

United States Government

Department of Energy

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: MAR 3 1 2011

REPLY TO
ATTN OF: CBFO:NTP:JRS:GS:11-0226:UFC 5900.00

SUBJECT: Recertification of the Argonne National Laboratory-Central Characterization Project and Expansion to Add the Fuel Examination Waste (FEW) Inventory

TO: Dale Dietzel, DOE-CH
Farok Sharif, General Manager, WTS

The Carlsbad Field Office (CBFO) conducted the recertification audit of CCP TRU waste program deployed at the Argonne National Laboratory (ANL) (hereinafter referred to as ANL-CCP). Recertification Audit A-10-23 of the remote-handled (RH) debris waste (S5000) was conducted on August 3-5, 2010 and Surveillance S-11-06 as a follow up of A-10-23 was conducted for the gravimetric or dimensional measurement process for the remote-handled debris Fuel Examination Waste (FEW) inventory on March 8-9, 2011. The characterization activities were determined to be adequate, satisfactorily implemented, and effective.

CBFO requested a Tier 1 request to add 30 gallon containers consisting of Fuel Examination Waste (FEW) to the existing AERHDM waste stream on July 29, 2010 (CBFO:NTP:DCG:GS:10-1465:UFC 5900.00). EPA granted approval on November 22, 2010 (EPA Docket No: A-98-49; II-A4-140) of the Fuel Examination Waste (FEW) packaged into 30-gallon containers from the Alpha Gamma Hot Cell, waste stream AERHDM. Radiological characterization is based on the determination of the total mass of discrete fuel specimen(s) loaded into the individual drums.

Audit A-10-11 was conducted to evaluate the CCP Quality Assurance Program (QAP) on March 2-4, 2010. Audit A-10-25 was conducted to evaluate the CCP CH and RH transportation activities on September 21-23, 2010.

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 Fuel Examination Waste (FEW) 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 at ANL		
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
Dimensional/Gravimetric Measurements	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.


 Edward Ziemianski (for)
 Acting Manager

Attachments (4)

D. Dietzel/F. Sharif

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MAR 3 1 2011

cc: w/attachments

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*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** - *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
 - **WCP - CCP-PO-002** - *CCP Transuranic Waste Certification Plan QAP* - Section 4.0 of CCP-PO-002
 - **RH TRAMPAC – CCP-PO-505** - *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*
- 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-10-23 on August 3-5, 2010.
 - CAR 10-048 was issued on August 16, 2010 and closed on October 13, 2010.
 - CAR 10-049 was issued on August 17, 2010 and closed on October 20, 2010.
 - The Interim Audit Report was issued on September 2, 2010.
 - The Final Audit Report was issued to NMED on October 14, 2010.
 - The NMED approved the Final Audit Report A-10-23 on December 9, 2010.
- CBFO conducted a Surveillance S-11-06 as a follow-up to Audit A-10-23 for the gravimetric or dimensional measurement process on March 8-9, 2011.
 - The Surveillance Report was issued on March 17, 2011.
- CBFO requested a Tier 1 request to add 30 gallon containers consisting of Fuel Examination Waste (FEW) to the existing AERHDM waste stream on July 29, 2010 (CBFO:NTP:DCG:GS:10-1465:UFC 5900.00).
 - EPA issued their approval and report on November 22, 2010 (EPA Docket No. A-98-49; II-A4-140).
- 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 (QAP) Audit A-10-11 on March 2-4, 2010.
 - Audit Report was issued on March 16, 2010.
- EPA concurrence on the certification memorandum was issued on March 31, 2011.

RECOMMENDATION

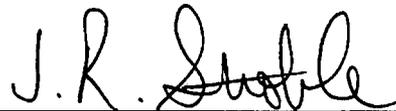
The recommendation to the CBFO Manager is authorizing ANL-CCP to include 30-gallon containers of Fuel Examination Waste (FEW) inventory to the existing AERHDM Waste Stream, the gravimetric or dimensional measurement process and to continue ANL-CCPs authority for characterization, certification and transportation 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



Martin Navarrete, Acting Director
Office of Quality Assurance

3-30-11
Date



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

3-30-11
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
Gravimetric or Dimensional Measurements					
8RHGM1	Gravimetric or Dimensional Measurements	Radiological characterization process using Gravimetric or Dimensional Measurements of fuel pin specimen mass determined by multiplying the measured length and the fuel mass per unit length to determine each container's radionuclides. Procedure CCP-TP-513	As identified in CCP-TP-513	As identified in CCP-TP-513	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-082	CCP Waste Container Filter Vent
38.	CCP-TP-083	CCP Gas Generation Testing
39.	CCP-TP-086	CCP CH Packaging Payload Assembly
40.	CCP-TP-093	CCP Sampling of TRU Waste Containers
41.	CCP-TP-106	CCP Headspace Gas Sampling Batch Data Report Preparation
42.	CCP-TP-138	CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure
43.	CCP-TP-162	CCP Random Selection of Containers or Solids and Headspace Gas Sampling and Analysis
44.	CCP-TP-163	CCP Standard Visual Examination of Records
45.	CCP-TP-500	CCP Remote-Handled Waste Visual Examination
46.	CCP-TP-505	CCP Removable Lid Canister Loading
47.	CCP-TP-504	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
48.	CCP-TP-506	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
49.	CCP-TP-507	CCP Shipping of Remote-Handled Transuranic Waste

#	Procedure No.	Procedure Title
50.	CCP-TP-509	CCP Remote-Handled Transuranic Container Tracking
51.	CCP-TP-512	CCP Remote-Handled Waste Sampling
52.	CCP-TP-513	CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste
53.	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

**Table 1. Tiering of RH TRU Waste Characterization Processes Implemented by ANL-CCP
(Based on September 12-14, 2006, Baseline Inspection and Subsequent T1 Evaluations, Updated November 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>Characterization of any AGHCF FEW other than the fuel pins discussed in this report, specifically AGHCF RERTR plates FEW and crucibles and melts FEW</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, CCP-AK-ANLE-501, and CCP-AK-ANLE-502, including freeze file changes • Listing of the references that document the assembly of fuel pin data and review process <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>Notification to EPA of the intention to add containers to Waste Stream AERHDM including the approximate number of containers and volume(s) of waste, the timeframe for waste generation, characterization, and disposal and submission of an updated AKSR documenting that the pedigree of the additional containers is the same as those covered by the baseline and/or subsequent T1 approvals†</p> <p>Submission of a list of fully characterized containers from a population of additional containers proposed as a T2 change, above†</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 of containers to Waste Stream AERHDM that require changing the</p>	<p>Notification to EPA that revisions of CCP-AK-ANLE-501 or CCP-TP-504 that require CBFO approval** are complete</p> <p>Submission of an updated CCP-AK-ANLE-501 documenting that the radiological characterization process(s) used for the additional containers is the same as those covered by the baseline and or subsequent T1 approvals†</p>

Table 1. Tiering of RH TRU Waste Characterization Processes Implemented by ANL-CCP
 (Based on September 12-14, 2006, Baseline Inspection and Subsequent T1 Evaluations, Updated November 2010)

RH Waste Characterization Process Elements	ANL-CCP RH Waste Characterization Process - T1 Changes	ANL-CCP RH Waste Characterization Process - T2 Changes*
	<p>established radiocesium scaling factors</p> <p>Application of new scaling factors for isotopic determination other than those documented in CCP-AK-ANLE-501</p> <p>Application of any new characterization technique other than the dimensional analysis described in this report for AGHCF fuel pin FEW</p>	<p>Submission of DTC BDRs or calculation packages for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP†</p>
Visual Examination (VE)	<p>VE by reviewing existing audio/visual recordings for any waste Summary Category Group not covered by this approval</p> <p>VE by any new process for S5000 debris wastes</p>	<p>Submission of VE BDRs for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP†</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>
Real Time Radiography (RTR)	Any use of RTR requires EPA approval	Submission of RTR BDRs for containers selected by EPA from a list of fully characterized containers provided by ANL-CCP†
WIPP Waste Data System (WDS)	None	Changes made to WDS procedure(s) that require CBFO approval

New T1 changes or specific additions to existing T1s in bold text

* 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.