



United States Government

Department of Energy

memorandum

 Carlsbad Field Office
 Carlsbad, New Mexico 88221

MAR - 5 2019

DATE:

REPLY TO
ATTN OF:

CBFO:ONTP:KEP:RMS:19-0474:UFC 5900.00

SUBJECT:

National TRU Program Scope for the Recertification for Oak Ridge National Laboratory Central Characterization Program Audit A-19-16

TO:

D. Casey Gadbury, Director, Office of Quality Assurance

This memorandum is to inform you that the Carlsbad Field Office (CBFO) Office of the National TRU Program (NTP) Compliance Division has determined that the Central Characterization Program (CCP) transuranic (TRU) waste program deployed at the Oak Ridge National Laboratory (ORNL)¹ hereinafter referred to as ORNL-CCP requires to be reevaluated for the recertification activities for contact-handled (CH) Summary Category Groups (SCG) S4000 soils/gravel, and S5000 debris and remote-handled (RH) SCG S5000 debris as listed in Tables 1 and 2 of this memorandum. Per the *WIPP Hazardous Waste Facility Permit Waste Analysis Plan*; Section C6-3 Audit Position Functions, "Audits will be conducted at least annually for each site involved in the waste characterization program", therefore we request that you perform an audit at a minimum to assess the adequacy, implementation and effectiveness of the ORNL/CCP program in accordance with the CBFO Management Procedure (MP) 5.2 *TRU Waste Program Certification/Recertification* and also in accordance with the:

- WIPP Hazardous Waste Facility Permit Waste Analysis Plan;
- Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 9
- Remote-Handled TRU Waste Characterization Program Implementation Plan;
- WIPP Documented Safety Analysis (DSA), Chapter 18; and
- CBFO Quality Assurance Program Document.

The ORNL-CCP would like for the Chemical Compatibility Evaluation Memorandums (CCEMs) for Waste Stream OR-ISTP-CH-HET, Oak Ridge National Laboratory Isotopes Programs Heterogeneous Debris Waste to be audited. Also, containers for waste stream OR-WIA-RH-Soil were characterized using RTR. At this time, it has not been approved by the New Mexico Environmental Department (NMED) or United States Environmental Protective Agency (EPA).

The ORNL-CCP TRU Waste Site Program Documents, TRU Waste Site Documents and plans have been determined to be adequate through the CBFO MP 4.10, *The Processing of TRU Waste Site Documents* review and approval process of those listed in Attachment 2. There are no new procedures, processes, methods, or equipment to be audited, the current status that apply are listed in Attachment 1 and 2.

¹ The contract for CCP services is now with Oak Ridge Office of Environmental Management (OREM), however, to ensure consistency in the paperwork this memo will continue to refer to ORNL.

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Table 1 ORNL-CCP RH Certified Waste Characterization Processes		
Processes	RH S5000 Debris RH S4000 Soil*	
	Newly Generated	Retrievably Stored
Acceptable Knowledge (AK)	N/A	Approved
Load Management	N/A	N/A
Project-Level Data Validation and Verification (V&V)	N/A	Approved
Visual Examination	N/A	Approved
Radiological Characterization	N/A	Approved
Real-Time Radiography (RTR)	N/A	N/A*
WIPP Data System (WDS)	N/A	Approved
<ul style="list-style-type: none"> - EPA approval Initial RH Baseline approval on February 2009; DOCKET NO: A-98-49; II-A4-111. - EPA approval Tier 1 adding RH S5000 (SETF waste) to OR-REDC-RH-HET on November 2009; DOCKET NO: A-98-49; II-A4-120. - EPA Unannounced Continued Compliance Inspection November 2009; DOCKET NO: A-98-49; II-A4-121. - EPA approval Tier 1 adding RH Pre-SETF waste to OR-REDC-RH-HET on April 2010; DOCKET NO: A-98-49; II-A4-124. - EPA Continued Compliance Inspection approval on June 18, 2014; DOCKET NO: A-98-49; II-A4-186. - EPA Continued Compliance Inspection approval on June 14, 2017; DOCKET NO: A-98-49; II-A4-207. - EPA approval Tier 1 adding RH OR-REDC-RH-HET A using neutron DTC to generate new scaling factors on July 7, 2017; DOCKET NO: A-98-49; II-A4-209. 		

Table 2 ORNL-CCP CH Certified Waste Characterization Processes						
Characterization Processes	CH S3000 Homogeneous Solids		CH S4000 Soils/gravel		CH S5000 Debris	
	Newly Generated	Retrievably Stored	Newly Generated	Retrievably Stored	Newly Generated	Retrievably Stored
Acceptable Knowledge (AK)	N/A	N/A	N/A	Approved	N/A	Approved
Enhanced Acceptable Knowledge	N/A	N/A	N/A	Approved	N/A	Approved
Certified Program Enhanced Chemical Compatibility Evaluation	N/A	N/A	N/A	Approved	N/A	Approved
Basis of Knowledge Evaluating Oxidizing Chemicals in TRU Waste	N/A	N/A	N/A	Approved	N/A	Approved
Certified Program Acceptable Knowledge Assessments	N/A	N/A	N/A	Approved	N/A	Approved
Load Management	N/A	N/A	N/A	N/A	N/A	N/A
Project-Level Data Validation and Verification (V&V)	N/A	N/A	N/A	Approved	N/A	Approved
Visual Examination	N/A	N/A	N/A	Approved	N/A	Approved
Nondestructive Assay (NDA)	N/A	N/A	N/A	Approved	N/A	Approved
Real-Time Radiography (RTR)	N/A	N/A	N/A	Approved	N/A	Approved
WIPP Waste Information System/Waste Data System (WWIS/WDS)	N/A	N/A	N/A	Approved	N/A	Approved
<ul style="list-style-type: none"> - EPA approval CH Baseline on August 2008, DOCKET NO: A-98-49; II-A4-103. - EPA approval Tier 1 Extension of Calibration and Density Ranges for the SGS NDA on October 2008, DOCKET NO: A-98-49; II-A4-108. - EPA approval Tier 1 Extension of Passive Mode Calibration Range for DWAS/IPAN SGS on January 2009, DOCKET NO: A-98-49; II-A4-109. - EPA approval Tier 1 adding SCG S4000 on October 2009, DOCKET NO: A-98-49; II-A4-117. - EPA Unannounced Continued Compliance Inspection on November 2009; DOCKET NO: A-98-49; II-A4-121. - EPA approval Tier 1 adding MCS IQ3 NDA System and VE on March 2010, DOCKET NO: A-98-49; II-A4-125. - EPA approval Tier 1 adding NFS Trench B Soils to Waste Stream OR-NFS-CH-SOIL on March 2011, DOCKET NO: A-98-49; II-A4-144. - EPA approval Tier 1 changing physical modification to the IQ3 dated June 18, 2014, DOCKET NO: A-98-49; II-A4-186. - EPA Continued Compliance Inspection approval on June 18, 2014; DOCKET NO: A-98-49; II-A4-186. - EPA approval of SCG 3000 on July 2014; DOCKET NO: A-98-49; II-14-189. S3000 was not evaluated during A-17-21 due to inactivity and will require a surveillance to resume certification activities. - EPA approval of MILCC2 NDA System on October 2014; DOCKET NO: A-98-49; II-A4-192 - EPA approval of VE process to characterize CH S4000 & S5000 on November 2014, DOCKET NO: A-98-49; II-A4-193. - EPA Continued Compliance Inspection approval on June 18, 2014; DOCKET NO: A-98-49; II-A4-186. - EPA Continued Compliance Inspection approval on June 14, 2017; DOCKET NO: A-98-49; II-A4-207. - EPA concurrence Tier 1 allowing assembly of CH TRU waste payloads to include some containers where radionuclide contents cannot be directly measured for technical reasons on September 5, 2017. 						

If you have any questions, please contact Herbert Cruickshank, TRU Waste Certification Manager, National TRU Program at (575) 234-7602 or me at (575) 234-7053.


 Kenneth E. Princen
 Assistant Manager
 Office of the National TRU Program

Attachments

cc: w/attachments

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M. Ramirez, NWP	ED	Site Documents	ED
V. Ballew, NWP	ED	WIPP Operating Record	ED
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*ED denotes electronic distribution

CENTRAL CHARACTERIZATION PROGRAM at Oak Ridge National Laboratory					
List of Processes/Equipment Certified from Tables 1 and 2 of this Memorandum					
WDS Method ID#	Site Equipment # or Title	Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
Non-Destructive Assay (NDA)					
16IQ1	IQ3	<p>Canberra Mobile Qualitative and Quantitative Drum Counter with Isotopics (IQ3)</p> <p>Applicable to Waste Summary Category Group S4000, S5000</p> <p>Procedure CCP-TP-046, CCP-TP-047, CCP-TP-048</p>	<ul style="list-style-type: none"> • High Sensitivity Gamma Waste Assay System • 3 HPGe Coaxial Detectors • 3 LEGe Detectors 	NDA-2000 Genie 2000	<p>The calibration of the IQ3 is documented in MCS-IQ3-CALIB-2012. Revision 1, <i>Calibration Report for the MCS IQ3</i>, MCS-IQ3-TMU-2009. <i>Total Measurement Uncertainty for the MCS IQ3</i> documents the estimate of total measurement uncertainty.</p>
16MILCC2	MILCC2	<p>Mobile ISOCS Large Container Counter (MILCC2)</p> <p>Applicable to Waste Summary Category Group S4000, S5000</p> <p>Approved for 55 gallon drums</p> <p>Procedures CCP-TP-076, CCP-TP-077, and CCP-TP-048</p>	<ul style="list-style-type: none"> • ISOCS Characterized Broad Energy Gamma Detectors (2) • ISOCS rails and collimator sets (2) • ISOCS carts (2) • Signal cables • Canberra LYNX Digital Signal Processors (2) 	NDA 2000 Genie 2000	<p>The calibration of the MILCC is documented in CI-MILCC2-NDA-1001, Revision A, <i>Calibration Report for the MCS Mobile ISOCS Large Container Counter (MILCC) at the Transuranic Waste Processing Center in Oak Ridge, TN</i>. The acceptable range is LLD and limited by dead time. Acceptable density range for gamma is approximately 0.001-2.50 g/cc. The CI-MILCC2-NDA-1002, Revision B, <i>Oak Ridge Mobile ISOCS Large Container Counter 2 Total Measurement Uncertainty Report</i>, documents the estimate of total measurement uncertainty.</p>

CENTRAL CHARACTERIZATION PROGRAM at Oak Ridge National Laboratory					
List of Processes/Equipment Certified from Tables 1 and 2 of this Memorandum					
WDS Method ID#	Site Equipment # or Title	Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
Dose-to-Curie/Radiological Characterization (DTC/RC)					
16DTC1	Dose-to-Curie	Radiological characterization process Applicable to Waste Summary Category Group S5000 Procedure CCP-TP-504	As identified in CCP-TP-504	As identified in CCP-TP-504	N/A
Visual Examination (VE)					
16RHVE1	Visual Examination	Visual Examination Applicable to Waste Summary Category Group S5000 Procedure CCP-TP-500	N/A	N/A	N/A
16VE1	Visual Examination	Visual Examination Applicable to Waste Summary Category Group S4000, S5000 Procedure CCP-TP-113	N/A	N/A	N/A

CENTRAL CHARACTERIZATION PROGRAM at OAK RIDGE NATIONAL LABORATORY LIST OF CERTIFIED PROCEDURES/DOCUMENTS			
#	Procedure No.	Rev No.*	PROCEDURES/DOCUMENT Title
1.	CCP-PO-001	23	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	30	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	30	CCP Conduct of Operations
4.	CCP-PO-027	6	CCP/TRU Waste Processing Center/Oak Ridge National Laboratory Interface Document
5.	CCP-PO-045	3	CCP Waste Management Field Observation
6.	CCP-PO-047	2	CCP Training and Qualification Program Document
7.	CCP-QP-002	45	CCP Training and Qualification Plan
8.	CCP-QP-005	26	CCP TRU Nonconforming Item Reporting and Control
9.	CCP-QP-008	26	CCP Records Management
10.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
11.	CCP-QP-041	2	CCP Job Needs Analysis and Design
12.	CCP-QP-042	1	CCP Project Level Training and Qualification
13.	CCP-QP-043	3	CCP Operations Level Training and Qualification
14.	CCP-TP-001	22	CCP Project Level Data Validation and Verification
15.	CCP-TP-002	28	CCP Reconciliation of DQOs and Reporting Characterization Data
16.	CCP-TP-005	30	CCP Acceptable Knowledge Documentation
17.	CCP-TP-028	11	CCP Radiographic Training Container Construction
18.	CCP-TP-030	38	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
19.	CCP-TP-046	6	CCP Mobile IQ3 System Calibration Procedure
20.	CCP-TP-047	13	CCP Mobile IQ3 Gamma Scanner Operation
21.	CCP-TP-048	17	CCP ORNL NDA System Data Reviewing, Validating, and Reporting Procedure
22.	CCP-TP-053	16	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
23.	CCP-TP-058	6	CCP NDA Performance Demonstration Program
24.	CCP-TP-068	12	CCP Standardized Container Management
25.	CCP-TP-076	3	CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000
26.	CCP-TP-077	3	CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
27.	CCP-TP-113	22	CCP Standard Contact-Handled Waste Visual Examination
28.	CCP-TP-165	3	CCP Real-Time Radiography #6 Operating Procedure
29.	CCP-TP-200	4	Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review
30.	CCP-TP-500	15	CCP Remote-Handled Waste Visual Examination
31.	CCP-TP-504	21	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
32.	CCP-TP-506	6	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
33.	CCP-TP-509	7	CCP Remote-Handled Transuranic Container Tracking
34.	CCP-TP-530	12	CCP RH TRU Waste Certification and WWIS/WDS Data Entry

NOTE: Any changes to procedures that affect performance criteria or data quality, testing procedures, quality assurance objectives, calibration requirements, or QC sample acceptance criteria comply with the WIPP HWFP WAP (Attachment C) and shall not be made without prior approval of the CBFO.

*Revision listed may not be the revision during Audit A-15-09, A-16-15, A-17-07, A-17-21, and S-17-40

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
PROCESSES OR EQUIPMENT TO BE EVALUATED FOR RECERTIFICATION				
161Q1	Nondestructive Assay IQ3 Procedures - CCP-TP-046, CCP-TP-047, and CCP-TP-048	Soils (84000) Debris (85000)	N/A	YES
16MILCC2	Mobile ISOCS Large Container Counter (MILCC2) Procedures - CCP-TP-076, CCP-TP-077, and CCP-TP-048	Soils (84000) Debris (S5000)	N/A	YES
16DTC1	Dose-to-Curie (Radiological Characterization) Procedure- CCP-TP-504	Debris(S5000)-RH	N/A	YES
16RR1	Real-Time Radiography Mobile Characterization System RTR #6 Procedures - CCP-TP-053 and CCP-TP-165	Soils (S4000) Debris (S5000)Soils	YES	YES
		(S4000)-RH	Soils RH not approved	Soils RH not approved
16RHVE1	Visual Examination Procedure - CCP-TP-500	Debris(S5000)-RH	YES	YES
16VE1	Visual Examination Procedure - CCP-TP-113	Soils (S4000) Debris (S5000)	YES	YES
N/A	Acceptable Knowledge	Soils (S4000) Debris (S5000) Debris (85000) -RH	YES	YES
		Soils (S4000) - RH	Soils RH not approved	Soils RH not approved

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	Data Verification and Validation	Soils (S4000) Debris (S5000) Debris(S5000)-RH	YES	YES
		Soils (S4000) – RH	Soils RH not approved	Soils RH not approved
N/A	Quality Assurance	Soils (S4000) Debris (S5000) Debris(S5000)-RH	YES	YES
		Soils (S4000) – RH	Soils RH not approved	Soils RH not approved
N/A	WIPP Waste Information System (WMS)/Waste Data System (WDS)	Soils (S4000) Debris (S5000) Debris(S5000)-RH	YES	YES
		Soils (S4000) – RH	Soils RH not approved	Soils RH not approved