004
OR Open Item 02-08	The required performance of annual audits' justification for delaying a scheduled audit of YMSCO for 3 months, with an additional extension, does not appear to be adequately supported. Deviation from requirement of sub-section 18.2.1E of the QARD.	OR-02-04	OR Report No: OR-02-06 January 23, 2003
OR Open Item 02-07	Model Validation Impact Assessment addressed the effect of inappropriately validated models on TSPA-SR. Many cases of impact assessments used TSPA-SR results to evaluate the local impacts. It's unclear how this practice evaluated the cumulative impact of all the models in question.	OR-02-01	OR Report No: OR-03-06 February 18, 2004
OR Open Item 02-06	Unqualified Data Impact Assessment - NRC staff identified unqualified data that could be replaced with qualified data for the performance assessment. For the risk-significant components, an evaluation of unqualified data replaced with qualified data would help determine if efforts should be undertaken to qualify the removed data.	OR-02-01	OR Report No: OR-04-02 July 8, 2004

OPEN ITEM NUMBER (For Tracking only)	*BRIEF DESCRIPTION OF OPEN ITEM*	*OPEN ITEM OR REPORT NO.*	*DATE OPEN ITEM CLOSED*
OR Open Item 02-05	Provisions are in place that allow for model validation to continue past issuance of the documentation. The models used in the performance assessment should have adequate support for their representation at the time the performance assessment documentation is issued.	OR -02-01	OR Report No: OR-03-06 February 18, 2004
OR Open Item 02-04	A number of criteria have been developed related to various forms of review. If a review is relied on for model validation, it should be directed at validating the model and it should encompass the full body of information to the extent practical.	OR-02-01	OR Report No: OR-03-01 April 14, 2003
OR Open Item 02-03	More objective criteria (comparison to data not used in the development of the model), typically resulting in higher confidence in model validation are not distinguished from the more subjective, problematic criteria.	OR-02-01	OR Report No: OR-03-02 June 11, 2004
OR Open Item 02-02	Current process controls specify that one or more of nine criteria may be used to validate a model. All the criteria should increase confidence in the modeling process, some criteria do not appear to be appropriate for addressing whether the model is valid for its intended use.	OR-02-01	OR Report No: OR-03-01 April 14, 2003
OR Open Item 02-01	Failure to properly include the specific issues identified in the Concerns Program Final Report in the resolution process may result in not adequately addressing the original employee's concern.	OR-02-01	OR Report No: OR-02-06 January 23, 2003