MINUTES OF THE FEBRUARY 23, 1994, 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 kadioactive Waste Management (OCRWM), to discuss items of mutual interest with regard to quality assurance (QA), was held at the NRC Headquarters in Rockville, MD on February 23, 1994. A representative of the State of Nevada participated in the meeting. Other meeting attendees included representatives from the Nuclear Waste Technical Review Board (NWTRB); the Civilian Radioactive Waste Management System Management and Operating Contractor (M&O); Edison Electric Institute (EEI) and Weston. An attendance list is included as Attachment 1.

At this meeting, DOE presented information on the following topics: (1) an update on the status of implementing the new Quality Assurance Requirements and Description document for the Civilian Radioactive Waste Management Program (QARD); (2) an update on graded QA and the new Q-List; (3) an overview of the Tunnel Boring Machine (TBM); (4) the status of the DOE/Nye County Cooperative Drilling Program; (5) the status of corrective actions from previous audits of DOE Office of Environmental Restoration and Waste Management, Waste Management Projects, Vitrification Projects Division (EM-343); (6) an update on the audit schedule for FY 1994; (7) the status of the M&O Design Control Improvement Plan; (8) the design process and its relationship to the Determination of Importance Evaluation; and (9) an update on QA overview of site characterization field activities. The NRC discussed briefly its recent observations, surveillances and the status of QA open items. The State of Nevada expressed concern about the impact of proposed organizational changes in NRC's High Level Waste Program on QA oversight of DOE's program. DOE and the representative from EEI expressed similar concerns.

The meeting began with opening remarks followed by introduction of the attendees. Following the introductions, DOE presented an update on progress in implementing the new QARD. Progress is indicated in Attachment 2, which summarizes progress toward implementing procedures and the implementation status of the QARD. Implementation is taking place in the transition period before adoption of the new QARD. At the time of the meeting, participant organizations had completed from 80 percent for OCRWM to 100 percent for Raytheon Services Nevada (RSN) of the process of implementing the QARD where 100 percent is defined as completion and review of the matrix with all procedures in place. It was estimated that another one to two months would be required to complete the procedures. DOE stated that implementation has begun in the transition period between cancellation of the old QARD and adoption of the new QARD. DOE stated that the RSN procedures were ready to be sent. NRC indicated that it would like to receive information copies of OCRWM/Yucca Mountain Project Office QA procedures as they are updated. Attachment 2 provides a graphic summary of the status of implementing the QARD at the time of the meeting.

NRC's update on open items from its observations of DOE audits and surveillances was next on the agenda. Four items identified as weaknesses in NRC Observation Audit Reports remain open and are specified in Attachment 3. It was noted that NRC receipt of an information copy of the applicable quality assurance procedure (QAP-18-1, Certification of Audit Personnel, Revision 2) would close out NRC's concern about criteria for conducting technical evaluations not being prescribed by documented procedures. NRC staff also said that it would request clarification during the next EM-343 audit regarding investigative action, root

9406160319 940613 PDR WASTE WM-11 PDR

3

.

cause determination, and corrective action to preclude recurrence of parts of the closed Corrective Action Request. NRC noted that it had found no major problems during recent observation audits of Reynolds Electrical & Engineering Company, Inc. (YMP 94-02) and Raytheon Services Nevada (YMP 94-03).

Next, DOE gave an update on the status of the Graded QA/Q-List (Attachment 4); and discussed the Q-List, Revision 2 (Attachment 5). In response to questions from NRC staff, DOE said that the present list reflects the following approach to developing the Q-List: first place everything on the Q-list; then remove items, supporting the determinations by analysis where necessary. Thus the current list should be conservative. In response to the State's question, it was stated that the M&O's Quality Assurance Procedure (QAP) 2-3, Revision 6, "Classification of Permanent Items," would be made available within a few weeks of the meeting.

An overview of the fabrication of the TBM was presented as a ten-minute videotape. After performance testing in the Seattle, Washington area, the TBM is to be delivered to Nevada in April.

It was stated that there has not yet been agreement on activities for the DOE/Nye County Cooperative Drilling Program.

The State of Nevada asked about the nature of the proposed change in the organization of NRC's high-level waste program and expressed strong concerns regarding its effect on NRC's oversight of DOE's QA program. A need for NRC to continue to have a focused NRC high-level waste QA program centered in a specific group was highlighted. This is especially so as the emphasis is beginning to shift from looking at the adequacy of DOE's QA system to looking at the implementation and effectiveness of procedures.

DOE then discussed the status of Corrective Action Requests (CARs) issued to EM-343 in 1993 (Attachment 6). One of six outstanding CARS had been closed; all CARs are to be closed before acceptance of the EM-343 QA program. All CARs will not be verified and closed until after the next audit. The FY-94 Quality Assurance Audit Schedule, Revision 2 is included as Attachment 7.

The status of M&O design improvement efforts was discussed next by DOE. M&O QAP 2-3, Revision 6, "Classification of Items," was effective 2/15/94 and QAP 2-3, Revision 6, PCN-01, which addresses a remaining concern of DOE's Office of Quality Assurance, will be effective 3/1/94 (Attachment 8). Both NRC and the State of Nevada requested a draft copy as soon as possible. The next steps will be to check a sample of requirements for effective implementation. The scheduling of M&O audits was discussed next. Attachment 9 summarizes the discussion. Problems encountered in developing the schedules for programmatic and performance-based audits were described. Four significant CARs remained to be resolved at the time of the meeting. Next, DOE discussed the status of the Graded QA program. The revised Q-List was approved and issued on November 5, 1993, and the Quality Activities List was deleted November 4, 1993. It was noted that M&O QAP-2-3, Rev 6 will replace Administrative Procedure (AP) 6.17Q, which will receive a cancellation review before being cancelled.

£

DOE's update of field activities followed. In addition to discussing boreholes completed and in process and other borehole activities, completed audits and surveillances and status of CARs were discussed. The information presented is summarized in Attachment 10. In addition, slides of activities in the vicinity of the North Portal pad were shown.

The final presentation by DOE focused on the implementation plan for Determination of Importance Evaluation consolidation.

The State of Nevada was then invited to present comments, ask questions, or raise any items of concern. The State of Nevada expressed a concern that meeting minutes are not being completed in a timely manner. In addition, the State of Nevada asked whether questions and problems the auditors have at QA audits are being forwarded to DOE.

The meeting was adjourned after the participants tentatively set the next NRC/DOE QA meeting date as Wednesday, April 27, 1994.

Pauline P Brooks 6/7/94

ĩ

Pauline P. Brooks High-Level Waste and Uranium Recovery Projects Branch Division of Waste Management U. S. Nuclear Regulatory Commission

Theren L. Skuchke

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

February 23, 1994 NRC/DOE QA Meeting

ŧ

4

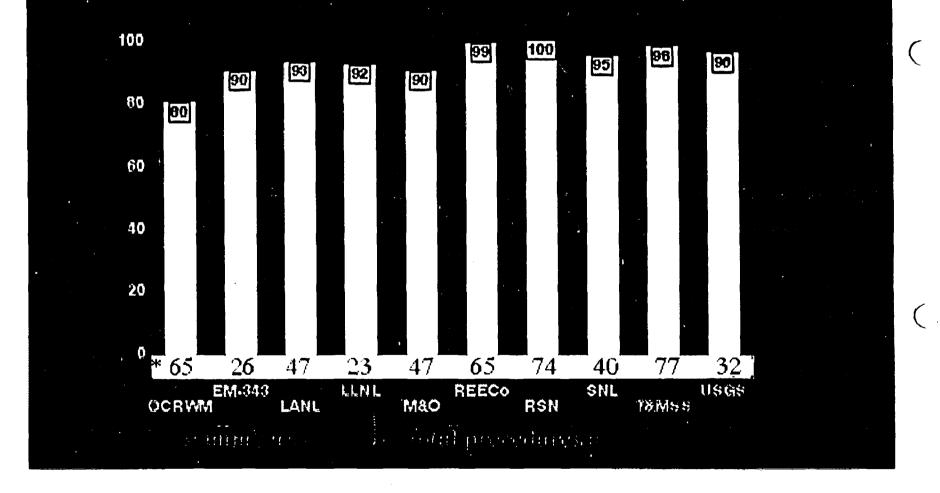
د. نوسرا

ORGANIZATION/NAME PHONE NUMBER NRC Kenneth R. Hooks 301-504-2447 William Belke 301-504-2445 Pauline Brooks 301-504-3465 John Jankovich 301-504-2454 Mysore Nataraja 301-504-3459 Jack Spraul 301-504-2446 DOE Donald G. Horton 702-794-7675 Sharon L. Skuchko 202-586-4590 Richard E. Spence 702-794-7504 QATSS Hank Greene 702-794-7369 Sam Horton 702-794-7399 Les Warner 703-841-1170 STATE OF NEVADA Susan Zimmerman 702-687-3744 NWTRB **Russ McFarland** 703-235-4473 **CNWRA** Bruce Mabrito 210-522-5149 EEI Tom Colandrea 619-487-7510 M&O Robert Morgan 703-204-8761 Ron Ruth 702-794-7130 WESTON Wayne Booth 202-646-6750

<u>Attachment 1</u>

QA Program Completion

* Requirements Matrix Review Completion



Attachment 2

COPIES TO:

B.J.Y J.L. J.H.

K.H. J.S.

- P.B.
- FROM: B. Belke

SUBJECT: STATUS OF NRC/DOE QA OPEN ITEMS - FEBRUARY 23, 1994 (Bracketed items = new items added since last QA meeting)

ITEMDESCRIPTIONSTATUSRECOMMENDATION FOR CLOSURE/REMARKS1-93Response to NRC
Observation AuditDOE should respond within 60 days of the
date of the NRC Observation Audit Report

transmittal.

- Observation Audit Report 93-01 for USGS dated 12/7/92 OPEN
- Weakness 5.10 (b) (1) Audit technical evaluations and criteria for conducting technical evaluations are not prescribed by documented instructions or procedures.
- 2-93 Response to NRC OPEN Observation Audit Report 93-04 for EM-343 dated 2/17/93

- 4-93 Response to NRC OPEN Observation Surveillance Report 93-S3 for EM-343 dated 7/1/93
- 5-93 Responses to NRC OPEN Observation of Sav,. Riv. Audit dated 6/25/93

- (1) Weakness 5.9.2 No list of items and activities covered by the EM-343 QA program scope of work.
 DOE 11/18/93 letter to NRC closes CAR written by DOE. NRC will request clarification during next EM-343 audit regarding Investigative Action, Root Cause Determination, and Corrective Action to Preclude Recurrence sections of closed CAR.
- (1) Waste Acc. Product Specifications for Vitrified High-Level Waste Forms performed without procedure. NRC requests DOE inform NRC of actions taken by EM-343 to preclude this type of recurrence.
- (1) Deviations documented as Observations and not DCARs.
- (2) No list of items and activities covered by the DWPF QA program scope of work (See Item 2-93 above)

Attachment 3

STATUS OF GRADED QA/Q-LIST

ACTIONS COMPLETED:

- ✓ Q-List revision approved 11/05/93
- ✓ Quality Activities List (QAL) deleted 11/04/93
- ✓ AP 5.21Q requires classification during Job Package preparation
- ✓ M&O QAP 2-3 revision 5 "Classification of Items" submitted to DOE for review and acceptance

UPCOMING ACTIONS:

- ✓ Comment Resolution on M&O QAP 2-3 Rev. 5
- ✓ Cancellation of AP 6.17Q

Q-List, Revision 2

• REVISED TEXT AND TABLE OF CONTENTS TO SHOW NATURAL BARRIERS MOVED FROM APPENDIX A TO SECTION 2

ADDED NEW APPENDIX A

- RATIONALE FOR NATURAL BARRIERS ON THE Q-LIST
- ADDED LIST OF FIGURES
 - PAGE vii
- ADDED ITEMS TO APPENDICES B, C, AND D
- ALLUVIUM HAS BEEN REMOVED FROM Q-LIST AND PLACED ON THE MANAGEMENT CONTROL LIST



EM 343 CAR STATUS

CAR No.	Date Issued	Resp Due	Resp Extens	Second Extens	Resp Rec'd	Resp Eval	Amend Resp	CA Compl	CA Verified	Current CAR Status
HQ-93-009	2/16/93	3/15/93	4/16/93	5/21/93	5/25/93	Reject	10/13/93 Accept	11/19/93		Corrective Action verification pending
HQ-93-010	2/16/93	3/15/93	4/16/93	5/21/93	5/25/93	Reject	10/13/93 Accept	12/15/93		Corrective Action verification pending
HQ-93-011	2/16/93	3/15/93	4/16/93	5/21/93	5/25/93	Reject	10/13/93 Accept	11/1/93		Corrective Action verification pending
HQ-93-012	2/16/93	3/15/93	4/16/93	5/21/93	5/25/93	Accept	N/A	11/9/93	12/1/93	CAR Closed 12/13/93
HQ-93-027	8/5/93	8/31/93	N/A	N/A	8/23/93	Reject	12/30/93 Accept	3/31/94		Corrective Action in-process
HQ-93-028	8/5/93	8/31/83	N/A	N/A	8/23/93	Reject	12/30/93 Accept	3/31/94		Corrective Action in-process

VERIFICATIONS:

HQ-93-02 1/11/93 - 1/15/93 HQ-SR-93-01 6/22/93 - 6/24/93 93EA-SR-AU-01 5/3/93 - 5/5/93 and 5/24/93 - 5/28/93 (Observation of EM)

2/22/94

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT FY-94 QUALITY ASSURANCE AUDIT SCHEDULE, REVISION 2

ORGANIZATION	LOCATION	NUMBER	TEAM LEADER	DATES	QA CRITERIA

SNL	Albuquerque, NM	HQ-94-01	T. Swift	Completed	PB 1
REECo	Las Vegas, NV	YMP-94-02	D. Harris	Completed	PB 3
RSN	Las Vegas, NV	YMP-94-03	A. Arceo	Completed	All-2
EM-343 3	Germantown, MD	1	F. Bearham	4/4-8/94	All-2
REECo 4	Las Vegas, NV	YMP-94-04	F. Kratzinger	5/2-6/94	All-2
SAIC 4	Las Vegas, NV	1	R. Maudlin	5/16-20/94	A11-2
M&O 5	Vienna, VA Charlotte, NC Las Vegas, NV	1	M. Horseman	5/16-20/94 5/30-6/10/94	All-2
USGS	Denver, CO	1	C. Warren	6/20-24/94	All-2
M&O 6	Las Vegas, NV	YMP-94-01	K. Gilkerson	6/27-7/1/94	PB 2
OCRWM 4	Washington, DC	1	T. Rodgers	7/11-15/94	All-2
SNL 6	Albuquerque, NM	1	R. Maudlin	7/18-22/94	PB 4
YMPO 4	Las Vegas, NV	1	M. Horseman	7/25-29/94	All-2
LANL 4	Los Alamos, NM	1	R. Weeks	8/8-12/94	All-2
SNL	Albuquerque, NM	1	K. McFall	8/22-26/94	All-2
LLNL 4	Livermore, CA	1	R. Constable	9/19-23/94	All-2

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT FY-94 QUALITY ASSURANCE AUDIT SCHEDULE, REVISION 2

NOTES:

- PB 1 Performance based of Organization, QA Program, Design Control, Procurement, Implementing Documents, Document Control, Corrective Action, QA Records, Audits, and Software.
- PB 2 Performance based audit of Design Control and Implementing Documents.
- PB 3 Performance based audit of Procurement Document Control and Control of Purchased Items and Services.
- PB 4 Performance based audit of Phase I Regional Climate Modeling.
- 1) Audit number will be assigned when the Audit Plan is issued.
- 2) Compliance to DOE/RW-0333P, Revision 0.
- 3) Rescheduled to allow full implementation of DOE/RW-0333P, Revision 0.
- 4) Rescheduled based upon approval of new QA Program and its implementation.
- 5) Joint HQAD and YMQAD audit of the M&O at the Vienna, Charlotte, and Las Vegas locations. Rescheduled based upon anticipated completion of the procedural upgrade.
- 6) Rescheduled based upon availability of QA related activities and product.

____ Date: 2/17/94 Director, Office of Quality Assurance:

STATUS OF M&O DESIGN IMPROVEMENT EFFORTS

NRC/DOE MEETING February 23, 1994

MGDS Design Control Improvement Plan

- * Identified 17 areas where improvement was needed
 - Based on Self Assessment and Evaluation of internal and external CARs
- * Established 54 specific actions to be taken

IMPLEMENTATION

- * 48 actions complete
- * 6 on-going

6 ON-GOING ACTION ITEMS

ACTION F1 - Ensure QAP 2-3 is approved for use at MGDS

ACTION L2 - Establish Procedure Review Team to trial run procedures

ACTION M1 - Develop MGDS Design Guidelines Manual

ACTION Q3 -DOE - EDD & M&O Management to evaluate implementation of MGDS Design Control Improvement Plan

ACTION O1 -Incoprorate RSN-BFD sections for Design Package 1A into M&O BFD

ACTION O2 -Revise RSN dwgs;specs; and calcs. for new traceability

OPEN ACTIONS

* Ensure QAP-2-3 (Classification of Items) completed and approved for use at MGDS. OQA Acceptance required by contract (Action F1)

STATUS

- OQA comments have been resolved
- QAP-2-3, Revision 5, Procedure Change Notice (PCN)-01 was effective 1/18/94 and addressed all but one OQA comment
- QAP-2-3, Revision 6 was effective 2/15/94
- QAP-2-3, Revision 6, PCN-01 will be effective 3/1/94 and will address the one remaining OQA comment

OPEN ACTIONS

* Procedure Review Team(PRT) established to trial run procedures (Action L2)

STATUS

- PRT has reviewed 10 of the 13 QAPs that describe the design process
- Revisions to the design process QAPs that reflect PRT comments are scheduled to be issued by 4/1/94

OPEN ACTIONS

- * Develop MGDS Design Guidelines Manual (Action M1)
 - Suggested topics: Generic process flow; organization interfaces, responsibility and authority; Design Requirements; Databases; Reviews; Design Outputs

STATUS:

- First Draft reviewed by OQA and comments provided to the M&O
- Second Draft issued 2/18/94
- Approved Manual due to be released 3/25/94

OPEN ACTIONS

* DOE Engineering and Development Division and M&O management to evaluate Implementation of MGDS Design Control Improvement Plan (Action Q3)

STATUS:

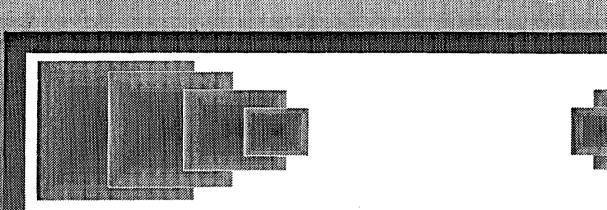
- Action Plan has been developed
- This action is independent of any OQA verifications
- Expected Completion Date: 4/1/94

OPEN ACTIONS

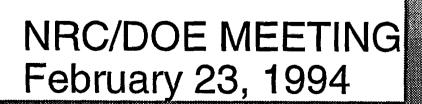
- * Incorporate relevant RSN BFD sections for ESF Design Package 1A into M&O BFD; prepare baseline change for combined BFD (Action O1)
- * Revise RSN drawings, specifications, calculations for new traceability; adopt fully as M&O products (Action O2)

STATUS:

- Expected Completion Date: FY95
- Actions to be tracked separately from MGDS Design Control Improvement Plan



SCHEDULING OF M&O AUDITS





 Last Audit Performed on the M&O Headquarters - 2/93 Yucca Mountain - 3/93

Audits of M&O to be two parts

Programmatic

Performance Based

Aug - 93 Mar - Apr - 94 Nov - 93 Mar - 94

New Schedule

May 23 - June 10 1994 June - 27 1994

REASONS FOR RESCHEDULING AUDITS

PROGRAMMATIC

- Program deficiency identification culminated August 93' with Get Well Plan initiated
- Numerous unresolved CARs
- Continuous procedure revision (affects RTN approval)
- Improvements still needed in the Audit/Surveillance process

/ PERFORMANCE BASED

 Completion of Design Package 2c (North Ramp to TSL;274m) schedule slip from March to April 26 - 94

		HQ RVEILLANCES TO BE PERFO O MONITOR IN PROCESS W		
SURV.NO.	ORG./LOC.	ΑCTIVITY	Date Scheduled	COMMENTS
HQ-SR-94- 09	M&O/VA	Status/Control of SRD open issues - RSD revisions	4-94	
HQ-SR-94- 10	M&O/VA	Qualification and training of personnel	6-94	
HQ-SR-94- 11	M&O/VA	M&O Purchasing System	6-94	
HQ-SR-94- 06	M&O/VA	Classification of Items	7-94	
HQ-SR-94- 05	M&O/VA	Verification and follow up of Remedial Action for deficiencies corrected durin audits/surveillances	g ⁸⁻⁹⁴	
HQ-SR-94- 14	M&O/VA	Preparation and Review of the Interfac Control Documents (ICDs)	e 8-94	
HQ-SR-94- 15	M&O/VA	Flowdown of SRD Requirements into Design Requirements Documents (DRDs)	9-94	

. . .

YMP SURVEILLANCES TO BE PERFORMED TO MONITOR IN PROCESS WORK

SURV.NO.	ORG./LOC.	ACTIVITY	Date Scheduled COMMENTS
YMP 94-028	M&O/LV	Document Control for Forms	2-7-94
YMP 94-029	M&O/LV	Observation of Internal Audit	2-25-94
YMP 94-030	M&O/LV	Test Interference Evaluations	2-14-94
YMP 94-033	M&O/LV	Tech. Data Management as it relates to Design Output	3-28-94
YMP 94-32	M&O/LV	Verification of Implementation of the M&O MGDS Design Control Improvement Plan	5 -2-9 4

		YMP /EILLANCES TO BE PERFO MONITOR IN PROCESS W		
SURV.NO.	ORG./LOC	ΑCTIVITY	Date Scheduled	COMMENTS
YMP 94-034	M&O/LV	Expedited FCR Process	2-21-94	
YMP 94-0XX	M&O/LV	M&O Surveillance Process	TBD	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
YMP 94-0XX	M&O/LV	Waste Isolation Evaluations	TBD	
YMP-94-XX	M&O/LV	QA Classification on Dwgs. & Specs	• TBD	· ·
YMP 94-0XX	M&O/LV	Required Specification Submittals	TBD	

ノ

FIRID ACTIVITIES

UPDATE

February 23, 1994

Completed Boreholes to Date

► Total footage drilled to date (completed holes) - 10,606.6 feet

Neutron - 24 - 3077 feet (N11, N15, N16, N17, N27, N31, N32, N33, N34, N35, N36, N37, N38, N39, N53, N54, N55, N57, N58, N59, N61, N62, N63 and N64)

►Unsaturated Zone (UZ) - 16 - 1686.2 feet

▶ JF - 3 - 1298 feet

►North Ramp Geologic (NRG) - 8 holes - 4545.4 feet (NRG - 1, - 2, - 2a, - 2b, - 3, - 4, - 5 and - 6)

(continued)

In-Progress Boreholes

- USW NRG-7/7A: Cored to 1243 feet as of February 9, 1994 (planned total depth is approximately 1,445 feet)
- UE-25 NRG-2c: Cored to 56 feet as of February 9, 1994 (planned total depth is approximately 160 feet)
- USW SD-12: Cored to 50 feet as of February 9, 1994 (planned total depth = 2300 feet)
- UE-25 NRG-2d: Drilled to 38 feet as of February 9, 1994 (planned total depth is approximately 160 feet)
- UZ-14: Cored to 1,422 feet as of November 5, 1993 (planned total depth = 2,000 feet) NOTE: Drilling postponed due to presence of perched water.

(continued)

Other Borehole Activities

Geophysical Logging with Slim-Hole Tools:

Resistivity Neutron Density Caliper Gamma Ray

Of the following Boreholes:

NRG-2 NRG-3 NRG-6 NRG-2A NRG-4 NRG-2B NRG-5

Deviation Survey of following Boreholes:

NRG-7A WT-2

Air permeability Testng in UE-25 UZ#16. By USGS.

FIELD ACTIVITIES UPDATE (continued) Exploratory Studies Facility (ESF) Update

- Alcove #1 Complete.
- ► Geologic mapping of Alcove #1 complete.
- Hydrochemistry tests beginning in Alcove #1.

(continued)

Surveillances of Field Activities

15 surveillances of Field Activities of YMP Affected Organizations have been completed for FY 94 to date by YMQAD staff.

Participant LANL M&O REECo RSN USGS YMPO LLNL Number of surveillances

 $\mathbf{2}$

8

2

QA Activities of Field Activities by YMP Affected Organizations for FY'94

Completed Audits/SurveillancesM&O40LANL0LLNL0REECo4RSN4SNL1SAIC1USGS0

Note: Inspections included for M&O.

Planned Audits/Surveillances

5

5

3

 $\mathbf{21}$

Surveillances Completed for FY'94:

94-002	RSN	Field surveying to verify corrective action for CAR YM-93-032
94-003	REECo	Control of water usage
94-005	REECo	Rockbolt installation
94-006	M.&.O.	Waste Isolation Evaluation for
		trenching CAR YM-94-011
94-010	REECo	Follow-up of Control of Water Usage
		CARs YM-94-008 and YM-94-009
94-012	USGS	Air Permeability Studies
94-014	LANL/LLNL	Large Block Heater Tests
94-015	REECo	Material Identification
94-016	RSN	Control of surveying primary reference
		points
94-017	REECo	Control of M.&T.E.

Surveillances Completed for FY'94 (continued):

- 94-018 REECo Repair of Drill Hole Casing NRG-2
- 94-019 YMPO SMF Specimen Removal Procedures
- 94-022 REECo Borehole Security Program
- 94-022 M&O Status of Record for Job Package 92-20
- 94-023 REECo Pull-testing of Rockbolts

Reviews Completed - FY'94 Totals

► Job Packages Reviewed - 1

► Test Planning Packages Reviewed - 2

Corrective Action Requests Issued and Closed Related to Field and Test Activities to date for FY94



