



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

OCT 4 2011



Mr. D. K. Ploetz, Manager  
 Central Characterization Project  
 Retrieval, Characterization and Transportation  
 Washington TRU Solutions, LLC  
 P.O. Box 2078  
 Carlsbad, NM 88221

Subject: Audit Report A-11-19, CCP Inter-Site Transportation Activities for Transuranic Waste

Dear Mr. Ploetz:

The Carlsbad Field Office (CBFO) conducted the subject audit of the Central Characterization Project (CCP) at the Skeen-Whitlock Building in Carlsbad, New Mexico on August 23-25, 2011. The resulting audit report is enclosed.

The audit team determined that the adequacy, implementation, and effectiveness of the CCP are acceptable for conducting inter-site shipments in accordance with the CCP Contact-Handled Transuranic Authorized Methods for Payload Control.

If you have any questions concerning the enclosed report, please contact me at (575) 234-7548.

Sincerely,

Courtland G. Fesmire, P.E.  
 Quality Assurance Engineer

Enclosure

cc: w/enclosure  
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 J.R. Stroble, CBFO  
 F. Sharif, WTS  
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ED	D. Winters, DNFSB	ED
ED	P. Gilbert, LANL-CO	ED
ED	G. Lyshik, LANL-CO	ED
ED	G. Knox, CTAC	ED
ED	M. Mager, CTAC	ED
ED	WIPP Operating Record	ED
ED	CBFO QA File	
ED	CBFO M&RC	
ED	*ED denotes electronic distribution	



U.S. DEPARTMENT OF ENERGY  
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

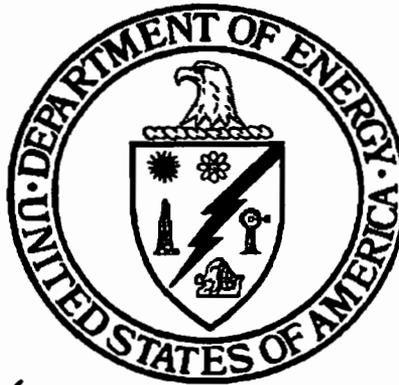
OF THE

CENTRAL CHARACTERIZATION PROJECT  
INTER-SITE TRANSPORTATION ACTIVITIES FOR  
TRANSURANIC WASTE

CARLSBAD, NEW MEXICO

AUDIT NUMBER A-11-19

AUGUST 23 – 25, 2011

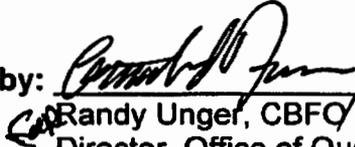


Prepared by:

  
Greg Knox, CTAC  
Audit Team Leader

Date: 23 SEP 2011

Approved by:

  
Randy Unger, CBFO  
Director, Office of Quality Assurance

Date: 4 Oct 2011

## **1.0 EXECUTIVE SUMMARY**

Carlsbad Field Office (CBFO) Audit A-11-19 was conducted to evaluate the adequacy, implementation, and effectiveness of inter-site transportation activities performed by the Washington TRU Solutions LLC (WTS) Central Characterization Project (CCP). The evaluation included documentation relating to waste shipped from various generator sites to the Idaho National Laboratory (INL) for characterization.

The audit was conducted August 23 – 25, 2011, 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 CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*.

The audit team concluded that the CCP transportation activities evaluated were adequate in addressing CCP-PO-401 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.

One Recommendation was identified during the audit and offered for CCP management consideration (see section 6.4).

## **2.0 SCOPE AND PURPOSE**

### **2.1 Scope**

Audit A-11-19 evaluated the adequacy, implementation, and effectiveness of the CCP in conducting U.S. Department of Energy (DOE) inter-site shipments of contact-handled transuranic (CH-TRU) waste in accordance with the CCP CH-TRAMPAC. The audit team reviewed WTS/CCP implementing procedures, evaluated supporting documentation, and interviewed personnel.

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

- DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document (QAPD)*
- CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments*
- Related CCP implementing procedures

## 2.2 Purpose

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

## 3.0 AUDIT TEAM

Greg Knox	Team Leader, CBFO Technical Assistance Contractor (CTAC)
Priscilla Martinez	Auditor, CTAC
Katie Martin	Auditor, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC

## 4.0 AUDIT PARTICIPANTS

The individuals at CCP who were 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 August 23, 2011. The audit concluded with a post-audit meeting held at the Skeen-Whitlock Building in Carlsbad, New Mexico, on August 25, 2011.

## 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 contains a list of CCP procedures that implement the CBFO QAPD and CCP CH-TRAMPAC requirements related to inter-site waste shipments.

### 5.2 Technical Activities

#### 5.2.1 Transportation Activities

The team evaluated the following procedures: CCP-PO-401, *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Inter-Site Shipments*; CCP-TP-405, *CCP Intersite Shipments of CH TRU Waste*; CCP-TP-404, *CCP Contact-Handled Transuranic Waste Certification and Data Entry for Inter-site Shipments*; CCP-QP-002, *CCP Training and Qualification Plan*; and CCP-QP-005, *CCP Nonconforming Item Reporting and Control*.

The team reviewed five shipping packages generated since the previous audit (A-10-05): SAIN110001, LBIN110001, NRIN110001, NRIN110002, and NRIN110003. All shipping packages had certification documentation to ensure compliance with the CCP

CH-TRAMPAC and that met the specified shipping criteria. No overpacks were observed during this audit. A nonconformance report (NCR) was reviewed for verification of the process, but it was not related to the listed shipping packages evaluated for this audit.

Review of shipping documentation 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 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 (SQS) 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.

During the audit, personnel training and qualification were verified through review of training records and the CCP List of Qualified Individuals (LOQI). Verification of training records indicated the WCO, WCA, and the Transportation Certification Official (TCO) groups were knowledgeable of the CCP implementing procedures for inter-site 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, *CCP CH TRU 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 TRAMPAC. The applicable process knowledge (PK) procedure is CCP-TP-401, *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), Lawrence Berkeley National Laboratory (LBNL), and the NRD LLC facility in New York.

The waste streams examined by the audit team that were generated at these facilities have been or will be transported to the INL for characterization and certification prior to shipment to the Waste Isolation Pilot Plant (WIPP). The relevant PK summary reports included CCP-PK-SNL-002 for a mixed debris stream generated in the SNL Hot Cell

facility, CCP-PK-LBNL-001, which describes a single drum of mixed debris waste at LBNL, and CCP-PK-NRD-001, which describes a mixed debris waste stream containing eighty-seven 55-gallon drums generated during the manufacture of Am-241 foils at the NRD facility. In addition to the PK summary reports, the audit team reviewed numerous PK source document summaries, attachments 1, 4, 5, 6, 7 and 8 from CCP-TP-401, and examples of the resolution of discrepancies in the PK record. Several individual waste containers were selected and the relevant nondestructive examination (NDE) and nondestructive assay (NDA) data packages were examined to ensure 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, which was classified as a Recommendation to be consistent with the way similar issues have been dealt with during AK audits this year. PK Summary CCP-PK-NRD-001, Rev. 0, for TRU debris mixed waste stream NRD.001 should include the latest language for waste stream definition. In addition, while the discussion in section 5.3.3, Chemical Content Identification-Hazardous Constituents, suggests that NRD considered the presence of hazardous constituents and the potential need to apply hazardous waste numbers, it is recommended that an explicit statement be included that the waste was not managed historically as Resource Conservation and Recovery Act (RCRA) waste by the generator. This language was drafted and reviewed with CCP representatives and will be saved in a freeze file for use in the next revision of CCP-PK-NRD-001. This will ensure that the AK summary report prepared for this waste stream by INL CCP will reflect the latest requirements (see section 6.4).

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 Rev. 2, *CCP CH TRU 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 TRAMPAC. The applicable NDA procedure is CCP-TP-403, *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, LBNL and the NRD LLC facility in New York.

The waste streams examined by the auditors that were generated at these facilities have been or will be transported to the INL for characterization and certification prior to shipment to the WIPP. The waste streams included a mixed debris waste stream generated in the SNL Hot Cell facility, a single drum of mixed debris waste generated at

LBNL, and a mixed debris waste stream containing eighty-seven 55-gallon drums generated during the manufacture of Am-241 foils at the NRD facility.

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 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 quality assurance objectives. The appropriate training of the CCP technical reviewer was also confirmed.

Overall, the CCP Nondestructive Assay program supporting inter-site shipments was judged 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 evaluated the following 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 Inter-Site Shipments*; and CCP-TP-402, *CCP Nondestructive Examination Data Validation for Transportation*.

The team examined CCP NDE review/validation reports for containers LB-TRU-01, SNL/NM006419R, C973057, ND1012R, ND1013R, ND1016R, ND1029R, ND1054R, ND1062R, and ND1085R, and the associated audio/video media.

Training and qualification cards for four real-time radiography (RTR) operators and one VE operator were reviewed. All RTR and VE personnel were qualified to perform work.

Overall, Nondestructive Examination data validation 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 (CAQs) and document them on corrective action reports (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,

regulatory compliance demonstration, or the effective implementation of the QA program.

There were no CAQs identified and no CARs generated during Audit A-11-19.

## **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 can, therefore, be a 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.

CDA – 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 CAQs meeting the criteria for a CDA were identified during A-11-19.

## **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 A-11-19.

## **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:

**Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.**

A-11-19 resulted in one Recommendation, described below.

**Recommendation 1**

It is recommended that PK Summary CCP-PK-NRD-001, Rev. 0, for TRU debris mixed waste stream NRD.001 include the latest language for waste stream definition. In addition, while the discussion in section 5.3.3, Chemical Content Identification-Hazardous Constituents, suggests that NRD considered the presence of hazardous constituents and the need to possibly apply hazardous waste numbers, it is recommended that an explicit statement be included that the waste was not managed as RCRA waste. This language has been drafted and reviewed and will be included as a freeze file. It will ensure that the AK summary report prepared for this waste stream by INL CCP will reflect the latest requirements.

**7.0 LIST OF ATTACHMENTS**

Attachment 1: Personnel Contacted During the Audit

Attachment 2: List of Audited CCP Procedures

**PERSONNEL CONTACTED DURING THE AUDIT**

<b>NAME</b>	<b>TITLE/ORG</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST AUDIT MEETING</b>
Billett, M.	Training Coordinator/CCP		X	X
Carter, M.	Mobile Loading/WTS	X		
Gomez, C.	QA Engineer/CCP	X		
Kleckner, J.	AKE/CCP	X	X	
Martin, R.	Tech, Spec./CCP	X	X	
Pearcy, M.	SPM/CCP	X		
Pearcy, S.	Records Manager/CCP	X		
Ploetz, D.	Manager/CCP			X
Schafer, S.	AKE/CCP	X	X	
Sensibaugh, M.	Project Mgr./CCP			X
Stallings, A.	SQS Lead/CCP	X	X	X
Watson, L.	AKE/PK/CCP		X	
Papp, M.	AKE/PK/CCP		X	
Doherty, M.	AKE/PK/CCP		X	
Harvill, J.	NDA Support/CCP		X	
Almanza, C.	NDA Support/CCP		X	
Greenwood, T.	AKE Support/CCP		X	

**LIST OF AUDITED CCP PROCEDURES**

	<b>Document No.</b>	<b>Rev.</b>	<b>Document Title</b>
1.	CCP-PO-401	2	CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) for Intersite Shipments
2.	CCP-QP-002	31	CCP Training and Qualification Plan
3.	CCP-QP-005	20	CCP TRU Nonconforming Item reporting and Control
4.	CCP-TP-401	1	CCP Process Knowledge Compilation for Preliminary Characterization
5.	CCP-TP-402	4	CCP Nondestructive Examination Data Validation for Transportation
6.	CCP-TP-403	4	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