

United States Government

Department of Energy

**memorandum**Carlsbad Field Office  
Carlsbad, New Mexico 88221

DATE: October 4, 2010

REPLY TO  
ATTN OF: CBFO:NTP:JRS:GS:10-1558:UFC 5900.00SUBJECT: ANL CCP Expansion to Include the Tier 1 Approval to Add Approximately 120 30-Gallon  
Debris Containers to AERHDM Waste StreamTO: Dale Dietzel, DOE-CH  
Farok Sharif, General Manager, WTS

The Carlsbad Field Office (CBFO) conducted the recertification audit of remote-handled (RH) CCP TRU waste program deployed at the Argonne National Laboratory (ANL) (hereinafter referred to as ANL-CCP). Audit A-09-21 was conducted on August 4-6, 2009. The characterization activities were determined to be adequate, satisfactorily implemented, and effective.

On May 20, 2010, CBFO requested from the EPA for a Tier 1 change to the ANL CCP certification (CBFO:NTP:DCG:GS:10-0842:UFC 5900.00) to add approximately 12 55-gallon containers to Waste Stream AERHDM. On May 21, 2010, CBFO amended this Tier 1 request to add approximately 30 55-gallon containers, instead of approximately 12 55-gallon containers, to Waste Stream AERHDM. The EPA gave their approval on September 9, 2010.

On June 29, 2010, CBFO requested from the EPA for a Tier 1 change to the ANL CCP certification (CBFO:NTP:DCG:GS:10-1427:UFC 5900.00) to add approximately 120 30-gallon containers to the Alpha Gamma Hot Cells (AGHCs) in Building 225 to Waste Stream AERHDM. The EPA gave their approval on September 28, 2010.

The CCP Quality Assurance Program (QAP) was audited during Audit A-09-10 on February 24-26, 2009 in Carlsbad, New Mexico. The CCP QAP was found to adequately address the upper-tier requirements of the CBFO Quality Assurance Program Document (QAPD) and is being effectively implemented.

CCP CH and RH transportation activities were evaluated in Carlsbad, New Mexico on September 29 through October 1, 2009 during Audit A-09-27. Technical and quality assurance aspects of the transportation program were found to be effectively implemented.

Based on the results of the CBFO audits, conditions and limitations provided by New Mexico Environment Department (NMED), and U.S. Environmental Protection Agency (EPA), the CBFO is authorizing ANL-CCP to include additional containers of debris waste from Alpha Gamma Hot Cells (AGHCs) in Building 225 to the AERHDM Waste Stream into their certified program and continue authority for the characterization, certification, and transportation activities of RH debris waste (S5000) as identified in Table 1 of this memo.



<b>Table 1 – Approved Waste Characterization Processes</b>		
<b>Characterization Process</b>	<b>RH S5000 Debris</b>	
	<b>Newly generated</b>	<b>Retrievably-Stored Waste Stream AERHDM</b>
Acceptable Knowledge	N/A	APPROVED
Load Management	N/A	NOT APPROVED
Data Validation & Verification (V&V)	N/A	APPROVED
Visual Examination	N/A	APPROVED
Solids Sampling & Analysis	N/A	N/A
Headspace Gas Sampling & Analysis (Summa <sup>®</sup> ) <sup>1</sup>	N/A	APPROVED
Nondestructive assay (NDA)	N/A	N/A
Real-time Radiography (RTR)	N/A	N/A
Dose-to-Curie (DTC)	N/A	APPROVED
WIPP Waste Information System (WWIS)	N/ A	APPROVED

<sup>1</sup> Analysis is performed by the CCP INL Laboratories.

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

- *Attachment 1* describes the ANL-CCP certification program status,
- *Attachment 2* contains the equipment certified at the site,
- *Attachment 3* contains the certified CCP procedures, and
- *Attachment 4* specific ANL-CCP waste characterization process elements that must be reported. These process elements are identified as Tier 1 changes and Tier 2 changes. The ANL-CCP shall not ship for disposal at WIPP any wastes affected by a Tier 1 process element change without prior CBFO approval, and ANL-CCP shall report Tier 2 changes to CBFO on a quarterly basis. ANL-CCP procedures shall be revised as necessary to incorporate this reporting and approval process.



David C. Moody  
Manager

Attachments(s)

cc: w/attachments

- E. Ziemianski, CBFO \* ED
- O. Vincent, CBFO ED
- B. Mackie, CBFO ED
- C. Fesmire, CBFO ED
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CTAC Document Coordinator

WIPP Operating Record

CBFO M&RC

\*ED denotes electronic distribution

## CENTRAL CHARACTERIZATION PROJECT AT ARGONNE NATIONAL LABORATORY CERTIFICATION PROGRAM STATUS

The CBFO Director of the Office of the National TRU Program and the CBFO Director of the Office of Quality Assurance have evaluated the documentation supporting the compliance of the Central Characterization Project (CCP) TRU waste program deployed at the Argonne National Laboratory (ANL). Attachments 2, and 3 provide complete lists of certified equipment, processes, procedures, and documents deployed at the ANL-CCP. Attachment 4 is the RH Tiering of TRU Waste Characterization processes implemented by the CCP at ANL.

### PROGRAM STATUS

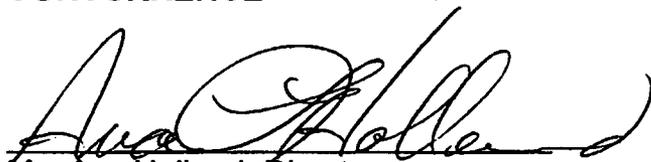
- The following site documents are current and demonstrate how the CCP complies with the CBFO requirements.
  - **QAPjP – CCP-PO-001, Revision 18 - CCP Transuranic Waste Characterization Quality Assurance Project Plan** (Approved June 29, 2010 – CBFO:NTP:CF:GS:10-1422:UFC 5900.00).
  - **WCP - CCP-PO-002, Revision 24 - CCP Transuranic Waste Certification Plan** (Approved June 29, 2010 – CBFO:NTP:NC:GS:10-1428:UFC 5900.00).  
**QAP - Section 4.0 of CCP-PO-002.**
  - **RH TRAMPAC – CCP-PO-505, Revision 0, CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)** (CBFO:NTP:CF:GS:06-1355:UFC 5900.00 dated September 20, 2006).
- Certified Systems - see Attachment 2 for the complete list of certified equipment and processes used by the CCP at the ANL
- Standard operating procedures - see Attachment 3 for the complete list of certified CCP procedures used at the ANL
- Tiering of TRU Waste Characterization Processes implemented by CCP at ANL (based on EPA Baseline Inspections) - see Attachment 4
- CCP participated in the following performance demonstration program (PDP):
  - **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.**

- CBFO conducted the ANL-CCP Recertification Audit A-09-21 on August 4-6, 2009.
  - CARs 09-055, 09-056, 09-057 were issued on August 13, 2009.
  - CAR 09-055 was closed on January 22, 2010.
  - CAR 09-056 was closed on November 16, 2009.
  - CAR 09-057 was closed on September 18, 2009.
  - The Interim Audit Report was issued on August 31, 2009
  - The Final Audit Report was issued to NMED on September 25, 2009.
  - The NMED approved the Final Audit Report A-09-21 on November 12, 2009.
  
- CBFO requested a Tier 1 change to add approximately 12 55-gallon containers to Waste Stream AERHDM on May 20, 2010 (CBFO:NTP:DCG:GS:10-0842:UFC:5900.00).
  - CBFO amended this Tier 1 request to add approximately 30 55-gallon containers, instead of approximately 12 55-gallon containers, to Waste Stream AERHDM (CBFO:NTP:DCG:MDA:10-0851:UFC 5900.00).
  - CBFO received EPA's approval to add the approximately 30 55-gallon containers of debris waste from K-Wing to the AERHDM Waste Stream on September 9, 2010.
  
- CBFO requested a Tier 1 change to add approximately 120 30-gallon containers to from the AGHCs in Building 225 to Waste Stream AERHDM on June 29, 2010 (CBFO:NTP:DCG:GS:10-1427:UFC 5900.00).
  - CBFO received EPA's approval to add the approximately 120 30-gallon containers of debris waste from AGHCs in Building 225 to the AERHDM Waste Stream on September 28, 2010.
  
- CBFO conducted CH and RH Transportation Audit A-09-27 for all sites on September 29-October 1, 2009.
  - Audit Report was issued on October 14, 2009.
  
- CBFO conducted a Quality Assurance Program Audit A-09-10 on February 24-26, 2009.
  - Audit Report was issued on March 4, 2009.
  
- EPA concurrence on the certification memorandum was issued on October 4, 2010.

**RECOMMENDATION**

The recommendation to the CBFO Manager is authorizing ANL-CCP to include additional containers of debris waste from Alpha Gamma Hot Cells (AGHCs) in Building 225 to the AERHDM Waste Stream and to continue ANL-CCPs authority for characterization, certification and transportation of remote-handled (RH) debris (S5000) waste at the ANL-CCP. Attachments 2 and 3 list the systems and procedures that constitute the bounds of this authority. Attachment 4 is the Tiering of TRU Waste Characterization Processes implemented by CCP at ANL.

**CONCURRENCE**

  
\_\_\_\_\_  
Ms. Ava Holland, Director  
Office of Quality Assurance

9/30/10  
Date

  
\_\_\_\_\_  
Mr. William B. Mackie, Acting Director  
Office of the National TRU Program

9-30-10  
Date

**CENTRAL CHARACTERIZATION PROJECT  
LIST OF CERTIFIED EQUIPMENT AND PROCESSES AT ARGONNE NATIONAL LABORATORY**

WIPP WWIS #	Site Equipment # or Title	Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
<b>Dose-to-Curie</b>					
8DTC1	Dose-to-Curie	Radiological characterization process using dose-to-curie (DTC) and modeling-derived scaling factors for assigning radionuclide values to RH waste stream AERHDM for which the scaling factors are applicable, as described in CCP-AK-ANLE-501.  Procedure CCP-TP-504	As identified in CCP-TP-504	As identified in CCP-TP-504	N/A
<b>Visual Examination</b>					
8RHVE1	Audio/video review	The VE of audio/video media process used for retrievably-stored RH debris waste drums.  Procedure CCP-TP-500 & CCP-TP-163	None	N/A	N/A
8RHVE2	Visual Examination Activities	Visual Examination  Procedure CCP-TP-500	None	N/A	N/A
<b>Headspace Gas</b>					
N/A	HSG	SUMMA Sampling process on selected waste containers from waste stream lots.	As identified in CCP-TP-093	As identified in CCP-TP-093	N/A

**CENTRAL CHARACTERIZATION PROJECT  
LIST OF CERTIFIED PROCEDURES AT ARGONNE NATIONAL LABORATORY**

#	Procedure No.	Procedure Title
1.	CCP-PO-001	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	CCP Conduct of Operations
4.	CCP-PO-006	CCP Conduct of Operations Matrix
5.	CCP-PO-008	CCP Quality Assurance Interface with the WTS Quality Assurance Program
6.	CCP-PO-500	CCP/ANL RH-TRU Waste Interface Document
7.	CCP-PO-505	CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)
8.	CCP-QP-001	CCP Graded Approach
9.	CCP-QP-002	CCP Training and Qualification Plan
10.	CCP-QP-004	CCP Corrective Action Management
11.	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control
12.	CCP-QP-006	CCP Corrective Action Reporting and Control
13.	CCP-QP-008	CCP Records Management
14.	CCP-QP-010	CCP Document Preparation, Approval and Control
15.	CCP-QP-011	CCP Notebooks and Logbooks
16.	CCP-QP-014	CCP Data Analysis and Trending
17.	CCP-QP-015	CCP Procurement
18.	CCP-QP-016	CCP Control of Measuring, Testing, and Data Collection Equipment
19.	CCP-QP-017	CCP Identification and Control of Items
20.	CCP-QP-018	CCP Management Assessment
21.	CCP-QP-019	CCP Quality Assurance Reporting to Management
22.	CCP-QP-021	CCP Surveillance Program
23.	CCP-QP-022	CCP Software Quality Assurance Plan
24.	CCP-QP-023	CCP Handling, Storage, and Shipping
25.	CCP-QP-025	CCP Lessons Learned Program Management Control Procedure
26.	CCP-QP-026	CCP Inspection Control
27.	CCP-QP-027	CCP Test Control
28.	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
29.	CCP-QP-030	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
30.	CCP-TP-001	CCP Project Level Data Validation and Verification
31.	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data
32.	CCP-TP-003	CCP Data Analysis for S3000, S4000, and S5000 Characterization
33.	CCP-TP-005	CCP Acceptable Knowledge Documentation
34.	CCP-TP-030	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
35.	CCP-TP-033	CCP Shipping of CH TRU Waste
36.	CCP-TP-055	CCP Varian Porta-Text Leak Detector Operations
37.	CCP-TP-083	CCP Gas Generation Testing
38.	CCP-TP-086	CCP CH Packaging Payload Assembly
39.	CCP-TP-093	CCP Sampling of TRU Waste Containers
40.	CCP-TP-106	CCP Headspace Gas Sampling Batch Data Report Preparation
41.	CCP-TP-138	CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure
42.	CCP-TP-162	CCP Random Selection of Containers or Solids and Headspace Gas Sampling and Analysis
43.	CCP-TP-163	CCP Standard Visual Examination of Records
44.	CCP-TP-500	CCP Remote-Handled Waste Visual Examination
45.	CCP-TP-505	CCP Removable Lid Canister Loading
46.	CCP-TP-504	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
47.	CCP-TP-506	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report

#	Procedure No.	Procedure Title
48.	CCP-TP-507	CCP Shipping of Remote-Handled Transuranic Waste
49.	CCP-TP-509	CCP Remote-Handled Transuranic Container Tracking
50.	CCP-TP-512	CCP Remote-Handled Waste Sampling
51.	CCP-TP-530	CCP RH TRU Waste Certification and WWIS Data Entry

**Deactivated Procedures**

#	Deactivated Procedure No.	Deactivated Procedure Title	Deactivation Date
1.	CCP-TP-043	CCP Chain of Custody for SUMMA® Canister Sampling Using the INL Analytical Lab – Incorporated in CCP-TP-093	9/11/07

**For limitations and approvals review all Baseline Reports****Table 1. Tiering of RH TRU Waste Characterization Processes Implemented by ANL-CCP  
(Based on September 12-14, 2006 Baseline Inspection; Updated September 2010)**

RH Waste Characterization Process Elements	ANL-CCP RH Waste Characterization Process - T1 Changes	ANL-CCP RH Waste Characterization Process - T2 Changes*
Acceptable Knowledge (AK)	<p>Any new waste streams not approved under this baseline</p> <p>Modification of the approved waste stream AERHDM to include additional containers beyond the approximately 45 included in CCP-AK-ANLE-500, Revision 1, if new or different radionuclide scaling factors are required.</p> <p>Substantive modification(s)*** that have the potential to affect the characterization process to CCP-AK-ANLE-500, CCP-AK-ANLE-501 or CCP-AK-ANLE-502</p> <p>Implementation of load management for any RH waste stream</p>	<p>Notification to EPA that the final DTC determination is complete for RH containers in the approved waste stream</p> <p>Notification to EPA when updates are made to AK documentation as a result of WCPIP revisions**</p> <p>Notification that updates have been completed to the following documents:</p> <ul style="list-style-type: none"> <li>• All future revisions of CCP-ANLE-AK-500, CCP-ANLE-AK-501</li> <li>• Listing of the references that document the assembly of fuel pin data and review process;</li> <li>• All future revisions of CCP-ANLE-AK-502;</li> <li>• CCP-AK-ANLE-500 and CCP-AK-ANLE-502 to address freeze file changes</li> </ul> <p>Notification to EPA that the data package for this debris waste stream is completed, including any modifications to the WSPF including the CRR and AK Summary</p> <p>Notification to EPA when AK accuracy reports are completed, prepared annually at a minimum</p> <p>Notification to EPA when Attachment 4 of CCP-TP-005 is generated to reflect the updated AKSR Source Document Reference List</p> <p>Notification to EPA when Attachment 8 of CCP-TP-005 has been formally updated</p> <p><b>Submission of an updated AKSR documenting that the pedigree of the additional containers is same as the containers approved during the baseline approval†</b></p> <p><b>Submission of a list of fully characterized containers from a population of additional containers proposed as a T2 change, above †</b></p>
Radiological Characterization, including Dose-To-Curie (DTC)	<p>Use of any alternate radiological characterization procedure other than DTC with established scaling factors as documented in CCP-TP-504 and CCP-AK-ANLE-501, Revision 0, respectively, or substantive modification thereof***</p> <p>Any new waste stream not approved under this baseline or addition</p>	<p>Notification to EPA that revisions of CCP-AK-ANLE-501 or CCP-TP-504 that require CBFO approval** are complete</p> <p><b>Submission of DTC BDRs for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP†</b></p>

**For limitations and approvals review all Baseline Reports****Table 1. Tiering of RH TRU Waste Characterization Processes Implemented by ANL-CCP  
(Based on September 12–14, 2006 Baseline Inspection; Updated September 2010)**

RH Waste Characterization Process Elements	ANL-CCP RH Waste Characterization Process - T1 Changes	ANL-CCP RH Waste Characterization Process - T2 Changes*
	of containers to waste stream AERHDM that require changing the established radionuclide scaling factors Application of new scaling factors for isotopic determination other than those documented in CCP-AK-ANLE-501	
Visual Examination (VE)	VE by reviewing existing audio/visual recordings for Summary waste category not covered by this approval VE by any new process for S5000 debris wastes	<b>Submission of VE BDRs for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP †</b> Notification to EPA that revisions of any VE procedure that require CBFO approval are complete Addition of new S5000 debris waste streams
Real Time Radiography (RTR)	Any use of RTR requires EPA approval	<b>Submission of RTR BDRs for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP †</b>
WIPP Waste Data System (WDS)	None	Changes made to WDS procedure(s) that require CBFO approval

\* ANL-CCP will report all unmarked T2 changes to EPA quarterly.

\*\* Excluding changes that are editorial in nature or are required to address administrative concerns. New references that are included as part of the document revision may be requested by EPA.

\*\*\* *Substantive modification* refers to a change with the potential to affect ANL's RH waste characterization process, e.g., the use of an inherently different type of measurement instrument or the use of the high range probe as described for CCP-TP-504 for radiological characterization.

† ANL-CCP will report this T2 change immediately.