

United States Government

memorandum

Carlsbad Area Office
 Carlsbad, New Mexico 88221

DATE: June 29, 1999
REPLY TO
ATTN OF: CAO:QA:MLC 99-0860 UFC 2300300
SUBJECT: CAO Audit Report A-99-18
TO: Eric Pennala, MCS



The Carlsbad Area Office (CAO) conducted an audit of your Waste Characterization and Certification activities at the Nevada Test Site on June 7-9, 1999. The audit team determined that MCS's technical and quality assurance (QA) programs were adequate in the flowdown of requirements from the CAO Quality Assurance Program Document (QAPD), Quality Assurance Program Plan (QAPP), and Waste Acceptance Criteria (WAC) into MCS implementing procedures. The audit team concluded that the MCS QA Program was adequate and effectively implemented for the processes that were evaluated during the audit.

If you have any questions or comments concerning this report, please contact me at (505) 234-7484.

M. Lea Chism
 Marc A. Italiano
 CAO Quality Assurance Manager

Attachment

cc w/attachment:
 B. Bennington, CAO
 S. Vega, CAO
 L. Chism, CAO
 A. Colarusso, NVO
 D. Armstrong, NVO
 B. Foster, Bechtel-NV
 M. Griffin, Bechtel-NV
 S. Nolan, Bechtel-NV
 D. Davidson, MCS
 M. Eagle, EPA
 S. Monroe, EPA
 B. Walker, EEG
 D. Winters, DNFSB
 S. Zappe, NMED
 T. Bowden, CTAC

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U.S. DEPARTMENT OF ENERGY
CARLSBAD AREA OFFICE

AUDIT REPORT

OF

MCS Mobile Characterization Systems

Performed For
The
NEVADA TEST SITE

LAS VEGAS, NEVADA

AUDIT NUMBER A-99-18

June 7-9, 1999

TRU WASTE CHARACTERIZATION AND CERTIFICATION



Prepared By:

P. V. Rodriguez

Pete V. Rodriguez
Audit Team Leader

Date:

6/29/99

Approved for Issuance By:

M. A. Italiano
for Marc A. Italiano
CAO QA Manager

Date:

6/29/99

1.0 EXECUTIVE SUMMARY

Carlsbad Area Office (CAO) Audit A-99-18 was conducted to evaluate the adequacy, implementation, and effectiveness of the Mobile Characterization Services, LLC (MCS) Transuranic (TRU) Waste Characterization and Certification activities. This audit was a follow-up to CAO Audit A-99-03 of MCS conducted in November 1998, and was performed in conjunction with an EPA inspection of the RTR and NDA systems utilized by MCS.

The audit was conducted at the MCS field operating site at Area 5 of the Nevada Test Site (NTS) near Las Vegas, Nevada, June 7- 9, 1999. The audit team determined that MCS's technical and quality assurance (QA) programs were adequate in the flowdown of requirements from the CAO Quality Assurance Program Document (QAPD), Quality Assurance Program Plan (QAPP), and Waste Acceptance Criteria (WAC) into MCS implementing procedures. The audit team concluded that the MCS QA Program was effectively implemented for the processes that were evaluated during the audit. The adequacy, implementation and effectiveness of evaluated technical processes are detailed in Section 5.0 and Attachment 2.

The audit team was unable to verify the completion of effective corrective actions for the open Corrective Action Report (CAR 99-021) identified during MCS audit A-99-03 in November 1998. The audit team did not identify any additional conditions adverse to quality that require MCS corrective action. Seven isolated deficiencies requiring only remedial corrective actions were corrected during the audit (CDAs). No Observations or Recommendations were identified.

2.0 SCOPE AND LIMITATIONS

The audit team evaluated the adequacy, implementation, and effectiveness of technical and quality assurance processes related to the MCS TRU Waste Characterization and Certification activities.

The following QA program elements were evaluated in accordance with the CAO QAPD:

- Organization
- QA Program Implementation and Grading
- Interface Control
- Personnel Qualification and Training
- Nonconformances and Corrective Actions
- Documents and Records
- Procedure Development

Procurement
Measuring and Test Equipment
Audits and Surveillances
Software Quality Assurance
Data Validation

The following characterization technical elements were evaluated in accordance with the CAO QAPP:

Nondestructive Assay (NDA)
Real - Time Radiography (RTR)
Data Validation (Level I)

Evaluation of the MCS TRU Waste Characterization Program (TWCP) implementing documents and activities was based on current revisions of the following documents:

MCS Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP), MCS-102

MCS TRU Waste Certification Plan, MCS-101

Related MCS technical and quality assurance implementing procedures (see Attachment #3 for specific documents)

The scope of the audit was limited due to the time constraints placed on the audit team. The time constraints were a direct result of two audits (A-99-18 and A-99-19) conducted during the same week, and running concurrently with the demonstrations of the NDA and RTR systems that were provided for the EPA inspection team. The omission of headspace gas sampling equipment and processes also contributed to the limited scope.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Sam Vega	Waste Certification Manager, CAO
Pete Rodriguez	Audit Team Leader, CTAC
Dave Kimbro	Auditor, CTAC
Stephen Hans	Auditor, CTAC
Charlie Riggs	Auditor, CTAC
Jack Walsh	Auditor, CTAC
Chet Wright	Auditor, CTAC
Jim Bresson	Technical Specialist, CTAC
Kerry Watson	Technical Specialist, CTAC

OBSERVERS/INSPECTORS

Sheila Lott	CTAC Observer
Mark Doehnert	EPA Observer
Howard Finkel	ICF (EPA Inspector)
Don Hammer	ICF (EPA Inspector)
Gary Walvatne	Techlaw (EPA Inspector)
Bill Vocke	Techlaw (EPA Inspector)

4.0 AUDIT CONDUCT AND AUDIT PARTICIPANTS

MCS personnel involved in the audit process and other individuals contacted during the audit are identified in Attachment 1. A preaudit meeting was held in the DOE Nevada Support Facility conference room on June 7, 1999. A daily meeting was held with MCS management and staff to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held in Area 5 at the NTS on June 9, 1999.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team determined that MCS's technical and QA programs were adequate in the flow down of requirements from the CAO QAPD, QAPP, and WAC into the MCS implementing documents. The audit team concluded that the MCS QA Program was satisfactorily implemented and effective.

The audit team performed a follow-up verification of Corrective Action Report (CAR) 99-021 that was identified during the previous MCS audit (A-99-03) in November 1998. However, due to incomplete and incorrect objective evidence that was provided by MCS, closure of CAR 99-021 cannot be completed at this time. A re-verification activity will be scheduled after MCS submits a revised corrective action plan and documentation.

5.2 QA Program Audit Activities

Applicable QA program elements (see Section 2.0) were assessed by review of records, interviews, and observation of process activities. All QA program areas were determined to be adequate, satisfactorily implemented, and effective.

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.

5.3 Technical Activities

Evaluations of applicable MCS technical activities are summarized below. The procedures evaluated during the audit are listed in Attachment 3.

5.3.1 Nondestructive Assay (NDA)

MCS NDA activities at NTS were evaluated for adequacy and satisfactory implementation of MCS procedures and for effectiveness of the processes for assay of TRU waste drums. Two assay systems were included in the audit; the Canberra Segmented Gamma Scanner (SGS) and the Canberra High Energy Neutron Counter (HENC). Reviewed activities were limited to those performed since MCS audit A-99-03, conducted in November 1998.

The team determined that procedures (see Attachment 3: procedures 24 through 28) were adequate and implemented and that the systems' analytical processes were effective.

5.3.2 Nondestructive Examination (NDE)

Activities performed by MCS in support of NDE/RTR were evaluated for compliance with the RTR procedure (see Attachment 3: procedure 29). Operation of the MCS Nondestructive Examination (NDE) system was evaluated by observation of container scans and a review of NDE documentation. Real-time radiography (RTR) was observed and data reports were reviewed to evaluate characterization performed in the mobile RTR trailer. The procedures were found to be adequate and operation of the equipment by the operator was satisfactory. No deficiencies were found in this area and the activity was determined to be satisfactorily implemented and effective.

5.3.3 Data Validation and Reporting (Generation Level)

The evaluation included examination of data packages to assure that generation level data reviews are being properly performed. The team determined that procedures (see Attachment 3: procedures 24 through 29) were adequate and implemented and that the generation level data validation for NDA and RTR was effective.

5.3.4 Software

Software used for processing, controlling, measuring, and statusing of hazardous, radioactive, and waste matrix materials was evaluated. The evaluation included a review of the changes to software made since the last CAO audit and a verification of the continuation of previous corrective actions from CAR 99-019. The evaluation

focused on the control of software baselines and classification and review of completed software documentation.

Software systems reviewed for MCS included the Segmented Gamma Scanner (SGS) Waste Assay system and the High Efficiency Passive Neutron Counter (HENC) Waste Assay system.

The software quality assurance procedures (see Attachment 3: procedures 14, 18, and 19) were determined to be adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTION REPORTS (CARs) AND DEFICIENCIES CORRECTED DURING THE AUDIT (CDAs)

6.1 Corrective Action Reports

The team did not identify any conditions adverse to quality that require MCS corrective action via CAR resolution. CAR 99-021, identified in audit A-99-03, remains open.

6.2 Deficiencies Corrected During the Audit (CDA)

1. Procedure MCS-038, *Control of Measuring and Test Equipment and Standards*, Revision D, does not address M&TE handling, storage, and maintenance. A "QP Action Plan" was initiated to revise the existing procedure and address the requirements.
2. MCS does not employ the monitoring system whereby a determination of improvement or removal of the supplier from the ASL is based on a percentage (98%) rating, Procedure MCS-037, *Supplier Selection and Control*. A QP Action Plan was initiated to revise the existing procedure and delete the unnecessary and onerous requirement.
3. A QP review form (as required by MCS-025) was not initiated, nor review comments documented for procedures: MC-060, Rev. G; HGS-002, Rev. E; and MCS-013, Revision D. The QP review forms were completed during the course of the audit. An NCR (NCR-99-140) was written by MCS with an acceptable corrective action plan presented to the team.
4. Position descriptions (PDs) for the QA representative and the QA Officer do not contain a requirement for "specialized training," as required by procedure MCS-003. Also, a PD for Lead Auditor did not exist. MCS initiated a QP Action Plan to revise MCS-003 and add flexibility to the specialized training section. The PD for the Lead Auditor was provided.

5. NCR-99-110 was closed based on the issuance of CAR-99-003 and NCR-99-121 was closed based on the issuance of CAR 99-002 and 99-003. However, the CARs do not reference the appropriate NCRs. MCS initiated a QP Action Plan to clarify and modify the NCR/CAR reference requirements in procedure MCS-053.
6. The "verification" required by Section 6.3.5.3 of MCS-053 could not be verified as having been completed by the procedurally assigned parties. MCS initiated a QP Action Plan to revise MCS-053 to eliminate the unverifiable actions from the electronic form.
7. No formal indication and evidence of Lead Auditor training and qualification, as required in procedures MCS-003 and MCS-005, was available. Training and qualification documentation was presented later in the audit.
8. Procedure MCS-006 requires NDA Operators to read at least 25 procedures, or 32 procedures, depending upon the NDA system being operated. However, training records did not indicate completion of the required reading, as specified in procedure MCS-006, *Required Reading List*. An NCR (NCR-99-141) was initiated to address the issues surrounding the required reading. Procedure MCS-006 is being deleted and procedure MCS-025 is being revised to incorporate the required reading assignment inputs.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Summary Table of Audit Results
- Attachment 3: Table of Procedures Audited

PERSONNEL CONTACTED DURING THE AUDIT

PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Armstrong, Dennis	DOE/NV TRU Task	X		
Benard, Loni	BN-Procurement/Contracts Specialist	X		
Brown, Beverly	MCS-Records Manager		X	
Calarusso, Angela	DOE/NV TRU Program Manager, WMD	X		
Cowley, Jan	BN-WMD Project Manager	X		
Davidson, Craig	MCS/Canberra, Tech. Supervisor		X	X
Davidson, Dorothy	MCS QA Director	X	X	X
Ewing, Steve	MCS RTR Supervisor		X	
Foster, Bruce	BN-Assistant Project Manager	X		
Gillespie, Bruce	MCS/Canberra Scientist/Independent Technical Reviewer	X	X	X
Gulbransen, Ed	MCS NDA Operator		X	
Griffin, Michael	BN-Scientist - AK Expert	X		
Kotek, Larry	BN-Training Coordinator	X		
Mellington, Stephen	DOE/NV, Acting AMEM	X		
Nolan, Steve P.	BN-QAO Performance Assessment	X		
Pennala, Eric	MCS General Manager	X	X	X

PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Pooler, Fred	MCS RTR Technician		X	
Powell, Mark	MCS Site QA Officer	X	X	X
Ruth, Fred	BN-Records Coordinator/Senior Engineer	X		
Sygitowicz, Lee	BN-Waste Management Program Manager	X		

CAO Audit A-99-18 Detail Summary

Evaluation Area	Concern Classification				QA Evaluation		Technical
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
QA Program & Organization					A	S	E
QA Grading					A	S	E
Interface Control					A	S	E
Personnel Qualification and Training		4, 7, & 8			A	S	E
NCRs and Corrective Action		5, 6			A	S	E
Documents & Records					A	S	E
Procedure Development		3			A	S	E
Procurement		2			A	S	E
Measuring & Test Equipment		1			A	S	E
Audits & Surveillances					A	S	E
Software Quality Assurance					A	S	E
Data Validation - Level I					A	S	E
NDA					A	S	E
NDE/RTR					A	S	E
TOTALS		8	0	0	A	S	E

Definitions

E = Effective

S = Satisfactory

I = Indeterminate

CAR = Corrective Action Report

CDA = Corrected During Audit

NE = Not Effective

Obs = Observation

Rec = Recommendation

A = Adequate

NA = Not Adequate

