



Department of Energy
Carlsbad Field Office
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JUL 6 2012



Mr. Mike Sensibaugh, Manager
Central Characterization Project
Retrieval, Characterization, and Transportation
Washington TRU Solutions, LLC
P.O. Box 2078
Carlsbad, NM 88221-2078

Subject: Carlsbad Field Office Audit Report for Audit A-12-22, Central Characterization Project Intersite Shipment Program

Dear Mr. Ploetz:

The Carlsbad Field Office (CBFO) performed Audit A-12-22 of the Central Characterization Project (CCP) Intersite transportation activities in accordance with *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments* and concluded that the procedure adequately addresses upper-tier requirements. Further, the audit team concluded that the CCP implementing procedures evaluated were satisfactorily implemented and effective. The audit report is enclosed.

As described in the report, the audit team identified two conditions adverse to quality that were corrected during the audit. The team offered one recommendation for your consideration in enhancing your program.

If you have any questions, please contact me at (575) 234-7459.

Sincerely,


Richard F. Farre II

for Randy Unger, Director
Office of Quality Assurance

Enclosure



U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

AUDIT REPORT

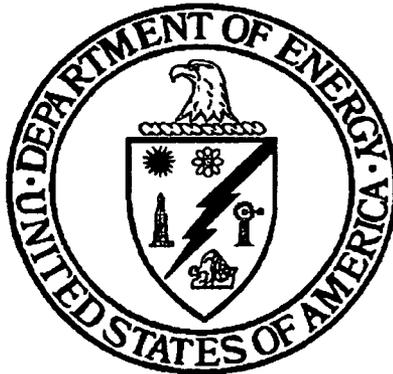
OF THE

CENTRAL CHARACTERIZATION PROJECT
INTERSITE TRANSPORTATION ACTIVITIES FOR
TRANSURANIC WASTE

CARLSBAD, NEW MEXICO

AUDIT NUMBER A-12-22

JUNE 26 – 28, 2012



Prepared by: Thomas Putnam
Thomas Putnam, CTAC
Audit Team Leader

Date: ^{with} 7-2-12

Approved by: Richard F. Farrell
for Randy Unger, CBFO
Director, Office of Quality Assurance

Date: 7-5-12

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-12-22 was conducted to evaluate the adequacy, implementation, and effectiveness of intersite transportation activities performed by the Central Characterization Project (CCP). The evaluation included documentation relating to transuranic waste shipped from various generator sites to the Idaho National Laboratory (INL) for characterization.

The audit was conducted June 26 – 28, 2012, at the Skeen-Whitlock Building in Carlsbad, New Mexico. The audit team concluded that overall, CCP technical procedures were adequate relative to the flow-down of requirements from DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document (QAPD)*, and the *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)*.

The audit team concluded that the CCP transportation activities evaluated were adequate in addressing CBFO QAPD and CH-TRAMPAC requirements as applicable, satisfactory in the implementation of these requirements, and effective in achieving the desired results. In addition, the CCP Quality Assurance (QA) Program, as related to transportation activities, was adequate in addressing upper-tier requirements as identified in the CBFO QAPD, satisfactory in the implementation of those requirements, and effective in achieving the desired results.

No corrective action reports (CARs) were generated as a result of the audit. The audit team identified two conditions adverse to quality; both deficiencies were isolated in nature and required only remedial corrective actions. The deficiencies were corrected during the audit (CDA), see section 6.2 for details. One Recommendation was identified during the audit and offered for CCP management consideration, see section 6.4 for details.

2.0 SCOPE AND PURPOSE

2.1 Scope

Audit A-12-22 evaluated the adequacy, implementation, and effectiveness of the CCP in conducting U.S. Department of Energy (DOE) intersite shipments of contact-handled transuranic (CH-TRU) waste in accordance with the CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*. The audit team reviewed CCP implementing procedures, evaluated supporting documentation, and interviewed personnel.

The evaluation of CCP CH-TRU waste intersite shipment activities was based on current revisions of the following documents:

- DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document (QAPD)*
- *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)*

- *CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP), CCP-PO-001*
- *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments, CCP-PO-401*
- Related CCP implementing procedures

2.2 Purpose

The audit evaluated the adequacy, implementation, and effectiveness of the CCP for conducting DOE intersite shipments of CH-TRU waste in accordance with the CCP CH-TRAMPAC.

3.0 AUDIT TEAM

Richard Farrell	Management Representative, CBFO
Thomas Putnam	Team Leader, CBFO Technical Assistance Contractor (CTAC)
B.J. Verret	Auditor, CTAC
Katie Martin	Auditor, CTAC
Porf Martinez	Auditor, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC

4.0 AUDIT PARTICIPANTS

The CCP individuals present at the pre-audit and post-audit meetings and who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at the Skeen-Whitlock Building in Carlsbad, New Mexico, on June 26, 2012. The audit concluded with a post-audit meeting at the Skeen-Whitlock Building on June 28, 2012.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the applicable CCP transportation activities, as described in the associated CCP implementing procedures, were adequately established for compliance with upper-tier requirements, satisfactory in the implementation of those requirements, and effective in achieving the desired results. Attachment 2 is a list of CCP procedures that implement the CBFO QAPD and CH-TRAMPAC requirements related to intersite waste shipments.

5.2 Technical Activities

5.2.1 Transportation Activities

The audit team reviewed implementing procedures CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*; CCP-TP-405, *CCP Intersite Shipments of Contact-Handled Transuranic Waste*; CCP-TP-404, *CCP Contact-Handled Transuranic Waste Certification and Data Entry for Intersite Shipments*; CCP-QP-002, *CCP Training and Qualification Plan*; and CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedures adequately address upper-tier requirements. The review indicated that the procedures adequately address applicable requirements.

The team reviewed three shipping packages generated since the previous audit (A-11-19): SAIN1102, AEIN1101, and AEIN102. The audit team verified that the shipping packages had the applicable certification documentation to ensure compliance with the CCP CH-TRAMPAC and met the specified shipping criteria. The audit team examined one overpack included in shipment SAIN1101, a standard waste box. No nonconformance reports (NCRs) were identified for any of the shipping packages.

The audit team reviewed shipping documentation and verified that the Waste Certification Official (WCO) performed the necessary verifications and certification of the waste for shipment. Review of the container certification data, documenting the container for use as a payload in a Transuranic Package Transporter-II (TRUPACT-II) container, was performed to verify the container met the requirements of CCP-PO-401. By certifying a container in the Waste Data System (WDS), the CCP WCO indicates the container is approved for shipment. The WCO ensures containers have no deficiencies currently written against them by checking the CCP Nonconformance database. Data are collected from the host site and entered into the Small Quantity Sites WDS Master Template.xls spreadsheet by a CCP Waste Certification Assistant (WCA). The team verified the WDS software version in use during the audit was current.

Two concerns were identified during the examination of the shipping packages. In one shipping package, an incorrect entry was made for the Helium Standard Leak for TRUPACT-II 160. This was corrected during the audit (CDA #1) and verification of the completion of the corrective action was performed by the auditor prior to the end of the audit. Also, there was an error in the recording of the shipment number on the InterSite Shipping Records Index for shipment SAIN1102. This form was corrected and submitted to CCP Records. This corrective action (CDA #2) was verified prior to the end of the audit.

During the audit, personnel training and qualification were verified through review of training records and the CCP List of Qualified Individuals. Verification of training records indicated the WCO, WCA, and the Transportation Certification Official

personnel were trained and qualified to the CCP implementing procedures for intersite shipments.

Overall, procedures, nonconformance reporting, shipping packaging verification processes, and personnel training and qualification were determined to be adequate in addressing upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.2.2 Process Knowledge

The primary objective of this audit was to demonstrate compliance with the requirements of CCP-PO-401, Rev. 2, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*. In addition, the audit team examined the program for compliance with CCP procedures developed to support the elements of characterization required in the CH-TRAMPAC. The applicable process knowledge (PK) procedure is CCP-TP-401, *CCP Process Knowledge Compilation for Preliminary Characterization*. A checklist was compiled from the procedure and was used by the audit team to assess compliance with CCP-PO-401 and CCP-TP-401 and collect relevant objective evidence using waste streams generated at Sandia National Laboratories (SNL) and the Argonne National Laboratory East (ANLE).

The waste streams generated at ANLE that were examined by the auditors have been transported to the INL for characterization and certification prior to shipment to the Waste Isolation Pilot Plant (WIPP). The relevant PK Summary Report is CCP-PK-ANLE-001, Rev. 1, which included TRU mixed waste debris stream AECHDM-PK and TRU mixed waste solids stream AECHHM-PK. The waste in these streams was generated from a variety of research and development (R&D) activities at ANLE, primarily in Buildings 200, 205, and 212, and was packaged/repackaged by waste management operations in Building 306. Included in the PK information and data reviewed, in addition to the PK Summary Report, were numerous PK source document summaries, PK attachments 1, 4, 5, 6, 7, and 8, and examples of the resolution of discrepancies in the PK record. Several individual waste containers were selected and the relevant NDE and NDA data packages were examined to assure that prohibited items could be clearly identified and that the required TRAMPAC radiological information was available. Training of the individuals implementing the PK procedure was also verified.

The team identified one concern, classified as a Recommendation. The concern dealt with changes in text to the PK Summary Report reviewed, CCP-PK-ANLE-001, Rev. 1, that provided clarification. In addition, information for radionuclides Cs-134 and Cs-137 was reversed in radiological table 5 although the values listed were correct.

Overall, Process Knowledge activities were determined to be adequate in addressing upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.2.3 Nondestructive Assay

The primary objective of this audit was to demonstrate compliance with the requirements of CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*. In addition, the audit team examined the program for compliance with CCP procedures developed to provide support elements of characterization required in the CH-TRAMPAC. The applicable nondestructive assay (NDA) procedure is CCP-TP-403, *CCP Review of Nondestructive Assay Data for Transportation Purposes*. A checklist was compiled from the procedure and was used by the audit team to assess compliance and collect relevant objective evidence using waste streams generated at SNL and ANLE facilities.

The waste streams generated at ANLE that were examined by the auditors have been transported to the INL for characterization and certification prior to shipment to the WIPP. The waste streams included TRU mixed waste debris stream AECHDM-PK and TRU mixed waste solids stream AECHHM-PK. The waste in these streams was generated from a variety of R&D activities at ANLE, primarily in Buildings 200, 205, and 212, and was packaged/repackaged by waste management operations in Building 306.

In addition to a review of the NDA data packages and NDA review checklists for several drums from these waste streams, the audit team examined and compiled documentation that supported critical elements in the CH-TRAMPAC radiological properties requirements, such as identification and verification that the NDA techniques/equipment used by the generator sites met recognized standards and that the CCP technical reviewer was able to demonstrate compliance through controlled documentation of all applicable NDA QA objectives. The appropriate training of the CCP technical reviewer was also confirmed.

Overall, the CCP Nondestructive Assay program supporting intersite shipments was determined to be adequate in addressing upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.2.4 Nondestructive Examination

The audit team reviewed procedures CCP-QP-002, *CCP Training and Qualification Plan*; CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*; and CCP-TP-402, *CCP Nondestructive Examination Data Validation for Transportation*, to determine their adequacy in addressing upper-tier requirements. The results of the review determined that the procedures adequately address requirements.

The audit team examined CCP nondestructive examination review/validation reports and associated real-time radiography (RTR) data sheets and associated audio/video media for the following containers: RW19924, RW48191, RW48197, RW49571, RW49572, SNLNM007012, SNL/NM007037R, and C973136.

Training and qualification cards for RTR operators were reviewed. The audit team verified that RTR operators were appropriately qualified as required.

Overall, the RTR process for supporting CCP intersite shipments was determined to be adequate in addressing upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality and document them on CARs according to the following definitions:

Condition Adverse to Quality (CAQ) – A 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, regulatory compliance demonstration, or the effective implementation of the QA program.

No CAQs resulting in the generation of CARs were identified during Audit A-12-22.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) 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, determines if the CAQ is an isolated case requiring only remedial action and therefore can be regarded as CDA. Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, 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 ATL categorizes the condition as 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.

Two CAQs meeting the criteria for a CDA were identified during A-12-22 and are listed below.

Corrected During the Audit #1:

In shipping package AEIN1101, Attachment 7 of DOE/WIPP-02-3184 for the ICV Preshipment Leakage-Rate Test Data Sheet (Helium) documented on 9/29/11, and Attachment 8 for the OCV Preshipment Leakage-Rate Test Data Sheet (Helium) documented on 9/29/11 for TRUPACT-II 160, the leak tester recorded the Calibrated Leak Standard Shipment Number (S/N) as XC0142. XC0142 is the S/N for a pressure gauge, not a Helium Calibrated Leak Standard. The correct S/N for the Calibrated Leak Standard is XC0449. The correct S/N was recorded in the other Leak Testing forms in this package. The corrective actions were verified complete prior to the end of the audit.

Corrected During the Audit #2:

On the InterSite Shipping Records Index form for Shipment SAIN1102, the S/N is recorded as SAIN11002, not SAIN1102. The S/N was corrected and auditors verified corrective actions were completed prior to the end of the audit.

6.3 Observation

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Observations using the following definition:

Observation – A condition that, if not controlled, could result in a CAQ.

There were no Observations identified during Audit A-12-22.

6.4 Recommendations

During the audit, the audit team may develop suggestions for improvement that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Recommendations, using the following definition:

Recommendation – A suggestion that is directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

Audit A-12-22 resulted in one Recommendation, described below.

Recommendation 1

It is recommended that a PK quick freeze file to PK Summary Report CCP-PK-ANLE-001, be changed to reflect the following:

Section 2.2 page 10, last line, change “of aqueous and inorganic liquids” to “of aqueous and organic liquids”

Section 5.3.2 page 40, paragraph 2, change “generated by facility maintenance operations” to “generated by laboratory and maintenance operations”

Table 5, page 42, exchange the labels only for radionuclides Cs-134 and Cs-137. The values in the tables are correct.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During Audit A-12-22
- Attachment 2: List of Audited CCP Procedures

PERSONNEL CONTACTED DURING AUDIT A-12-22

NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Billett, Michele	Training Coordinator/CCP		X	
Carter, Mitch	Mobile Loading/WTS		X	
Montoya, Jason	Los Alamos National Laboratory		X	
Pearcy, Mark	Site Project Manager/CCP	X		
Peters, Kevin	Acceptable Knowledge Expert/CCP		X	
Stallings, Andrew	Small Quantity Site Lead/CCP	X	X	X
Keathley, Susan	Stoller/CCP Records		X	
Yturralde, Jewell	Stoller/CCP Records		X	
Punchios, Sheri	Stoller/CCP Records		X	
Armijo, Cheryl	Stoller/CCP Training		X	
Dickes, Neil	WTS/Retrieval, Characterization and Transportation (RCT) NDA		X	
Cannon, Val	CCP QA	X		X
Fisher, A.J.	Sr. Tech Advisor	X		X
Ploetz, D.K.	RCT Manager	X		X

LIST OF AUDITED CCP PROCEDURES FOR A-12-22

	Document No.	Rev.	Document Title
1.	CCP-PO-401	2	CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments
2.	CCP-QP-002	32	CCP Training and Qualification Plan
3.	CCP-QP-005	21	CCP TRU Nonconforming Item Reporting and Control
4.	CCP-TP-401	2	CCP Process Knowledge Compilation for Preliminary Characterization
5.	CCP-TP-402	4	CCP Nondestructive Examination Data Validation for Transportation
6.	CCP-TP-403	5	CCP Review of Nondestructive Assay Data for Transportation Purposes
7.	CCP-TP-404	4	CCP Contact-Handled Transuranic Waste Certification and Data Entry for Intersite Shipments
8.	CCP-TP-405	4	CCP Intersite Shipments of Contact-Handled Transuranic Waste