

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

AUDIT REPORT

OF

CRWMS M&O

VIENNA, VA

AUDIT NUMBER HQ-ARP-95-03

DECEMBER 5-9, 1994

Prepared by: F. H. Lentz Date: 12/19/94

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Approved By: R. W. Horton Date: 12/28/94

~~Fr~~ Donald G. Horton
Director
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1.0 EXECUTIVE SUMMARY

As a result of Performance-Based Quality Assurance (QA) Audit HQ-ARP-95-03, the audit team determined that CRWMS Management & Operating (M&O) Contractor is satisfactorily implementing an effective QA program and process controls for developing and revising the technical requirements documents.

The audit team identified one deficiency requiring a Corrective Action Request (CAR). One deficiency, requiring only remedial action, was corrected during the audit. Six recommendations were identified for M&O management consideration. The deficiencies and recommendations are described in Section 5 of this report.

2.0 SCOPE

The audit was conducted to evaluate the effectiveness of the CRWMS M&O QA program as described in the M&O Quality Administrative Procedures (QAPs) with regard to the M&O development and revision of the technical requirements documents.

The QA program process/activities evaluated during the audit, in accordance with the approved audit plan are as follows:

1. Identify Need/Scope
2. Plan Process for Developing Technical Documents
3. Develop Document/Revision
4. Review Document/Resolve Comments
5. Approve, Release, Issue Document
6. Implement Technical Document (Flowdown)
7. Baseline Change Control

Requirements were drawn from DOE/RW-0333P, *Quality Assurance Requirements and Description* document (QARD), revision 1, the M&O implementing Quality Administrative Procedures (QAPs), and related M&O location specific line procedures.

3.0 AUDIT TEAM AND OBSERVERS

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

<u>NAME</u>	<u>ORGANIZATION</u>	<u>PROCESS ELEMENT</u>
AUDITORS		
F. Hugh Lentz	QATSS	Audit Team Leader
Charles Betts	QATSS	PBA Processes 2 & 3
Gary Wood	QATSS	PBA Processes 2 & 3
Fred Bearham	QATSS	PBA Processes 4 & 5
Jim George	QATSS	PBA Processes 4 & 5
Dennis Threatt	QATSS	PBA Processes 1, 6 & 7
Bob Holliday	QATSS	PBA Processes 1, 6 & 7
TECHNICAL SPECIALISTS		
Arul Mozhi	Weston	PBA Processes 3 & 4
James Doman	Weston	PBA Processes 3 & 4
OBSERVERS		
John Buckley	NRC	
Bruce Mabrito	NRC	

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The preaudit meeting was held at the M&O offices in Vienna, Va. on December 5, 1994. A daily debriefing and coordination meeting was held with M&O management and staff, and daily audit team meetings were held to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at M&O offices in Vienna, Va. on December 9, 1994. Personnel contacted during the audit are listed in Attachment 1. The list includes an indication of those who attended the preaudit and postaudit meetings.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

The audit team concluded that in general, M&O process controls are effectively being implemented for areas identified in the scope of the audit. The audit team does, however, consider the process for developing and controlling the technical requirements document to be complicated. Without diligent, management oversight, implementation of the process may breakdown.

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 details of the audit evaluation along with objective evidence reviewed are contained within the audit checklists. The checklists are processed as non-permanent QA Records.

A summary table of audit results is provided in Attachment 2.

5.4 Technical Audit Activities

Besides the evaluation to determine the programmatic effectiveness of the processes and activities, two technical specialist evaluated the technical content of the documents and the appropriateness of the review comments. The technical checklist is also processed as a nonpermanent QA Record.

For the audit, the technical specialists focused on the interfaces between documents and program elements (MGDS, Transportation, etc.). The technical specialists discovered that the Interface Control Documents (ICDs) were still in draft form, due to the difficulty in formulating the ICD scope. At the moment, document interfaces are considered satisfactory, but several recommendations (1, 2, 5, & 6) have been made to enhance the related control process.

The technical specialists have some concerns with the processing of the technical requirements documents, relative to the Systems Engineering Management Plan (SEMP). Although the program SEMP requires updating, the development and revision of the technical requirements documents are being satisfactorily controlled by other processes (QA Program). See recommendation 5.

5.5 Summary of Deficiencies

The audit team identified one deficiency during the audit for which a CAR has been issued. One additional deficiency was identified and corrected prior to the postaudit meeting.

Synopses of deficiencies documented as CARs and those corrected during the audit are detailed below.

5.5.1 Corrective Action Requests (CARs)

As a result of the audit, the following CAR was issued:

HQ-95-004: Inadequate distribution of technical documents:

A Document Control Action Request (DCAR) was issued 5/20/94, the Document Control organization distributed the wrong document. The distribution error was identified during audit.

As remedial action, M&O distributed the correct document during the audit.

5.5.2 Deficiencies Corrected During The Audit

Deficiencies, which are considered isolated in nature and only require remedial action, may be corrected during the audit. The following deficiency was corrected during the audit:

Five of eleven QAP-3-9 Analyses reference the Systems Requirements Issue Resolution Plan, which is a "Preliminary Draft". Charts in the draft are necessary for traceability from a "TBV" to the appropriate QAP-3-9 analysis.

The audit team verified that the references to the preliminary draft were deleted from the QAP-3-9 Analyses. The chart needed for traceability of the analyses to the "TBVs" was made an attachment to the QAP-3-9 Analysis report.

6.0 RECOMMENDATIONS

The following recommendations resulted from the audit and are presented for consideration by the M&O management:

- 1) The audit team recommends that the difference in MPC design requirements (document has existing TBVs) and Waste Package Advanced Conceptual Design requirements/assumptions be resolved using QAP-3-9 analyses.
- 2) The audit team recommends that the M&O allocate, where possible, technical requirements to specific flowdown documents (that may not be issued as yet), so that all requirements are assured to be included (SRD flowdown to DRDs).
- 3) A positive process for verifying that document preparers complete their self study assignments (per TDPP) should be established. A similar recommendation was made during Audit HQ-94-02 (June 6-24, 1994)
- 4) The audit team recommends that a method for tracking commitments made during the comment resolution process be developed. A similar recommendation was made during Surveillance HQ-SR-93-07 (September 8-17, 1993).
- 5) The next revision of the "SEMP"(Program and OWAST) should more adequately incorporate similar processes (QA program) to improve control of interfaces and development of technical documents.
- 6) The audit team recommends that the QAPs, related to design interface control, be reviewed to assure all identified interface requirements are controlled. Specifically, QAP-3-12 should be evaluated to ensure that design inputs are adequately controlled and that changes to design inputs are agreed to by affected design organizations.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary Table of Audit Results

ATTACHMENT 1

PERSONNEL CONTACTED DURING THE AUDIT

NAME	TITLE	CONTACT	MEETINGS	
			PRE	POST
F. Bearham	Auditor	X	X	X
C. Betts	Auditor			X
J. Blandford	Deputy Assistant General Manager	X		X
J. Buckley	Observer	X	X	X
G. Carruth	Manager, System Integration	X	X	X
J. Cassidy	Quality Engineering Manager	X	X	X
P. Chomentowski	QA Engineer	X	X	X
E. Chulick	Training Manager (VA)		X	
C. Clark	Contracts Integration	X	X	
J. Clark	MPC Project Manager	X		
C. Denton	Design Engineer	X		
T. Doering	Waste Package Design Manager	X		
J. Doman	Technical Specialist	X	X	X
M. Donovan	Quality Engineer	X	X	X
W. Farmer	QA Technical Specialist	X		X
D. Franks	QA Surveillance Manager		X	
J. George	Auditor	X	X	X
C. Heath	Sr. Staff			X
B. Hodge	Document Coordinator	X		
R. Holliday	Auditor			
M. Horseman	Verification Lead (QATSS)	X	X	X
A. Jenkins	System Engineer	X		
G. Keener	QA Technical Specialist		X	X
C. Kelly	Training Specialist		X	X
W. Law	System Engineer	X	X	X
F. Lentz	Audit Team Leader	X	X	X
L. Lindsay	System Engineer	X	X	
M. Leonardo	Sr. Config Data Analyst	X		
S. Levine	Sr. Systems Analyst	X		
P. Lovett	Systems Engineer	X		
B. Mabrito	Observer	X	X	X
J. MacCarthy	Mgr. of Waste System Integration	X	X	X
R. MacDonald	Waste Acceptance Task Manager	X		
J. McConaghy	Engineering Supervisor	X	X	
A. McHenry	Records Analyst	X		

ATTACHMENT 1 (CONTINUED)

PERSONNEL CONTACTED DURING THE AUDIT

NAME	TITLE	CONTACT	MEETINGS	
			PRE	POST
C. McLaughlin	Executive Assistant	X		
J. Miller	Manager, Systems Engineering	X	X	X
A. Mozhi	Senior Engineer	X	X	X
B. Patton	Engineer Supervisor	X		
J. Penhaker	CM Manager	X		
R. Robertson	M&O/TRW General Manager			X
S. Robinson	Configuration Management Sys. Engr.		X	
N. Seagle	Engineering Supervisor	X		
M. Shepherd	Document Control Manager	X		X
S. Stewart	Document Coordinator	X		
T. Stiller	Systems Engineer	X		
J. Stringer	Manager, Waste Design	X		
R. Tagg	Contract Administrator	X		
C. Taylor	Assistant Engineer	X		
D. Threatt	Auditor	X	X	X
J. Tierney	Quality Engineering Support Manager		X	
J. Watson	Training Supervisor		X	X
P. White	QA Sr. Specialist			X
J. Willis	Requirements Manager	X	X	X
G. Wood	Auditor	X	X	X
J. VanOrmer	Systems Engineer	X	X	

ATTACHMENT 2
SUMMARY TABLE OF AUDIT RESULTS

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AUDIT HQ-ARP-95-03 DETAIL SUMMARY

ELEMENT	PROCESS STEP	DETAILS (✓ List)	CARs	CDA	RECOM	ADEQUACY	COMPLIANCE	OVERALL	
PERFORMANCE BASED									
M&O CONTROL OF DEVELOP/ REVISION OF TECH REQMTS DOCUMNTS	IDENTIFY NEED/SCOPE	pgs 1-4				N	N		
	DEFINE/PLAN PROCESS FOR DEVELOPING	pgs 1-5			(5)	N	N		
	DEVELOP DOCUMENT/ REVISION	pgs 1-13			(1, 2, 3, 6)	N	N		
	REVIEW DOCUMENT/ RESOLVE COMMENTS	pgs 1-5			(4)	N	N		
	APPROVE, RELEASE, ISSUE DOCUMENT	pgs 1-5		CAR HQ- 95-004			N		N
	IMPLEMENT DOCUMENT	pgs 1-4					N		N
	BASELINE CHANGE CONTROL	pgs 1-5			1		N		N
TOTAL		41	1	1	6			EFFECTIVE	

CARs Corrective Action Requests
 CDA Corrected During Audit
 RECOMMEND Recommendations (Number refers to items in report)
 ADEQUACY . . Requirements in Procedures (Not applicable for this audit)
 COMPLIANCE Procedures Implemented (Not applicable for this audit)
 TOTAL Overall Summary of Audit Results