



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

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NMED
Hazardous Waste Bureau

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, New Mexico 87505-6303

Subject: Transmittal of the Final Report for CBFO Audit A-14-29 of the Oak Ridge National Laboratory/Central Characterization Program

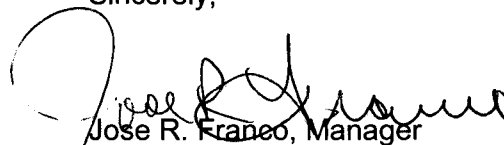
Dear Mr. Kieling:

This letter transmits the Final Audit Report for Carlsbad Field Office (CBFO) Audit A-14-29 of the Oak Ridge National Laboratory (ORNL) site, and services of the Nuclear Waste Partnership LLC Central Characterization Program (CCP), for certification of the contact-handled transuranic waste visual examination (VE) process performed to characterize and certify waste in accordance with the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP). The audit was conducted July 29-30, 2014.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

If you have any questions concerning this audit report, please contact Mr. Michael R. Brown, Director of the CBFO Quality Assurance Division, at (575) 234-7476.

Sincerely,


Jose R. Franco, Manager
Carlsbad Field Office

Enclosure



Mr. John E. Kieling

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AUG 25 2014

cc: w/Report Narrative

D. Bryson, CBFO	* ED	E. Feltcorn, EPA	ED
M. Brown, CBFO	ED	R. Joglekar, EPA	ED
J.R. Stroble, CBFO	ED	S. Ghose, EPA	ED
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T. Morgan, CBFO	ED	R. Maestas, NMED	ED
M. Pinzel, CBFO	ED	C. Smith, NMED	ED
N. Castaneda, CBFO	ED	V. Daub, CTAC	ED
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L. Wilkerson, DOE-OR	ED	B. Pace, CTAC	ED
R. McQuinn, NWP	ED	P. Martinez, CTAC	ED
J. Blankenhorn, NWP	ED	D. Harvill, CTAC	ED
J. Harris, NWP	ED	G. White, CTAC	ED
F. Sharif, NWP/CCP	ED	Site Documents	ED
D.E. Gulbransen, NWP/CCP	ED	R. Chavez, RES	ED
V. Cannon, NWP/CCP	ED	W. Most, RES	ED
A.J. Fisher, NWP/CCP	ED	J. Haschets, RES	ED
M. Walker, NWP/CCP	ED	B. Carlsen, RES	ED
W. Ledford, NWP/CCP	ED	A. Urquidez, RES	ED
J. Carter, NWP/CCP	ED	*ED denotes electronic distribution	
J. Hoff, NWP/QA	ED		
B. Allen, NWP/QA	ED	cc: w/enclosure	
S. Punchios, NWP/QA	ED	WIPP Operating Record	** EF
S. Escareno-Soto, NWP/QA	ED	CBFO QA File	EF
T. Peake, EPA	ED	CBFO M&RC	EF
L. Bender, EPA	ED	**EF denotes electronic file	

**U.S. Department of Energy
Carlsbad Field Office**

CONTENT MAP

**Final Audit Report of Audit A-14-29 of the
Oakridge National Laboratory (ORNL)
Central Characterization Program (CCP)
Waste Characterization and Certification
Program**



**Audit Number A-14-29
July 29 – 30, 2014**

CONTENT MAP

This box contains the Final Audit Report of CBFO Audit A-14-29 of the ORNL/CCP Quality Assurance Program and the ORNLCCP (TRU) Waste Characterization and Certification Program conducted July 29 - 30, 2014. The box also contains a list of objective evidence used to conduct the audit. The documents have been organized into color-coded folders, one each for the ORNL CCP Implementing Procedures (purple folder), Final Audit Report (manila folder), the C-6 Checklist (brown folder), General Information (green folder), and Visual Examination (yellow folder). The list below identifies each document by name and number and indicates where each may be found.

CONTENT MAP		Black Folder
Final Audit Report		Manila Folder
Final Audit Report		
Attachment 1: Personnel Contacted During the Audit		
Attachment 2: Personnel Contacted During the Audit by Subject Area		
Attachment 3: Objective Evidence Compiled During the Audit (provided in boxes)		
Attachment 4: List of Audited Documents		
Attachment 5: List of Processes and Equipment Evaluated During the Audit		
Attachment 6: Procedure Revision Matrix		
C6 Checklist		Brown Folder
C6-1	Waste Analysis Plan (WAP) Checklist	
C6-2	Acceptable Knowledge (AK) Checklist	
C6-4	Visual Examination (VE) Checklist	
ORNL/CCP Program Implementing Procedures Audited		Purple Folder
See Final Report Attachment 4 for List of Audited SRS CCP Procedures		
Attachment 3 - Objective Evidence		
General Information (Checklist C6-1) Waste Analysis Plan (WAP)		Green Folder
GEN1	Nonconformance Reports	
GEN2	Contact-Handled (CH) Visual Examination (VE) NCR Log	
GEN3	CH Records Inventory and Disposition Schedule (RIDS)	
GEN4	Qualification records for selected CCP personnel	
GEN5	CCP – ORNL List of Qualified Individuals dated 07/24/2014	
Visual Examination (Checklist C6-4)		Yellow Folder
VE1	Batch Data Reports - ORNLCHVE0101, ORNLCHVE0102, ORNLCHVE0103, ORNLCHVE0104, ORNLCHVE0108, ORNLCHVE0109, and ORNLCHVE0110	
VE2	Training Records for 3 VE Operators and 1 VE Expert	
VE3	VEE Appointment Letter and training records	

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

OAK RIDGE NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROGRAM

OAK RIDGE, TENNESSEE
and CARLSBAD, NEW MEXICO

AUDIT NUMBER A-14-29

JULY 29 – 30, 2014

TRU WASTE CHARACTERIZATION AND CERTIFICATION



Prepared by:

Berry D. Pace

Berry D. Pace, CTAC
Audit Team Leader

Date:

8/13/14

Approved by:

Michael R. Brown

Michael R. Brown, Director
CBFO Quality Assurance Division

Date:

8-20-14

1.0 EXECUTIVE SUMMARY

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Audit A-14-29 was performed to evaluate the adequacy, implementation, and effectiveness of established programs for transuranic (TRU) waste characterization activities performed for the Oak Ridge National Laboratory (ORNL) by the Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP). The audit team evaluated the programs, procedures, and processes for characterizing contact-handled (CH) Summary Category Group (SCG) S5000 debris wastes utilizing the visual examination (VE) process. The audit was conducted relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), and the *CBFO Quality Assurance Program Document* (QAPD).

Audit activities were conducted at ORNL TRU Waste Processing Center (TWPC) facilities in Oak Ridge, Tennessee, and at the Skeen-Whitlock Building in Carlsbad, New Mexico, July 29 – 30, 2014. Overall, the audit team concluded that the ORNL/CCP technical and quality assurance (QA) programs evaluated were adequately established for compliance with applicable upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

2.0 SCOPE AND PURPOSE

2.1 Scope

The following general areas were audited, as required by Attachment C6, Section C6-3 of the WIPP HWFP Waste Analysis Plan (WAP):

- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel

The following WAP-related QA elements were audited:

- Personnel Qualification and Training
- Nonconformances
- Records

The following WAP-related waste characterization technical elements were audited:

- Visual Examination (VE)

Evaluation of adequacy of ORNL/CCP documents was based on the current revisions of the following documents:

- *Quality Assurance Program Document* (QAPD), DOE/CBFO-94-1012
- *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*, NM4890139088-TSDF

Programmatic and technical checklists were developed from the current revisions of the following documents:

- *CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP)*, CCP-PO-001
- Related ORNL/CCP technical and QA implementing procedures

2.2 Purpose

Audit A-14-29 was conducted to determine the degree of adequacy and effective implementation of program requirements for the characterization and certification of CH SCG S5000 debris waste at the ORNL. The audit team also evaluated specific QA elements relating to HWFP WAP requirements.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Martin Navarrete	Management Representative, CBFO Quality Assurance Division
Berry Pace	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Greg Knox	Auditor, CTAC
Porf Martinez	Auditor, CTAC
Tammy Ackman	Auditor, CTAC
Mike Noland	Auditor, CTAC
Rick Castillo	Technical Specialist, CTAC

OBSERVERS

Ricardo Maestas	New Mexico Environment Department (NMED)
Tom Morgan	CBFO TRU Sites and Transportation Division (TSTD)
Dale Bignell	CTAC (requested by TSTD)

4.0 AUDIT PARTICIPANTS

The ORNL/CCP personnel contacted during the audit process are identified in Attachment 1. A pre-audit meeting was held on July 29, 2014, at the TWPC in Oak Ridge, Tennessee, and at the Skeen-Whitlock Building in Carlsbad, New Mexico. Daily management briefings were conducted to update ORNL/CCP management and staff on audit progress and identified concerns. A post-audit meeting was held on July 30, 2014, at the TWPC in Oak Ridge, Tennessee, and at the Skeen-Whitlock Building in Carlsbad, New Mexico.

Attachment 2 lists the ORNL/CCP personnel contacted during the audit by subject area, Attachment 3 identifies the objective evidence compiled (provided in boxes), Attachment 4 lists the audited documents, Attachment 5 lists the processes and equipment evaluated and Attachment 6 identifies the procedure revisions since Audit A-14-03.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the capability of ORNL/CCP to characterize and certify CH SCG S5000 debris waste for compliance with the requirements specified in the WIPP HWFP WAP and the QAPD. The characterization method assessed was VE.

The audit team concluded that, based on personnel interviews, observance of operations, and review of associated documentation and records, the ORNL/CCP TRU waste characterization program and activities for characterizing CH SCG S5000 debris waste are adequately established, satisfactorily implemented, and effective in achieving the desired results.

5.2 General Activities

5.2.1 Results of Previous Audits

The results of the last CBFO audit of ORNL/CCP (A-14-03) were examined. CBFO Corrective Action Report (CAR) 14-009 was initiated, which identified a condition adverse to quality when an obsolete version of an acceptable knowledge summary report was being used during VE. The audit team did not identify a similar/same condition during the course of this audit, which suggests that the corrective actions taken in response to CAR 14-009 were effective in precluding recurrence.

5.2.2 Changes in Programs or Operations

The change in programs and operations at ORNL was the addition of CH VE operations, which was subject to evaluation during this audit.

5.2.3 New Programs or Activities Being Implemented

ORNL/CCP introduced VE operations for characterizing CH waste.

5.2.4 Changes in Key Personnel

No changes have occurred since Audit A-14-03. Mr. Andrew Stallings still serves as the vendor project manager (VPM) and Ms. Beverly Schrock serves as the site project manager (SPM).

5.3 Quality Assurance Activities

The audit team evaluated the applicable QA elements for personnel qualification and training, nonconformances, and records for compliance with requirements in the HWFP WAP. The evaluation results for each area audited are described below.

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 37, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

Personnel training records associated with VE and SPMs were examined to verify compliance with associated requirements and to confirm that personnel were appropriately trained/qualified. Record reviews included qualification of VE Operator/Independent Technical Reviewers; VE Expert (VEE) appointment documentation; and SPM qualification cards. The audit team also reviewed the ORNL Program List of Qualified Individuals dated July 24, 2014.

No WAP-related deficiencies regarding personnel qualification and training were identified. The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for personnel qualification and training were adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.3.2 Nonconformances

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-005, Rev. 24, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

The audit team interviewed the CCP project office QA engineer; reviewed the CH VE Nonconformance Report Log; and randomly selected the following nonconformance reports (NCRs) for review:

- NCR-ORNL-0159-14, Rev. 0
- NCR-ORNL-0162-14, Rev. 0
- NCR-ORNL-0260-14, Rev. 0
- NCR-ORNL-0256-14, Rev. 0
- NCR-ORNL-0702-14, Rev. 0
- NCR-ORNL-0803-14, Rev. 0

The team concluded that deficiencies are being appropriately documented and tracked through resolution as required. There were no NCRs deemed reportable to the Permittees within seven days, as required by the Permit. All the NCRs examined were verified to have been entered, managed, and tracked in both the CCP Integrated Data Center (IDC) and on the CCP NCR Logs.

No WAP-related deficiencies regarding NCRs were identified. The procedures reviewed and objective evidence assembled provided evidence to confirm that the

applicable requirements for nonconformances are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.3.3 Records

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The audit team reviewed procedures CCP-PO-001, Rev. 21, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-PO-002, Rev. 27, *CCP Transuranic Waste Certification Plan*; CCP-QP-008, Rev. 22, *CCP Records Management*, and CCP-QP-028, Rev. 15, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Results of the review indicate that the procedures adequately address upper-tier requirements.

Control of records was verified through review of the CH Records Inventory and Disposition Schedule dated August 1, 2013 and through interview with responsible personnel.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA records are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4 Technical Activities

Each technical area audited is discussed in detail in the following sections. The method used to select objective evidence is discussed, the objective evidence used to assess compliance with the HWFP is cited briefly, and the result of the assessment is provided.

5.4.1 Table C6-1, WAP Checklist

The C6-1 WAP Checklist addresses general program requirements from an overall management perspective. The general requirements checklist addresses both technical requirements and specific WAP-related QA programmatic requirements that, when collectively implemented, ensure effective overall management of TRU waste characterization activities. Requirements are integrated into controlled documents to ensure the waste characterization strategy, as defined in the WAP, is accomplished and documented in accordance with controlled processes and procedures.

The audit team evaluated the adequacy, implementation, and effectiveness of the ORNL/CCP VE characterization process for CH SCG S5000 debris waste. Objective evidence was selected and reviewed to evaluate the implementation of the associated characterization activities. Batch data reports (BDRs) and personnel qualification and training documentation were included in the evaluation.

Specific procedures audited and the objective evidence reviewed are described in the following sections.

During the audit, ORNL/CCP demonstrated compliance with the waste characterization requirements of the WAP through documentation and by performing characterization activities.

5.4.2 Table C6-2, Acceptable Knowledge Checklist

Refer to Section 5.4.3, Table C6-4, Visual Examination Checklist.

5.4.3 Table C6-3, Radiography Checklist

This was evaluated during ORNL/CCP Recertification Audit A-14-03.

5.4.4 Table C6-4, Visual Examination Checklist

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-113, Rev. 18, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-QP-002, Rev. 37, *CCP Training and Qualification Plan*, to determine the degree to which the procedures adequately address upper-tier requirements. Results of the review indicate that the procedures adequately address upper-tier requirements.

ORNL/CCP uses the two-operator method when performing VE characterization. The two qualified operators visually examine the waste as it is placed into containers. The audit team interviewed VE operators and the VEE. The audit team also examined the VE operational logbook (CCP-ORNL-VE-001) and verified logbook entries were logged correctly and reviewed by the VPM as required. During the audit, the audit team toured the TWPC Hot Cell Facility and observed VE operations being performed on waste from container X10C04028986 into output container X10C0402898L1.

The audit team examined the following CH VE BDRs generated from operations performed in the TWPC Hot Cell Facility to verify implementation and compliance with the requirements in CCP-TP-113:

- ORNLCHVE0101
- ORNLCHVE0102
- ORNLCHVE0103
- ORNLCHVE0104
- ORNLCHVE0108
- ORNLCHVE0109
- ORNLCHVE0110

No WAP-related deficiencies regarding Table C6-4 were identified during the audit. The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for VE are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

6.0 CORRECTIVE ACTIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs), as defined below, and document such conditions on CARs.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the QA program.

No WAP-related deficiencies necessitating a CAR were identified during the audit.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. Audit team members, the Audit Team Leader (ATL), and the CBFO QA representative evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL and the CBFO QA representative, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit.

Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL and the CBFO QA representative, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the CBFO QA representative categorizes the condition as corrected during audit (CDA) according to the definition below:

CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. Correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), and one or two individuals that have not completed a reading assignment.

No WAP-related deficiencies were identified and corrected during this audit.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Personnel Contacted During the Audit by Subject Area
- Attachment 3: Objective Evidence Reviewed During the Audit (provided in boxes)
- Attachment 4: Table of Audited Documents
- Attachment 5: List of Processes and Equipment Reviewed
- Attachment 6: Procedure Revision Matrix

PERSONNEL CONTACTED DURING AUDIT A-14-29

NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Dale Bignell	CTAC Observer	X		X
Michele Billett	NWP/CCP NTPC Training Coordinator		X	
Jason Cofer	NWP/CCP VE		X	
Anthony Harley	NWP/CCP VEE	X	X	X
LaTrana Harmon	NWP/CCP QA	X		X
Laura Jones	NWP/CCP QAE		X	
Scott Kranker	TWPC STR			X
Wayne Ledford	NWP/CCP QA Specialist			X
Ricardo Maestas	NMED Observer	X		
Shelly Martinez	NWP/CCP CE RTR/VE	X	X	X
Derek Matheny	NWP/CCP VE		X	
Kevin Meyer	MCS EA	X		
Tom Morgan	CBFO/TSTD Certification Manager	X		X
Jim Morrison	NWP/CCP IDC Group		X	
Martin Navarrete	CBFO QA Representative	X		X
Sheila Pearcy	NWP/CCP NTPC Records Manager		X	
Ron Reeves	NWP/CCP Project Manager	X	X	X
Beverly Schrock	NWP/CCP SPM		X	X
Mike Sensibaugh	NWP/CCP Operations Manager	X		X
Andrew Stallings	NWP/CCP VPM	X	X	X
Chuck Wallace	NWP/CCP VE		X	
Veronica Waldram	NWP/CCP QA		X	X

PERSONNEL CONTACTED DURING THE AUDIT BY SUBJECT AREA

Personnel Qualification and Training	Michele Billett
Control of Nonconforming Items	Laura Jones Jim Morrison Veronica Waldram
Records	Sheila Percy
Visual Examination	Jason Cofer Anthony Harley Shelly Martinez Derek Matheny Ron Reeves Andrew Stallings Chuck Wallace