

United States Government

Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

DATE: September 15, 2010

REPLY TO
ATTN OF: CBFO:NTP:JRS:GS:10-1526:UFC 5900.00

SUBJECT: ANL CCP Expansion to Include the Tier 1 Approval to Add Approximately 30 55-Gallon Containers to AERHDM Waste Stream

TO: 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.

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 55-gallon containers of debris waste from K-Wing 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.

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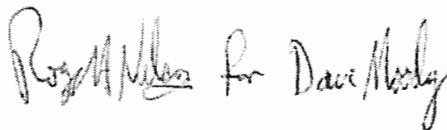


Table 1 – Approved Waste Characterization Processes		
Characterization Process	RH S5000 Debris	
	Newly generated	Retrievably-Stored Waste Stream AERHDM
Acceptable Knowledge	N/A	APPROVED
Load Management	N/A	NOT APPROVED
Data Validation & Verification (V&V)	N/A	APPROVED
Visual Examination	N/A	APPROVED
Solids Sampling & Analysis	N/A	N/A
Headspace Gas Sampling & Analysis (Summa®) ¹	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

¹ 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

O. Vincent, CBFO	* ED
D. Gadbury, CBFO	ED
C. Fesmire, CBFO	ED
N. Castaneda, CBFO	ED
J. R. Stroble, CBFO	ED
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J. Edwards, EPA	ED
E. Feltcorn, EPA	ED
R. Joglekar, EPA	ED
J. Bearzi, NMED	ED
D. Haar, WTS	ED
M. Sensibaugh, WTS	ED
C. Kirkes, WTS	ED
D. Kump, WTS	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 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.

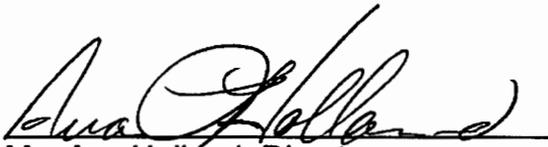
- CBFO conducted a Quality Assurance Program Audit A-09-10 on February 24-26, 2009.
 - Audit Report was issued on March 4, 2009.

- EPA concurrence on the certification memorandum was issued on September 15, 2010.

RECOMMENDATION

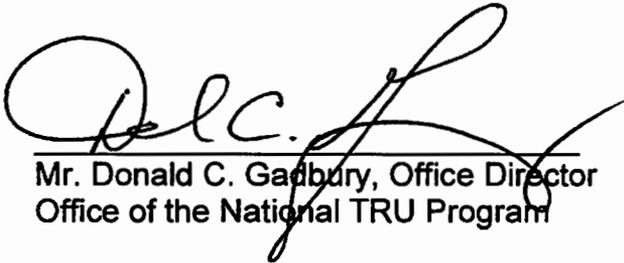
The recommendation to the CBFO Manager is to continue the CCP authority for characterization, certification and transportation of remote-handled (RH) debris (S5000) waste at the ANL-CCP. Attachments 2 and 3 list the systems and procedures that constitute the bounds of this authority. Attachment 4 is the Tiering of TRU Waste Characterization Processes implemented by CCP at ANL.

CONCURRENCE



Ms. Ava Holland, Director
Office of Quality Assurance

9/14/10
Date



Mr. Donald C. Gadbury, Office Director
Office of the National TRU Program

9-14-10
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
Dose-to-Curie					
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
Visual Examination					
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
Headspace Gas					
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
48.	CCP-TP-507	CCP Shipping of Remote-Handled Transuranic Waste

#	Procedure No.	Procedure Title
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

**RH Tiering of TRU Waste Characterization Processes Implemented by CCP at ANL
 (Based on EPA Baseline Inspection No. EPA-ANL-CCP-RH-9.06-8)
 DOCKET # A-98-49; II-A4-73**

**(Changes Based on EPA Tier 1 Evaluation of the CCP TRU Waste
 Characterization Program for ANL: Addition of
 Debris Waste from K-Wing to the AERHDM Waste Stream,
 EPA DOCKET # A-98-49; II-A4-132**

For limitations and approvals review all Baseline Reports

RH WC Process Elements	ANL-CCP RH WC Process – T1 Changes	ANL-CCP RH WC Process – T2 Changes
<p>Acceptable Knowledge (AK)</p>	<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: 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"> • All future revisions of CCP-AK-ANLE-500 and CCP-AK-ANLE-501 • Listing of the references that document the assembly of fuel pin data and review process • All future revisions of CCP-AK-ANLE-502 • CCP-AK-ANLE-500 and CCP-AK-ANLE-502 to address freeze file changes. <p>Notification to EPA that the data package for debris waste stream is completed, including any modifications to the WSPF including the CRR and AK Summary and AK.</p> <p>Notification to EPA when AK accuracy reports are completed, prepared annually at a minimum.</p> <p>Notification to EPA when additional containers are added to RH TRU Waste Stream AERHDM and the containers were characterized using the same radionuclide scaling factors*</p> <p>Notification to EPA of availability of a revised AKSR and source documents supporting the addition of containers to the approved waste stream*</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>

RH WC Process Elements	ANL-CCP RH WC Process – T1 Changes	ANL-CCP RH WC Process – T2 Changes
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, respectively, or substantive modification thereof.</p> <p>Any new waste stream not approved under this baseline or addition of containers to Waste Stream AERHDM that require changing the established radionuclide scaling factors.</p> <p>Application of new scaling factors for isotopic determination other than those documented in CCP-AK-ANLE-501.</p>	<p>Notification to EPA that revisions of CCP-AK-ANLE-501 or CCP-TP-504 that require CBFO approval are complete.</p> <p>Notification to EPA of availability of a revised radiological characterization report, if generated when containers are added to the approved waste stream*</p> <p>Radiological content data provided in BDRs for the population of additional containers*</p>
Visual Examination (VE)	<p>VE by reviewing existing audio/visual recordings for Summary waste category not covered by this approval.</p> <p>VE by any new process for S5000 debris wastes</p>	<p>Notification to EPA that revisions of any VE procedure that require CBFO approval are complete.</p> <p>Addition of new S5000 debris waste streams.</p> <p>Physical content data provided in BDRs for the population of additional containers*</p>
Real-Time Radiography (RTR)	Any use of RTR requires EPA approval.	None
WIPP Waste Information System (WWIS)	None	Changes made to WWIS procedure(s) that require CBFO approval

Notes:

- This table has been modified by deleting the references to specific sections of the baseline inspection report where each T1 or T2 element is discussed.
- ANL-CCP will report all T2 changes to EPA quarterly.
- Notification to EPA is not necessary when document updates are editorial in nature or are required to address administrative concerns.
- *Substantive modification* refers to a change with the potential to affect ANL's RH WC 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.
- Additions to the original tiering table as a result of this T1 evaluation appear in **bold**.
- * These marked changes apply when containers are added to Waste Stream AERHDM and are characterized using the same radionuclide scaling factors as were used to characterize the original approved waste stream. EPA notification is required when the site identifies the need to characterize additional containers belonging to the approved waste stream.

RH AK Tiers

Tier 1 AK changes that will require EPA review and approval prior to implementation and apply to any new waste category not evaluated during the baseline inspection include the following:

- Any new waste streams not approved under this baseline
- Modification of the approved waste stream AERHDM to include additional containers beyond the approximately 145 included in CCP-AK-ANLE-500.
- Substantive modifications that have the potential to affect the characterization process: CCP-AK-ANLE-500; CCP-AK-ANLE-501; or CCP-AK-ANLE-502.
- Implementation of load management for any RH waste stream

(Changes based on September 2010 EPA Docket #A-98-49; II-A4-132)

- When containers added to an approved waste stream require different radionuclide scaling factors for radiological characterization.

Tier 2 AK changes that do not require EPA approval prior to implementation but require a brief description of the changes to the documents along with the notification, include the following:

- Notification to EPA that the final DTC determination is complete for RH containers in the approved waste stream
- Notification to EPA when updates are made to AK documentation as a result of WCPIP revisions
- Notification that updates have been completed to the following documents:
 - All future revisions of CCP-ANLE-AK-500, CCP-ANLE-AK-501
 - Listing of the references that document the assembly of fuel pin data and review process
 - All future revisions of CCP-ANLE-AK-502
 - CCP-AK-ANLE-500 and CCP-AK-ANLE-502 to address freeze file changes
- Notification to EPA that the data package for debris waste stream is completed, including any modifications to the WSPF including the CRR and AK Summary
- Completion of AK accuracy reports, prepared annually at a minimum

(Changes based on September 2010 EPA Docket #A-98-49; II-A4-132)

- Notification to EPA when additional containers characterized using the same scaling factors are added to the approved waste stream.
- Submission of a revised AKSR addressing addition of containers to the approved waste streams and supporting source documents.
- Submission of Attachment 4 of CCP-TP-005 is revised to include the updated AKSR Source Document Reference List.
- Submission of Attachment 8 of CCP-TP-005 has been formally updated to reflect the additional containers.

RH Radiological Characterization Tiers

Tier 1 Radiological characterization changes that will require EPA review and approval prior to implementation and apply to any waste stream not evaluated during the baseline inspection include the following:

- Use of an alternate radiological characterization procedure other than DTC with established scaling factors as documented in CCP-TP-504 and CCP-AK-ANLE-501, respectively, or substantive modification thereof
- Any new waste stream not approved under this baseline or addition 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

Tier 2 Radiological characterization changes that do not require EPA approval prior to implementation but require a brief description of the changes to the documents along with the notification, include the following:

- Notification to EPA that revisions of CCP-AK-ANLE-501 or CCP-TP-504 that require CBFO approval are complete

(Changes based on September 2010 EPA Docket #A-98-49; II-A4-132)

- Notification regarding the availability of a revised radiological characterization technical report associated with the addition of containers of K-Wing waste to the approved waste stream (AERHDM).
- Providing radiological BDRs for additional containers as discussed below.

If additional containers for this waste stream are generated and will be characterized using the same scaling factors as those used for the containers approved as part of this T1 change request, then the following information for radiological characterization is necessary. Upon characterizing a sufficient number of containers from this population to generate 1-2 BDRs, ANL-CCP must provide the list of characterized containers and an updated radiological characterization report. From this list, EPA may select a few containers for detailed review to verify that the additional containers belong to the approved waste stream. However, if the containers require new or different radionuclide scaling factors, the additional containers will be subjected to EPA's T1 evaluation and approval prior to disposal at WIPP.

RH VE Tiers

Tier 1 VE changes that require EPA approval prior to implementation:

- 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

Tier 2 VE changes that do not require EPA approval prior to implementation but require a brief description of the changes to the documents along with the notification, include the following:

- Notification to EPA that revisions of any VE procedure that require CBFO approval are complete.
- Addition of new S5000 debris waste streams

(Changes based on September 2010 EPA Docket #A-98-49; II-A4-132)

- Submission of the appropriate BDRs for the population of waste containers that are being added to the approved waste stream.

RH RTR Tiers

- None

RH WWIS Tiers

Tier 2 WWIS changes that do not require EPA approval prior to implementation but require reporting and a brief description of the changes to the documents, include the following:

- Changes made to WWIS procedure(s) that require CBFO approval.