U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE

AUDIT REPORT

OF THE

CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR

AT

KIEWIT/PARSONS BRINCKERHOFF
LAS VEGAS, NEVADA

AUDIT K/PB-ARC-98-07

FEBRUARY 9-13, 1998

Prepared by:_____ **Date:**_____
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Office of Quality Assurance

Approved by:_____ **Date:**_____
Donald G. Horton
Director
Office of Quality Assurance

1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Audit K/PB-ARC-98-07, the audit team determined that Kiewit/Parsons Brinckerhoff (Kiewit/PB) is satisfactorily implementing an adequate and effective QA program in accordance with the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Requirements and Description (QARD), DOE/RW-0333P, Revision 7, and Kiewit/PB's implementing procedures for QA Program Elements 1.0, 2.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, Supplements I, IV, and V, and Appendix C.

The audit team identified nine deficiencies during the audit that resulted in the issuance of four Deficiency Reports (DR) detailed in Section 5.5.2. Two procurement-related deficiencies, detailed in Section 5.5.1, were referred to a Corrective Action Request (CAR), VAMO-98-C-005, which was previously issued to the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) at Vienna, Virginia. Three deficiencies identified by the audit team and corrected prior to the post-audit meeting are described in Section 5.5.4 of this report.

2.0 SCOPE

The audit was conducted to evaluate the adequacy of the compliance and the effectiveness of the OCRWM QA Program as described in the QARD and Kiewit/PB's implementing procedures.

The following QA program elements/requirements were evaluated during the audit, in accordance with the approved audit plan:

QA PROGRAM ELEMENTS

1.0	Organization
2.0	Quality Assurance Program
4.0	Procurement Document Control
5.0	Implementing Documents
6.0	Document Control
7.0	Control of Purchased Items and Services
8.0	Identification and Control of Items
9.0	Control of Special Processes
10.0	Inspection
11.0	Test Control
12.0	Control of Measuring and Test Equipment
13.0	Handling, Storage, and Shipping
14.0	Inspection, Test and Operating Status
15.0	Nonconformances
16.0	Corrective Action

17.0	Quality Assurance Records
Supplement I	Software
Supplement IV	Field Surveying
Supplement V	Control of the Electronic Management of Data
Appendix C	Mined Geologic Disposal System

The following QA program elements/requirements were not reviewed during the audit because Kiewit/PB has no activity for which these elements apply:

3.0	Design Control
18.0	Audits
Supplement II	Sample Control
Supplement III	Scientific Investigation
Appendix A	High-Level Waste Form Production
Appendix B	Storage and Transportation

3.0 AUDIT TEAM

The following is a list of audit team members and their assigned areas of responsibility:

Name/Title/Organization	QA Program Element/Requirement
Cynthia A. Humphries-Alder, Audit Team Leader, OQA	5.0, 6.0, 16.0
Edward P. Opelski, Audit Team Leader-in-Training, OQA	1.0, 17.0
Patout H. Cotter, Auditor, OQA	8.0, 9.0, 12.0, Appendix C
Donald J. Harris, Auditor, OQA	2.0, 4.0
Kristi A. Hodges, Auditor, OQA	9.0, 10.0, 11.0, 14.0, 15.0
Michael Malone, Auditor, OQA	2.0, 7.0
Lawrence W. McGrath, Auditor, OQA	13, Supplements I, IV, V

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The pre-audit meeting was held on February 9, 1998, at the Kiewit/PB offices in Las Vegas, Nevada. Daily debriefing and coordination meetings were held with Kiewit/PB management and staff, and daily audit team meetings were held to discuss audit status. The audit was concluded with a post-audit meeting on February 13, 1998, at the Kiewit/PB offices in Las Vegas, Nevada. Personnel contacted during the audit, including those who attended the pre-audit and post-audit meetings, are listed in Attachment 1 of this report.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

The audit team concluded that, overall, the Kiewit/PB QA program is adequate and is being satisfactorily implemented for the scope of this audit. The results for each program element evaluated are contained in Attachment 2, Summary Table of Audit Results for Procedural Compliance Evaluations.

Cooperation afforded to the audit team during the entire course of the audit was exceptional.

5.2 Stop Work or Immediate Corrective Actions Taken

There were no Stop Work Orders, immediate corrective actions, or related additional items resulting from this audit.

5.3 QA Program Audit Activities

The Summary Table of Audit Results for Procedural Compliance Evaluations is provided in Attachment 2. The audit checklists contain the details of the audit evaluation along with identification of the objective evidence reviewed. The checklists are kept and maintained as QA Records.

5.4 Technical Audit Activities

There were no technical areas evaluated during this audit.

5.5 Summary of Deficiencies

The audit team identified ten deficiencies during the audit that resulted in the issuance of five DRs. Two procurement-related deficiencies were referred to CAR VAMO-98-C-005 which has been issued to the CRWMS M&O. Three deficiencies were identified by the audit team and corrected prior to the post-audit meeting

Synopses of deficiencies documented in the CAR, DRs and those corrected during the audit are detailed below. The CAR and DRs have been transmitted under separate letters.

5.5.1 Corrective Action Requests

Two procurement-related deficiencies identified during the audit have been referred to CAR VAMO-98-C-005 which was previously issued to the CRWMS M&O in Vienna, Virginia. One deficiency concerned the procurement of calibration services for testing equipment used for diesel emissions testing per Technical Control Procedure (TCP)-2.21, "Diesel Engine Exhaust Emission Testing and Control Procedure," Revision 8. Energy Efficiency Systems, Incorporated, a company not listed on the OCRWM Qualified Suppliers List, was subcontracted to perform this service. The second deficiency pertained to a Memorandum Purchase Order, Bechtel Nevada Fiscal Year 1998 Statement of Work, Revision 1, relative to calibration services. The procurement documents did not contain requirements specified in the QARD, Section 12.2.1.A, which are applicable to software or programmable hardware. These deficiencies will be tracked and closed through resolution of CAR VAMO-98-C-005.

5.5.2 Deficiency Reports

K/PB-98-D-056

Contrary to the requirements of Compliance Assurance Procedure (CAP)-2.6, Revision 0, "Lesson Plan Development," Instructor Qualification Forms for Candidate Instructor/Subject Matter Experts which are required to be completed and transmitted to the Training/Certification Manager were not located in employee training files, nor was there any objective evidence provided to indicate that the forms had been completed for the sample requested during the audit.

K/PB-98-D-057

CAP-12.0, Revision 0, "Control of Measuring and Test Equipment," does not translate the QARD requirements into work processes for evaluations performed on out-of-calibration, damaged or lost equipment; and handling and storage of equipment. Furthermore, evaluations performed to determine the acceptability of previously collected data, process monitoring or items previously inspected or tested, using out-of-calibration, damaged or lost equipment, while Management Control Procedure (MCP)-12.0, Revision 12, was in effect, were not documented in accordance with the requirements of the procedure.

LVMO-98-D-059

CAP-12.0, Revision 0, "Control of Measuring and Test Equipment (M&TE)," Section 1.2, requires Kiewit/PB to maintain a list of M&TE that have been used for verification activities. Contrary to this requirement, rams and jacks used to install steel sets and test rockbolts were removed from the M&TE system as a result of the disposition for Nonconformance Report (NCR) YMSCO-95-0014, and are no longer maintained on the list of M&TE used for verification activities.

LVMO-98-D-060

AP-17.1Q, Revision 0, "Record Source Responsibilities for Inclusionary Records," applicable to all Affected Organizations, was issued with an effective date of November 22, 1996. Furthermore, on that same date a letter was transmitted from the Director, Office of Human Resources and Administration, and the Yucca Mountain Site Characterization Office Assistant Manager for Administration and Asset Management directing the implementation of AP-17.1Q and the cancellation of existing record source procedures within 90 days, i.e., February 20, 1997. Since Kiewit/PB had not been contractually directed to implement AP-17.1Q by the CRWMS M&O Construction Management Organization, AP-17.1Q has not been implemented and CAP-17.0, Revision 0, "Records Management," has not been canceled. CAP-17.0, Revision 0, does not meet the requirements of AP-17.1Q, Revision 0, and Kiewit/PB has been submitting records to the Records Processing Center (RPC) that do not meet the requirements of AP-17.1Q, Revision 0.

5.5.3 Performance Report

None

5.5.4 Deficiencies Corrected During the Audit

Deficiencies which are considered isolated in nature and only requiring remedial action can be corrected during the audit. The following deficiencies were identified and corrected during the audit:

1. QARD Section 4.0, "Procurement Document Control," and CAP-4.0, Revision 0, "Procurement," delineate the individual records contained in a procurement record package submitted to the RPC. The record package of Purchase Order 1899-0498 did not contain all of the required individual records. Kiewit/PB personnel were able to locate and submit to the RPC originals of the missing required documentation prior to the close of the audit correcting this condition.

2. NCR LVMO-97-0005 was prematurely closed by OQA Quality Control (QC) prior to completion of the approved disposition. The NCR disposition included two actions: 1) to post the NCR to Specification BABEE0000-01717-6300-02341, Revision 0, which was not done; and 2) allowed the NCR to be closed based on addition of the nonconforming item (steel set segment 854) to the Construction Completion List. To correct this condition prior to the close of the audit, NCR YMSCO-98-0016 was generated by OQA QC to document the nonconforming condition and improper closure of NCR LVMO-97-0005.

3. TCP-2.27, Revision 2, "Survey Group Document Control and Distribution," Paragraph 6.1.1, requires a specific brand and model of field notebooks to be used. Contrary to this, the field notebooks that were being used were not the ones specifically called out in the procedure; however, the notebooks being used were determined to be adequate for their intended purpose. To correct this condition prior to the close of the audit, Expedited Document Change Number 98-003 was issued to delete the requirement.

5.5.5 Follow-up of Previously Identified CARs and DRs

None.

6.0 RECOMMENDATIONS

None.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary Table of Audit Results for Procedural Compliance Evaluations

ATTACHMENT 1

PERSONNEL CONTACTED DURING THE AUDIT

Name	Organization/Title	Pre-audit Meeting	Contacted During Audit	Post-audit Meeting
Barish, V.	K/PB Program Management Manager	X	X	X
Bartley, C.	M&O Engineering Assurance			X
Bates, G.	K/PB Chief of Surveys		X	
Brown, J.	K/PB Business Manager	X		X
Caselli, T.	K/PB Document Analyst		X	
Cox, H.	K/PB Technical Support Manager	X	X	X
Dickson, T.	K/PB Work Package Supervisor		X	
Eastlund, J.	K/PB Engineering Manager		X	
Fulcher, B.	K/PB Construction Manager		X	X
Garrett, C.	M&O Title III Supervisor		X	
Greene, H	OQA Manager Verification	X		X
Griffith, R.	K/PB Document Analyst		X	
Harper, F.	K/PB Technical Specialist		X	
Healey, J.	K/PB Subcontracts Buyer		X	
Heinicke, E.	K/PB Project Engineer	X		
Herbert, J.	M&O RPC Lead		X	
Johnson, R	K/PB Environmental Manager		X	
Johnson, W.	OQA Quality Control		X	
Kawasaki, C.	M&O Senior Retrieval Specialist		X	
Kirby, D.	OQA QA Specialist	X		
Limon, K.	K/PB Project Manager		X	
Martin, J.	OQA Manager	X	X	
Mueller, T	M&O Records Manager		X	
Nanez, S.	K/PB Procurement Manager	X	X	X
Nordick, S.	K/PB Engineer		X	
Osborne, D.	OQA Quality Control Lead	X	X	
Piniol. D.	K/PB Training Assistant		X	
Price, L.	K/PB Survey Data Analyst		X	
Rixford, C.	K/PB Records Manager		X	
Robinson, G.	M&O Title III Senior Engineer		X	
Schwartzwalter, L.	K/PB Training and Certification Specialist		X	
Skorseth, R.	M&O Title III Senior Engineer		X	
Spence, K.	K/PB Document Analyst		X	
Sturgeon, R.	K/PB Materials Engineer		X	
Therien, J.	OQA Program Manager	X		
Thompson, K.	M&O Senior Retrieval Specialist		X	
Tomec, T.	KPB Special Projects Manager		X	
Wakefield, M.	K/PB Technical Specialist		X	
Wetzel, J	K/PB Document Analyst		X	
Williams, A.	DOE-OQA		X	X

ATTACHMENT 2
Summary of Audit Results
For Procedural Compliance Evaluations

ELEMENT	IMPLEMENTING DOCUMENTS	DETAILS (Checklist)	DEFICIENCIES	RECOMMEND-ATIONS	PROGRAM ADEQUACY	PROCEDURE COMPLIANCE	OVERALL
1	CAP-1.0, R0	pgs. 1&2	N	N	SAT	SAT	SAT
	CAP-2.0, R0	pgs. 3-11	N	N			
	CAP-2.1, R0, EDC 97-006	pgs. 12-16	N	N			
	CAP-2.3, R0	pgs. 16&17	N	N			
	CAP-2.4, R0	pgs. 18-23	N	N			
	CAP-2.5, R0	pgs. 24-26	N	N			
2	CAP-2.6, R0	pgs. 26-28	K/PB-98-D-056	N	SAT	SAT	SAT
4	CAP-4.0, R0	pgs. 29-39	CDA-1 VAMO-98-C-005	N	SAT	SAT	SAT
5	CAP-5.0, R0	pgs. 40-43	N	N	SAT	SAT	SAT
	CAP-6.0, R1	pgs. 44-49	N	N			
	CAP-6.1, R0	pgs. 50-55	N	N			
6	CAP-6.2, R0	pgs. 56-59	N	N	SAT	SAT	SAT
7	CAP-7.1, R0	pgs. 60-65	VAMO-98-C-005	N	SAT	SAT	SAT
	CAP-8.0, R0	pgs. 66-71	N	N			
	TCP-2.6, R8	pgs. 72-74	N	N			
8	TCP-2.2, R8	pgs. 75&76	N	N	SAT	SAT	SAT
	CAP-9.0, R0	pgs. 77-81	N	N			
9	CAP-9.1, R0	pgs. 82-87	N	N	SAT	SAT	SAT
	CAP-10.0, R0	pgs. 88	N	N			
	MCP-10.0, R12	pgs. 89-96	N	N			
	CAP-10.1, R0	pgs. 97	N	N			
10	MCP-10.0, R11	pgs. 98-102	N	N	SAT	SAT	SAT
11	CAP-11.0, R0	pgs. 103-106	N	N	SAT	SAT	SAT
12	CAP-12.0, R0	pgs. 107-113	K/PB-98-D-057 LVMO-98-D-059	N	SAT	SAT	SAT
14	CAP-14.0, R0	pgs. 116	N	N	SAT	SAT	SAT

ELEMENT	IMPLEMENTING DOCUMENTS	DETAILS (Checklist)	DEFICIENCIES	RECOMMEND-ATIONS	PROGRAM ADEQUACY	PROCEDURE COMPLIANCE	OVERALL
15	YAP-15.0, R3, ICN 1	pgs. 1170125	CDA-2	N	SAT	SAT	SAT
	AP-16.1Q, R2	pgs. 126-128	N	N			
	AP-16.2Q, R2	pg. 129	N	N			
16	AP-16.4Q, R2	pgs. 130&131	N	N	SAT	SAT	SAT
17	AP-17.1Q, R0	pgs. 132-144	LVMO-98-D-060	N	SAT	SAT	SAT
	QARD, R7, Supplement IV, R0	pg. 145	N	N			
	TCP-2.19, R4	pgs. 146-154	N	N			
	TCP-2.27, R2	pgs. 155-158	CDA-3	N			
	TCP-2.31, R1	pgs. 159-162	N	N			
SI & SIV	TCP-2.34, R2	pgs. 166-169	N	N	SAT	SAT	SAT
SV	TCP-2.33, R3	pgs. 163-165	N	N	SAT	SAT	SAT
APP. C	QARD, R7,. Appendix C, R2	pgs. 170&171	N	N	SAT	SAT	SAT

LEGEND:

ADEQUACY ..... Requirements in Procedure meet QARD
CDA..... Corrected During the Audit
COMPLIANCE..... Procedures Implemented
N ..... None
N/A ..... Not Applicable
N/I .....Not Implemented
OVERALL .....Summary of Element
REC.....Recommendation
SAT .....Satisfactory
UNSAT .....Unsatisfactory