

United States Government



Department of Energy

Stewart

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: January 14, 1998

REPLY TO: CAO:ONTWO:SV 98-0109 [UFC 2300]
ATTN OF:

SUBJECT: CAO Audit Report A-98-06 and CAO CAR 98-009

TO: Keith Klein, RFFO

The Carlsbad Area Office (CAO) conducted an audit of your Acceptable Knowledge (AK) activities at the Rocky Flats Environmental Technology Site (RFETS) on December 15-18, 1997. The audit team concluded that the RFETS technical and QA programs were adequate in accordance with the CAO QAPD and QAPP. The audit team also concluded that the defined RFETS Acceptable Knowledge Program was being satisfactorily implemented and was effective. The audit team concluded that corrective actions for one open, previously issued CAO Corrective Action Report (CAR) (97-095) had not been fully completed and therefore could not be closed at this time.

As a result of this audit, one new CAR was issued, three observations and three recommendations were identified, and three deficiencies were corrected during the audit. Observations 1 and 3 require a written response back to DOE/CAO by January 30, 1998. The CAR is attached.

If you have any questions or comments concerning this report, please contact Butch Stroud at (505) 234-7483.

E. Kent Hunter, Assistant Manager
Office of National TRU Waste Operations

Attachment



printed on recycled paper



Keith Klein

-2-

January 14, 1998

cc w/attachment:

D. Watkins, CAO

C. Zvonar, CAO

D. Brown, CAO

B. Stroud, CAO

J. Legare, RFFO

L. Xuan, RFFO

D. Winters, DNFSB

B. Walker, EEG

K. Rogers, EPA

M. Eagle, EPA

S. Zappe, NMED

C. Wentz, NMEM&NR

G. O'Leary, RFETS/RMRS

R. Lahoud, RFETS/KH

A. Flewelling, RFETS/RMRS

W. Weston, WID

M. Horseman, CTAC

U.S. DEPARTMENT OF ENERGY
CARLSBAD AREA OFFICE

AUDIT REPORT

OF THE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

AUDIT NUMBER A-98-06

DECEMBER 15-18, 1997

ACCEPTABLE KNOWLEDGE PROGRAM



Prepared By: Samuel Vega Date: 1/13/98
Sam Vega
Audit Team Leader

Approved By: R. Dennis Brown Date: 1/13/98
R. Dennis Brown
CAO QA Manager

Approved By: Robert A. Stroud Date: 1/13/98
POR Robert A. Stroud
CAO NTP Certification Manager

1.0 EXECUTIVE SUMMARY

Carlsbad Area Office (CAO) Audit A-98-06 was conducted to evaluate the adequacy, implementation, and effectiveness of the Rocky Flats Environmental Technology Site's (RFETS) Acceptable Knowledge (AK) Activities. The audit scope also included verification of the completion and effective implementation of previously identified corrective actions for conditions adverse to quality relative to AK activities.

The audit was conducted at the RFETS facility in Golden Colorado, during the period of December 15-18, 1997. The audit team concluded that the RFETS AK activities were adequate and satisfactorily implemented in accordance with RFETS implementing procedures and that, for the technical AK areas evaluated, the RFETS program was effective. The audit team reviewed the status of CAO CAR 97-095 and concluded that the corrective actions were not completed (CAO CAR 97-095).

The audit team identified one condition adverse to quality that requires corrective action in the area of QA records. Three deficiencies, minor in nature and requiring only remedial corrective actions, were corrected during the audit (CDAs). Three observations and three recommendations were identified for management consideration and action. The condition adverse to quality, CDAs, observations, and recommendations are described in Section 6.0.

The audit team identified one exemplary practice being performed by RFETS personnel. The WSRIC process is very clear and the audit team found it to be very effective. The WSRIC books are exceptionally well structured, logical, detailed, and useful.

2.0 SCOPE

The audit team evaluated the adequacy, implementation, and effectiveness of RFETS AK activities.

The following CAO QAPD elements were evaluated (as related to AK activities):

- Organization
- Personnel Qualification and Training
- Documents and Records
- Work Processes and Procedures
- Software Requirements

The following RFETS technical AK elements were evaluated:

- Waste stream identification
- Waste stream parameter determination
- Waste stream confirmation
- AK documentation
- Resolution of inconsistencies

Evaluation of RFETS TRU Waste Characterization Program (TWCP) documents was based on current revisions of the following documents:

CAO Quality Assurance Program Document, CAO-94-1012

Transuranic Waste Characterization Quality Assurance Program Plan,
CAO-94-1 01 0

Checklists were developed from the applicable revision of the following documents:

RFETS Quality Assurance Project Plan (QAPjP) for the Transuranic Waste Characterization Program, 95-QAPjP-0050

RFETS Transuranic Waste Management Manual, 3-MAN-008-WM-001

Related RFETS technical and quality assurance AK implementing procedures

CAO Corrective Action Report 97-095

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Sam Vega	CAO Audit Team Leader
Robert A. Stroud	CAO Management Representative, Audit Manager
Marlin Horseman	Auditor/CTAC
Vann Bynum	Technical Specialist/SAIC
Bill Weston	Technical Specialist/WID
Alan Williams	Technical Specialist (In-Training)/CTAC

OBSERVERS

Cindy Zvonar	CAO
Matthew Silva	EEG
Ben Walker	EEG

4.0 AUDIT PARTICIPATION

RFETS personnel involved in the audit are listed in attachment 1. A preaudit meeting was held in the RFETS Building 111 Auditorium on December 15, 1997. A daily meeting was held with RFETS management and staff to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held at RFETS on December 18, 1997.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the RFETS QA Program related to AK was adequate in accordance with the CAO QAPD, Revision 1; the QAPP, Revision 0/Interim Change 11/96; and the RFETS QAPjP, Revision 1. The audit team concluded that the QA and technical programs, as related to AK, were being satisfactorily implemented. For the technical AK areas evaluated, the RFETS program was determined to be effective. The audit team also evaluated the status, implementation, and effectiveness of all corrective actions completed for previously issued CAO CAR 97-095. Not all actions had been completed and the CAR will remain open.

5.2 QA Program Audit Activities

A Summary Table of Audit Results is provided as attachment 2. Details of audit activities, including specific objective evidence reviewed, are contained within the audit checklists. The checklists are maintained as QA Records. CAR 98-006 has been issued to document records management deficiencies.

5.3 Technical Activities

5.3.1 Waste Stream Identification

AK information is collected and presented in WSRIC Building Books (BBs) created for each building. After reviewing a representative sample of the WSRIC Building Books, the audit team determined that the format, detail, and logic used in the WSRIC Building Books fulfilled the requirement for developing a defensible sequence of acceptable knowledge (AK) information. Information in the WSRIC BBs progresses from the general facility information to the more detailed waste-specific presentation. Not only did this information meet the minimum requirements contained in Section 4 of the TRU Waste Characterization QAPP, it also exceeded the requirements by providing useful and clarifying supplemental information. Because of the notable AK presentation of the WSRIC BB process, the audit team identified this area as an exemplary practice; one that is being considered by the CAO as a model for replication at other TRU Waste sites.

Several Document Modification Requests (DMRS) were initiated at the request of the audit team to: 1) remedy redundancies and inconsistencies between procedures; 2) to clarify responsibilities; and 3) to define training requirements. These DMRs were prepared and approved during the audit. Review of the Non-Routine Waste Origination Log (NRWOL) instructions by the audit team revealed a logical method for identifying waste streams arising from isolated types of generation within RFETS (see recommendation 3).

5.3.2 Waste Stream Parameter Determination

The audit team concluded that the RFETS process for the determination of waste stream parameters was adequate, satisfactorily implemented, and effective. Document RF/RMRS-97-018, "RFETS TRU Waste Acceptable Knowledge Supplemental Information," Revision 1 was evaluated and found to contain sufficient information to justify the assignment of a matrix parameter category and waste material parameters. The identification of waste stream parameters is actually accomplished in accordance with RFET procedures 4-G83-WEM-WP-1209, 4-119-NDT-00569, and 4-W30-NDT-00664, which were also adequate, implemented, and effective (see observation 3).

5.3.3 Waste Stream Confirmation

The process used to confirm acceptable knowledge information was reviewed by the audit team and determined to be adequate. RFETS procedures WIPP-003 and WIPP-009 identify the requirements for AK confirmation. The audit team also concluded that the process was satisfactorily implemented and was effective (see recommendation 1).

5.3.4 AK Documentation

The collection, review, and documentation of AK is implemented in accordance with WIPP-003. Overall, these activities and procedures are adequate, implemented, and effective. RFETS has collected adequate information to characterize their waste by AK and has assembled it into an auditable record. A summary report is required for each waste stream to support the completion of the Waste Stream Profile Form (WSPF). Summary reports have not yet been generated. The CAO QAPP requires a summary report for each waste stream to support the Waste Stream Profile Form. These summary reports have not been generated, however, it was verified that RFETS has assembled all of the information necessary to produce the reports (see observation 2).

Two waste streams (graphite and plastics) were selected by the audit team and several drums were sampled from these waste streams to evaluate the traceability of the AK information. The supporting information was determined to be traceable. While performing the traceability review, the audit team determined that documentation was not available to describe why input contaminants could not result in a hazardous output. RFETS described the process they follow to ensure this. The process is acceptable, but needs to be documented (see observation 3). Additionally, it is recommended that

RFETS augment the analysis of toluene, by demonstrating (either experimentally or by calculation) that the quantity of toluene identified could reasonably result from the packaging material present (see CDAs 1 and 3 and recommendations 1 and 3).

5.3.5 Resolution of Acceptable Knowledge Inconsistencies

It was determined by the audit team that the RFETS process for resolving inconsistencies has been adequately addressed by 4-HI 9-WSRIC-001, Revision 1, "WSRIC Characterization and Reverification". The process to resolve AK inconsistencies requires that DMRs be initiated when WSRIC processes and outputs are initiated, revised, or deleted. When the revision changes the description of an output that has not been physically or chemically changed, a WSRIC Process/Output Revision and Deletion Form (BP95-24) must also be completed. In the event the revision affects TRU waste streams that should have EPA hazardous waste numbers conservatively assigned, notification of the responsible organization is required.

Although responsibilities for implementing these instructions are detailed, specifics relating to preparing a WSRIC Process/Output Revision and Deletion Form (Appendix 7) are not detailed. The team was prepared to review this process; however, to date, no situation has arisen that requires RFETS to implement these procedures. As a consequence, the evaluation by the audit team of the process for resolving inconsistencies was determined to be indeterminate (see recommendation 4).

5.3.6 Verification of CAR 97-095

CAR 97-095 was evaluated for closure. This CAR was written during CAO Audit A-97-03 to document a condition adverse to quality with regard to the assignment of EPA Codes that were not consistent with the "Underlying Hazardous Constituents Worksheet." Four actions were identified in the response to the CAR by RFETS as being necessary to correct the deficiency. The first commitment was to re-evaluate Underlying Hazardous Constituents (UHCS) for all TRU WSRIC waste streams. This action was verified to be completed as documented in RF/RMRS-97-018, Section 3.6. Table 3-4 of RF/RMRS-97-0-18 incorporated this information into the AK record, satisfying the second and third action items. The fourth item identified in the Corrective Action Report involved the updating of three procedures. WIPP-009, Revision 0, "RCRA Characterization of TRU Waste to be Disposed of at WIPP", and 1 -PRO-XO5-WC-4018, "TRU Waste Certification" were confirmed to have been adequately updated to include the UHCs in the checklist. Procedure 4-G83-WEM-WP-1209, "WEMS Package Verification and Certification," has not been updated at this time. CAR 97-095 cannot be recommended for closure until all corrective actions have been completed.

6.0 CORRECTIVE ACTIONS/OBSERVATIONS & RECOMMENDATIONS

The audit team identified four conditions adverse to quality during the audit. These required the issuance of one Corrective Action Report; three minor deficiencies that require only remedial action, were corrected and then verified by the audit team prior to the post-audit conference.

6.1 Corrective Action Reports

A brief description of the Corrective Action Report is detailed below.

CAO CAR 98-006

AK and other QA records are not being maintained in accordance with CAO QAPD requirements. The audit team noted numerous examples of records not being stored in accordance with CAO QAPD requirements. This condition was previously reported on CAR 97-088 in July 1997 and CAR 96-006 in October 1995. The records have been at risk since October 1995 and before. Immediate attention needs to be applied to preclude record loss or damage. This is classified as a significant condition adverse to quality.

6.2 Deficiencies Corrected During the Audit (CDA)

1. Procedure 1-134-WO-1 103-NRWOL required that the originator assign hazardous waste numbers (HWNs). Often an originator may not know the process for the assignment. DMR 97-DMR-001475 was issued to make the SME also responsible for the review or the assignment of the HWNS.
2. Training requirements for the WSRIC Building Book Coordinator were not specified and consequently no training records were available to indicate that training to the procedures associated with his responsibilities in the AK process had been accomplished. The Building Book Coordinator was familiar with the performance of his assigned duties. A training matrix for the WSRIC Building Book Coordinator was prepared and the assigned readings were completed. All other assigned training for personnel performing AK related activities had been documented.
3. Procedural clarifications were needed to correct minor inconsistencies in RFETS procedures 4-DI5-BBPE-01, Revision 1, "WSRIC Building Book Preparation and Editing"; 4-HI9-WSRIC-001, Revision 1, "WSRIC Characterization and Reverification"; and 1-C81-HWRM-23, Revision 0, "Backlog Waste Reassessment." DMR 97-DRM-001476 was initiated to obtain corrective action for the identified issues. None of the changes had any impact on previous activities.

6.3 Observations

The following three observations were presented to RFETS management. Observations 1 and 3 require a written response.

1. The AK Source Document Review Summary was not always used for those AK packages that were prepared prior to the issuance of WIPP-003. Although the summaries have now been prepared, they have not been added to the associated reports.
2. Although not required at this point in the process, AK Waste Stream Summary Reports have not been prepared. This can and should be done as soon as possible to avoid delaying approval of Waste Stream Profile Forms and ultimately waste shipments.
3. WSRIC 371 (V3.2) processes 1 and 3 identify input materials for which the RCRA constituent, concentrations are not known. Clarifying documentation why these materials can not result in an output with hazardous constituents that are above the regulatory threshold is not available. The RFETS discussion on this issue was reasonable and should be documented and referenced. The same type of evaluation should be applied to all waste streams.

6.4 Recommendations

The following three recommendations were presented for RFETS management consideration:

1. The audit team recommends that an analysis be performed (either by experiment or calculation) to demonstrate that that quantity of toluene identified could reasonably result from tape and other packaging materials.
2. The audit team recommends that RFETS management review AK personnel resource levels for acceptability. In some cases apparent understaffing has resulted in personnel having a large number of assigned responsibilities that preclude operating within the normal workshift. Understaffing could lead to inattention to detail. As an example, DMR WF23-002-97, dated 9/18/97, written to revise the Backlog Waste Reassessment Building Book has not been issued. Delays could lead to personnel using incorrect information.
3. The audit team recommends that RFETS re-evaluate procedure 1 -C80-WO-01 102WRT, Revision 0, "Waste/Residue Traveler" for adequacy and implementation. Also several of the forms in the appendices of procedure 4-H 1 9-WSRIC-001, Revision 1, "WSRIC Characterization and Reverification", do not have spaces for the preparer and reviewers to sign.

6.5 Exemplary Practices

The following is an example of an exemplary practice being implemented by RFETS personnel and the RFETS team:

The WSRIC Building Book process is very clear and the audit team found it to be very effective. The WSRIC books are exceptionally well structured, logical, detailed, and useful.

7.0 LIST OF ATTACHMENTS

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

PERSONNEL CONTACTED DURING THE AUDIT

RFETS PESONNEL CONTACTED				
NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Alhamoodah, Victoria	RMRS/ATA, WIPP Records Specialist	X		
Arnold, Pat	RMRS	X	X	X
Ater, Ed	RFFO/TAD (SAIC)	X	X	X
Booth, Lee	RMRS/Canberra	X		
D'Amico, Eric	RMRS, Env. Scientist	X	X	X
Davis, Robert	K-H CP E&I	X		X
Edrich, Pam	RMRS Waste Systems		X	X
Ferguson, James	RMRS/SEG	X		
Ferrera, C.L.	Horne Eng., Alternate Certification Official	X	X	
Flewelling, Art	RMRS, QA Officer	X	X	X
Franks, Dwan	Administration Specialist WEMS		X	
Gates, Corliss T.	RMRS/ATA, Records Specialist	X		
Goade, Dan	RMRS/SEG, Sr. Project Engineer	X	X	X
Grady, Frank	RMRS, TRU Waste Environmental Engineer	X	X	
Hedahl, Tim	K-H Closure Projector	X		
Hernandez, Juan M.	RMRS QA Manager	X		
Johnson, Les	RMRS	X		
Kercher, Ann	RMRS, TRU/TRM Waste Project	X	X	X
Lahoud, Russ	K-H, TRU/TRM Projects	X		X
Legare, Joe	DOE RFFO, Assistant Manager Environmental Compliance	X		X
Leifer, John	RMRS/SEG	X		
Lewis, Leslie	RMRS, TRU Waste Projects	X	X	X
Maxwell, Dave	DOE/RFFO, Phys. Scien.	X		
Nisely, Robert J.	RMRS Waste Systems/WEMS		X	
O'Leary, Jerry	RMRS, TRU/TRM Project Manager	X	X	X
Peters, Kevin	RMRS Support/WASTREN	X	X	X

RFETS PESONNEL CONTACTED				
NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Rodgers, Alan	K-H	X		
Sautmen, Mark	DNFSB	X		X
Schoen, Jim	WSRIC Project Manager/Waste Certification		X	
Tyler, Laura	RMRS, Records Manager	X		
Tyler, Reg	RFFO/AMEC	X		X
Van Meighem, Jeffrey S.	SSOC		X	
Williams, Linda	RMRS WIPP Records	X	X	
Xuan, Lan	DOE/RFFO/EC WIPP Liaison	X		X

AUDIT SUMMARY A-98-06								
Audited Activity	Check List Page(s)	CAR	CDAs	Obs	Rec	Adq	IMP	Eff
Acceptable Knowledge Process	86		1,2,3	1,2,3	1,3	A	S	E
QA Program Elements	Contained in process checklists	98-006			2	A	S	E
TOTALS	86	1	3	3	3	A	S	E

CARs Corrective Action Requests

Rec Recommendations

Obs Observations

Adq Adequacy

IMP Implementation

Eff Effectiveness

CDAs..... Corrected During Audit

S..... Satisfactory

E..... Effective

U..... Unsatisfactory

NE Not Effective

I Indeterminate

CAO CORRECTIVE ACTION REPORT

(continuation sheet)

1. CAR No.: 98-006

2. Activity Report No.: A-98-06

3. Page 2 of 2

Block # 10

Suggested Actions:

- a. Immediately begin transmitting all TWCP QA records to the WIPP Record Center. These records are at risk and immediate action is necessary for achieving records protection.
- b. Perform records accountability to ensure that all records have been received at the WIPP records center and are being properly stored.
- c. Provide strong, effective communication to all personnel that initiate or process TWCP records relative to ensuring that records are promptly sent to the WIPP Records Center.
- d. After the records are properly protected, as appropriate:
 1. Correct records, as necessary:
 - a. Initial and date changes.
 - b. Ensure that correction tape and fluids have not been used.
 - c. Ensure that records packages contain all necessary records
 - d. Ensure that corrective action is taken to correct missing, incomplete, and damaged records.
 - e. Ensure records are indexed properly and are retrievable.
 - f. Complete any other appropriate records management activities.
 2. Scan, microfilm, or copy records.
- e. Provide in-depth records management training for all personnel that initiate or process TWCP QA records.

Note: RFETS should determine why prompt corrective action was not taken when the deficiencies were identified (October 1995 and July 1997) and then address causes to improve the corrective action timeliness.