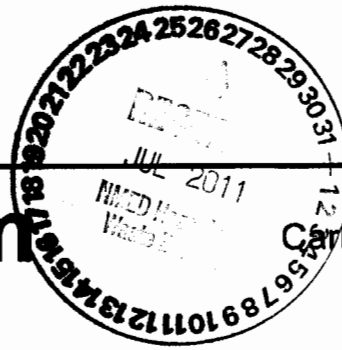


United States Government

# memorandum

**ENTERED**

Department of Energy

 Carlsbad Field Office  
 Carlsbad, New Mexico 88221
**DATE:**

JUL 27 2011

**REPLY TO**

ATTN OF: CBFO:NTP:JRS:GS:11-1422:UFC 5900.00

**SUBJECT:** Hanford-CCP Recertification Audit A-11-10
**TO:** Larry Romine, DOE-Richland  
 M. F. Sharif, General Manager, Washington TRU Solutions LLC

The Carlsbad Field Office (CBFO) has completed the recertification audit of the Central Characterization Project (CCP) transuranic (TRU) waste program deployed at the Hanford Site (hereinafter referred to as Hanford-CCP). Audit A-11-10 was conducted April 5-7, 2011 at the Hanford Site, near Richland, Washington. The CBFO is adding to the certification the use of the High Energy RTR (HE-RTR) unit to the characterization of Contact-Handled (CH) TRU debris waste and the U.S. Environmental Protection Agency (EPA) Tier 1 approval dated May 2, 2011, allowing the addition of the Super High Efficiency Neutron Counter "A" (SHENCA) to characterize Standard Waste Boxes (DOCKET No: A-98-49; II-A4-146) to their certification. The TRU waste characterization, and certification, as well as the CH transportation activities were determined to be adequate, satisfactorily implemented, and effective.

The CCP Quality Assurance Program (QAP) was audited during Audit A-11-06 on March 1-3, 2011 in Carlsbad, New Mexico. The evaluation was found to be adequate, satisfactorily implemented, and effective.

Hanford-CCP transportation activities were evaluated during Audit A-11-10 and Surveillance S-10-19 at the Hanford Site facility on March 30-31, 2010. The Hanford-CCP transportation activities were found to be adequate, satisfactorily implemented, and effective.

The audit team determined that the Hanford-CCP TRU programs were in compliance with the "Waste Analysis Plan" (WAP) of the Waste Isolation Pilot Plant (WIPP) *Hazardous Waste Facility Permit* (HWFP), the *Quality Assurance Program Document* (QAPD), and the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP WAC).

Based on the result of Audits A-11-10, A-11-06, and S-10-19 conditions and limitations provided by the New Mexico Environment Department and the EPA, the CBFO is authorizing CCP to include the Tier 1 approval for the SHENCA and the Tier 2 for the HE-RTR into their certified program. CBFO is granting authority at the Hanford-CCP for TRU waste characterization, certification, and transportation activities as identified in Table 1, Page 3 of this memorandum.



TRU waste characterization, certification, or transportation activities using significantly revised or new processes, procedures, or systems must be evaluated by the CBFO prior to their implementation. Included in this memorandum are the following attachments:

- Attachment 1 describes the CCP certification program status,
- Attachment 2 contains the list of equipment certified at the site,
- Attachment 3 contains the list of CCP certified procedures, and
- Attachment 4 describes specific CCP waste characterization process elements that must be reported.

These process elements are identified as Tier 1 changes and Tier 2 changes. The Hanford-CCP shall not ship for disposal at WIPP any wastes affected by a Tier 1 process element change without prior CBFO approval, and CCP shall report Tier 2 changes to CBFO on a quarterly basis.

If you have any questions, please contact J.R. Stroble, Office of the National TRU Program Director, at (575) 234-7313.

Edward Ziemianski  
Acting Manager

Attachment(s)

cc: w/attachments

- |                      |    |                                      |    |
|----------------------|----|--------------------------------------|----|
| J. R. Stroble, CBFO  | ED | V. Waldram, WTS                      | ED |
| C. Fesmire, CBFO     | ED | R. Chatfield, WTS                    | ED |
| R. Unger, CBFO       | ED | J. Harvill, WTS                      | ED |
| D. Miehs, CBFO       | ED | C. Kirkes, WTS                       | ED |
| M. Navarrete, CBFO   | ED | D. Standiford, WTS                   | ED |
| G. Basabilvazo, CBFO | ED | M. Strum, WTS                        | ED |
| S. McCauslin, CBFO   | ED | A. Johnson, WTS                      | ED |
| T. Peake, EPA        | ED | B. Nieman, WTS                       | ED |
| R. Joglekar, EPA     | ED | P. Martinez, CTAC                    | ED |
| E. Feltcorn, EPA     | ED | R. Allen, CTAC                       | ED |
| J. Kieling, NMED     | ED | P. Gilbert, LANL                     | ED |
| S. Holmes, NMED      | ED | G. Lyshik, LANL                      | ED |
| F. Sharif, WTS       | ED | CTAC Controlled Document Coordinator |    |
| D. Ploetz, WTS       | ED | WIPP Operating Record                |    |
| M. Percy, WTS        | ED | CBFO M&RC                            |    |
| M. Sensibaugh, WTS   | ED | *ED denotes electronic distribution  |    |
| R. Reeves, WTS       | ED |                                      |    |

<b>Table 1 – Hanford-CCP CH Approved Waste Characterization Processes</b>		
<b>Characterization Process</b>	<b>CH S5000 Debris</b>	
	<b>Newly generated</b>	<b>Retrievably-Stored</b>
Acceptable Knowledge	Approved	Approved
Load Management	N/A	N/A
Data Validation & Verification (V&V)	Approved	Approved
Visual Examination	Approved	Approved
Solids Sampling & Analysis	N/A	N/A
Headspace Gas Sampling (Summa <sup>®</sup> ) <sup>1</sup>	Approved	Approved
Nondestructive assay (NDA)	Approved	Approved
Real-time Radiography (RTR)	Approved	Approved
Dose-to-Curie (DTC)	N/A	N/A
WIPP Waste Information System (WWIS)	Approved	Approved

<sup>1</sup> Analysis is performed by the Idaho National Laboratory, which is approved under a separate certification.

## CENTRAL CHARACTERIZATION PROJECT DEPLOYMENT AT HANFORD CERTIFICATION PROGRAM STATUS

The CBFO Director of the Office of the National TRU Program and the CBFO Director of Quality Assurance Program have evaluated the documentation supporting the compliance of the Central Characterization Project (CCP) TRU waste program deployed at the Hanford site (hereinafter referred to as Hanford-CCP), Attachments 2 and 3 provide complete lists of certified processes, procedures, documents, and systems deployed at the Hanford-CCP. Attachment 4 is the CH Tiering of TRU Waste Characterization Processes implemented by the CCP at Hanford.

### STATUS

- All program elements remain complete.
- The following site documents are *current* and demonstrate how the CCP complies with the CBFO requirements.
  - **CCP-PO-001, Revision 20, CCP Transuranic Waste Characterization Quality Assurance Project Plan**  
CBFO Memo-CBFO:NTP:JRS:GS:11-0351:UFC 5900.00 dated June 15, 2011.
  - **CCP-PO-002, Revision 25, CCP Transuranic Waste Certification Plan QAP – Section 4.0 of CCP-PO-002**  
CBFO Memo-CBFO:NTP:JRS:MDA:10-2076:UFC 5900.00 dated December 10, 2010.
  - **CCP-PO-003, Revision 12, CCP Transuranic Authorized Methods For Payload Control**  
CBFO Memo-CBFO:NTP:MRB:GS:10-2055:UFC 5900.00 dated December 17, 2010.
- Certified Systems – see Attachment 2 for the complete list of certified systems used by the CCP at the Hanford.
- Standard Operating Procedures – see Attachment 3 for the complete list of certified procedures used by the CCP at the Hanford.
- Tiering of the CH TRU Waste Characterization Processes – see Attachment 4 for the implementation by CCP at Hanford (based on EPA Baseline Inspections).

- CCP participated in the following performance demonstration program (PDP) for Audit A-11-10:
  - **HSG PDP (CCP-INL)** - SUMMA sampling is performed by CCP, analysis is performed by the Idaho National Laboratory, which is approved under a separate certification.
  - **NDA PDP Cycle 17A - Approved** for using the GEA-A (HA01/HAG1) and GEA-B (HA02/HAG2) for waste contained in drums.  
CBFO Memo-CBFO:NTP:MRB:GS:10-1431:UFC 5822.00 dated June 30, 2010.
  - **NDA PDP Cycle B10B - Approved** for using the SuperHENC (HA06/HAN4) for waste contained in TRU standard waste boxes.  
CBFO Memo-CBFO:NTP:MRB:MDA:11-0253:UFC 5822.00 dated April 12, 2011.
- The Final Audit Report on A-11-10 for the Hanford-CCP recertification was issued on June 20, 2011.
  - CAR 11-028 was issued on April 22, 2011 and closed on June 2, 2011.
  - CAR 11-029 was issued on April 26, 2011 and closed on June 10, 2011.
  - The Interim Audit Report was issued on May 3, 2011.
  - NMED approval on Audit A-11-10 was issued on July 20, 2011.
- CBFO requested a Tier 1 change to the Hanford-CCP EPA Baseline on January 28, 2011 allowing the use of the SHENC "A" for on January 28, 2011.
  - EPA gave their approval on May 2, 2011 (Docket No: A-98-49; II-A4-146).
- CBFO notified the EPA of a Tier 2 change to the Hanford-CCP EPA Baseline on February 28, 2011 via e-mail for the use of the HE-RTR.
- The Final Audit Report for A-11-06 for the CCP Quality Assurance Program (QAP) was issued on March 28, 2011.
- The Surveillance Report S-10-19 for transportation at the Hanford Site under CCP was issued on April 8, 2010.
- The EPA concurred on the recertification memo on July 26, 2011.

**RECOMMENDATION**

The recommendation to the CBFO Manager is for CCP at Hanford to continue to have authority for the characterization, certification, and transportation activities of contact-handled (CH) debris (S5000) waste and to include the SHENCA and the HE-RTR into their certified program. Attachments 2, 3 and 4 list the systems and procedures that constitute the bounds of this authority.

**CONCURRENCE**

 FOR

\_\_\_\_\_  
Randy Unger, Director  
CBFO Quality Assurance

7-21-11  
Date



\_\_\_\_\_  
J. R. Stroble, Director  
Office of the National TRU Program

7-21-11  
Date

CENTRAL CHARACTERIZATION PROJECT LIST OF EQUIPMENT AND PROCESSES AT HANFORD					
WIPP WWIS #	Site Equipment # or Title	Description	Components	Software	NDA Operating Range
<b>Nondestructive Assay</b>					
18GEAA	Hanford GEA Unit A	Gamma Energy Assay– 55 gallon drums  Procedure CCP-TP-071	<ul style="list-style-type: none"> <li>Coaxial detectors</li> <li>LEGe detectors</li> <li>Canberra Digital Signal Processor</li> </ul>	<ul style="list-style-type: none"> <li>NDA 2000</li> <li>Genie 2000</li> </ul>	≈0.01-325g Total Weapons Grade Pu
18GEAB	Hanford GEA Unit B	Gamma Energy Assay– 55 gallon drums  Procedure CCP-TP-071	<ul style="list-style-type: none"> <li>Coaxial detectors</li> <li>LEGe detectors</li> <li>Canberra Digital Signal Processor</li> </ul>	<ul style="list-style-type: none"> <li>NDA 2000</li> <li>Genie 2000</li> </ul>	≈0.01-325g Total Weapons Grade Pu
18SHENC	Hanford SHENCA	Super High Efficiency Neutron Counter "A" platform (SHENCA) – SWBs  Procedure CCP-TP-137	<ul style="list-style-type: none"> <li>HPGe Detector</li> <li>(260) <sup>3</sup>He Tubes</li> <li>Neutron Assay Chamber</li> <li>Gamma Assay Area with rotator</li> <li>Cf-252 Add-a-Source assembly</li> </ul>	<ul style="list-style-type: none"> <li>SUPRHENC.EXE</li> <li>PC-FRAM (fixed energy response function analysis with multiple efficiencies)</li> <li>MAESTRO</li> <li>Neutron Gamma Integration (NGI)</li> <li>SuperHENC_QC.xls</li> </ul>	The calibration of the SuperHENC is documented in BII-5169- CVR-001, "Calibration and Validation Report SuperHENC Mobile Assay System SHENCA."  The TMU for the SuperHENC is documented in BII-5169- CVR-001, Section 4.14.
<b>Nondestructive Examination</b>					
18RTRA	Hanford RTR Unit A	Real-Time Radiography System  Procedure CCP-TP-053	<ul style="list-style-type: none"> <li>Shielded x-ray enclosure</li> <li>Drum manipulation equipment</li> <li>X-ray imaging system including x- ray tube, image intensifier, and video camera</li> <li>Video/audio recording equipment</li> </ul>	N/A	N/A
18RTRB	Hanford RTR Unit B	Real-Time Radiography System  Procedure CCP-TP-053	<ul style="list-style-type: none"> <li>Shielded x-ray enclosure</li> <li>Drum manipulation equipment</li> <li>X-ray imaging system including x- ray tube, image intensifier, and video camera</li> <li>Video/audio recording equipment</li> </ul>	N/A	N/A
18HERTR	Hanford HERTR	High-Energy Real-Time Radiography System	<ul style="list-style-type: none"> <li>Shielded x-ray enclosure</li> <li>SWB or Drum manipulation</li> </ul>	N/A	N/A

<b>CENTRAL CHARACTERIZATION PROJECT LIST OF EQUIPMENT AND PROCESSES AT HANFORD</b>					
<b>WIPP WWIS #</b>	<b>Site Equipment # or Title</b>	<b>Description</b>	<b>Components</b>	<b>Software</b>	<b>NDA Operating Range</b>
		Procedure CCP-TP-053	equipment <ul style="list-style-type: none"> <li>• X-ray imaging system including X-ray source, detector and video camera</li> <li>• Video/audio recording equipment</li> </ul>		
<b>Visual Examination</b>					
18RLVE		CCP-TP-113 CCP Standard Contact-Handled Waste Visual Examination – SWB and 55-gallon drums	None	N/A	N/A
<b>Headspace Gas</b>					
N/A	HSG	Summa Sampling process on selected waste containers from waste stream lots. Analysis is performed by the Idaho National Laboratory (INL), which is approved under a separate certification	As defined in CCP-TP-093	As defined in CCP-TP-093	N/A



<b>CENTRAL CHARACTERIZATION PROJECT LIST OF PROCEDURES AT HANFORD SITE</b>		
<b>#</b>	<b>Procedure No.</b>	<b>Procedure Title</b>
1.	CCP-PO-001	CCP Transuranic Waste Certification Quality Assurance Project Plan
2.	CCP-PO-002	CCP Transuranic Waste Certification Plan
3.	CCP-PO-003	CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)
4.	CCP-PO-005	CCP Conduct of Operations
5.	CCP-PO-008	CCP Quality Assurance Interface with the WTS Quality Assurance Program
6.	CCP-PO-011	CCP/CH2M-HILL Plateau Remediation Company Interface Document
7.	CCP-QP-001	CCP Graded Approach
8.	CCP-QP-002	CCP Training and Qualification Plan
9.	CCP-QP-004	CCP Corrective Action Management
10.	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control
11.	CCP-QP-006	CCP Corrective Action Reporting and Control
12.	CCP-QP-008	CCP Records Management
13.	CCP-QP-010	CCP Document Preparation, Approval, and Control
14.	CCP-QP-011	CCP Laboratory Logbooks
15.	CCP-QP-014	CCP Quality Assurance Trend Analysis and Reporting
16.	CCP-QP-015	CCP Procurement
17.	CCP-QP-016	CCP Control of Measuring and Testing Equipment
18.	CCP-QP-017	CCP Identification and Control of Items
19.	CCP-QP-018	CCP Management Assessment
20.	CCP-QP-019	CCP Quality Assurance Reporting to Management
21.	CCP-QP-021	CCP Surveillance Program
22.	CCP-QP-022	CCP Software Quality Assurance Plan
23.	CCP-QP-023	CCP Handling, Storage and Shipping
24.	CCP-QP-026	CCP Inspection Control
25.	CCP-QP-027	CCP Test Control
26.	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
27.	CCP-QP-030	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
28.	CCP-TP-001	CCP Project Level Data Validation and Verification
29.	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data
30.	CCP-TP-003	CCP Data Analysis for S3000, S4000, and S5000 Characterization
31.	CCP-TP-005	CCP Acceptable Knowledge Documentation
32.	CCP-TP-028	CCP Radiographic Test Drum and Training Container Construction
33.	CCP-TP-030	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
34.	CCP-TP-033	CCP Shipping of CH TRU Waste
35.	CCP-TP-053	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
36.	CCP-TP-058	CCP NDA Performance Demonstration Program
37.	CCP-TP-068	CCP Standardized Container Management
38.	CCP-TP-070	CCP Gamma Energy Assay (GEA) Calibration, Confirmation, and Verification Procedure
39.	CCP-TP-071	CCP Gamma Energy Assay (GEA) Operating Procedure
40.	CCP-TP-072	CCP Gamma Energy Assay (GEA) Data Review, Validation, and Reporting Procedure
41.	CCP-TP-082	CCP Waste Container Filter Vent Operation
42.	CCP-TP-086	CCP CH Packaging Payload Assembly
43.	CCP-TP-093	CCP Sampling of TRU Waste Containers
44.	CCP-TP-106	CCP Headspace Gas Sampling Batch Data Report Preparation
45.	CCP-TP-113	CCP Standard Contact-Handled Waste Visual Examination
46.	CCP-TP-137	CCP Operation of the Hanford SuperHENC Assay System
47.	CCP-TP-144	CCP Hanford SuperHENC Calibration Procedure
48.	CCP-TP-148	CCP SuperHENC Data Reviewing, Validating, and Reporting Procedure
49.	CCP-TP-162	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
50.	CCP-TP-180	CCP Analytical Sample Management
51.	CCP-TP-198	CCP HE-RTR Operating Procedure

**EPA Tiering of TRU Waste Characterization Processes Implemented by Hanford-CCP (Revised April 2011)**

Process Elements	Hanford-CCP T1 Changes Needing EPA Review and Approval	Hanford-CCP T2 Changes <sup>a</sup>
Acceptable Knowledge	Implementation of load management  Implementation of AK for wastes other than retrievably-stored debris (i.e., retrievably-stored soil/gravel and/or solids)	Notification to EPA upon completion of new versions or updates/substantive changes <sup>b</sup> of the following: <ul style="list-style-type: none"> <li>- Modification of CCP-TP-005, Revision 18</li> <li>- Availability of modifications to the AKSR</li> <li>- Availability of all final WSPF with related attachments</li> <li>- Availability of all AK Accuracy Reports</li> <li>- Availability of successful training records</li> <li>- Availability of the AK-NDA memorandum</li> </ul>
Non-Destructive Assay	New equipment or physical modifications to approved equipment <sup>c</sup>  Extension or changes to approved calibration range for approved equipment  <b>SHENCA:</b> <ul style="list-style-type: none"> <li>- Assay of containers other than SWBs</li> <li>- Use of absolute gamma mode</li> </ul>	Notification to EPA upon completion of changes to software for approved equipment, operating range(s), and site procedures that require CBFO approval
Real-Time Radiography	There are no T1 changes at this time	Notification to EPA upon the following: <ul style="list-style-type: none"> <li>- Modification<sup>c</sup> to approved equipment, RTR Units A and B</li> <li>- Completion of changes to site RTR procedures requiring CBFO approval</li> <li>- Addition of a new SCG(s) to the RTR process that is subject to this approval</li> <li>- Implementation of a different type of RTR equipment</li> </ul>
Visual Examination	Performance of VE by any method other than using two trained operators to perform actual VE at the time of packaging	Notification to EPA upon the following: <ul style="list-style-type: none"> <li>- Completion of changes to site VE procedures requiring CBFO approval</li> <li>- Addition of new SCG to the VE processes that are subject to this approval</li> </ul>
Waste Data System	There are no T1 changes at this time	Notification to EPA upon the following: <ul style="list-style-type: none"> <li>- Completion of changes to WDS procedure(s) requiring CBFO approval</li> <li>- Changes to the Excel spreadsheet titled WDS Master Template.xls, Revision 2, Addendum#2, SCO #1065</li> </ul>

<sup>a</sup> Upon receiving EPA approval, Hanford-CCP will report all T2 changes to EPA at the end of each fiscal year quarter. Note: EPA may request specific T2 change items before the end of a fiscal quarter.  
<sup>b</sup> *Substantive changes* means changes with the potential to impact the site's waste characterization activities or documentation thereof, excluding changes that are solely related to ES&H, nuclear safety, RCRA or are editorial in nature.  
<sup>c</sup> Modifications to approved equipment include all changes with the potential to affect NDA data relative to waste isolation and exclude minor changes, such as the addition of safety-related equipment.