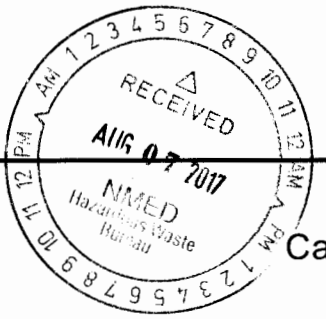
DOE F 1325.8

United States Government

Department of Energy



ENTERED

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: 05 August 2017

REPLY TO ATTN OF: CBFO:OOM:JC:PG:17-0032:UFC 5900.00

SUBJECT: Recertification for Oak Ridge National Laboratory Central Characterization Program Identified in Audits A-15-09, A-16-15, A-17-07, A-17-21, A-17-07, and S-17-40

TO: William McMillan, DOE-Oak Ridge
Mr. Bruce Covert, President and Project Manager, Nuclear Waste Partnership LLC

The Carlsbad Field Office (CBFO) has completed the annual recertification audits of the Oak Ridge National Laboratory (ORNL)[1] Central Characterization Program (CCP) transuranic (TRU) waste certification activities for contact-handled (CH) Summary Category Groups (SCG) S4000 soils/gravel, and S5000 debris as listed below.

- Audit A-15-09 recertification activities were conducted on March 31-April 2, 2015 and the NMED provided approval on March 9, 2017.
- Audit A-16-15 recertification activities were conducted on April 19-21, 2016 and the NMED provided approval on March 9, 2017 and an amendment on July 27, 2017 to include only those waste forms and processes evaluated during A-16-15.
  - The SCG for S3000 was not evaluated due to inactivity and will require an additional surveillance.
- Audit A-17-07 characterization activities to evaluate compliance with the WAC, Rev 8 were conducted on October 17-19, 2016.
- Audits A-17-21 recertification and AK Enhancement activities were performed on April 18-20, 2017.
- Surveillance S-17-40 was performed on July 11-18, 2017 as a follow-up to evaluate the *AK Enhancement* (that was deemed indeterminate during A-17-07 and A-17-21) and for the *Transportation Authorization Surveillance* for the ORNL-CCP for waste stream OR-NFS-CH-SOIL.
  - The surveillance team determined that the ORNL-CCP has met the enhanced AK process and are now in compliance.
  - The NMED provided approval of A-17-21 on July 27, 2017.

The audit teams determined that the ORNL-CCP TRU programs were in compliance with the:

- *WIPP Hazardous Waste Facility Permit (HWFP) Waste Analysis Plan (WAP)*;
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 8, Appendices H and I*;
- *Remote-Handled TRU Waste Characterization Program Implementation Plan*;
- *WIPP Documented Safety Analysis, Chapter 18;*

[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

170809

- *CBFO Quality Assurance Program Document (QAPD);*
- *CH and RH Transuranic Authorized Methods for Payload Control (TRAMPAC);*
- *Certificate of Compliance*

Based on the results of the CBFO Audits/Surveillances (See Attachment 1), and conditions and limitations provided by the New Mexico Environment Department (NMED) and the US Environmental Protection Agency (USEPA), the CBFO grants continued authority at the ORNL-CCP for TRU waste characterization, certification, and transportation activities as identified in Table 1 of this memorandum and Audits A-15-09, A-16-15, A-17-07, A-17-21, and S-17-40.

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 ORNL-CCP certification program status;
- Attachment 2 contains the list of processes/equipment from Table 1 and 2 of this memorandum certified at this site;
- Attachment 3 contains the list of the ORNL-CCP certified procedures/documents; and
- Attachment 4 describes specific ORNL-CCP waste characterization process elements that must be reported to the EPA. These process elements are identified as Tier 1 changes and Tier 2 changes. The ORNL-CCP shall not ship for disposal at the WIPP any wastes affected by a Tier 1 process element change without prior CBFO approval, and the ORNL-CCP shall report Tier 2 changes to the CBFO on a quarterly basis.

Table 1
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

- EPA approval CH Baseline on August 2008, DOCKET NO: A-98-49; II-A4-103.
- EPA approval Tier 1 Extension of the 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 the Passive Mode Calibration Range for the 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 and Continued Compliance Inspection dated 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.
- 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.
- S3000 was not evaluated during A-17-21 due to inactivity and will require a surveillance to resume certification activities.

If you have any questions, please contact Mr. J. R. Stroble, Director National TRU Program Compliance Division, at (575)-234-7313.

Sincerely,

Deputy Mgr for
Todd A. Shrader, Manager
Carlsbad Field Office

cc: w/attachment

J. Carswell, CBFO	*	ED
G. Basabilvazo, CBFO		ED
G. Birge, CBFO		ED
M. Brown, CBFO		ED
T. Carver, CBFO		ED
N. Castaneda, CBFO		ED
H. Cruickshank, CBFO		ED
C. Fesmire, CBFO		ED
D. Miehls, CBFO		ED
M. Navarrete, CBFO		ED
D. Standiford, CBFO		ED
D. Biswell, CBFO		ED
L. Wilkerson, DOE-OR		ED
R. Maestas, NMED		ED
J. Kieling, NMED		ED
J. Ellis, EPA		ED
E. Feltcorn, EPA		ED
T. Peake, EPA		ED
R. Joglekar, EPA		ED
M. Pearcy, NWP		ED
M. Ramirez, NWP		ED
V. Ballew, NWP		ED
J. Biedscheid, NWP		ED
L. Burns, NWP		ED
J. Carter, NWP		ED
M. Devarakonda, NWP		ED
C. Hatch, NWP		ED
R. Kantrowitz, NWP		ED
J. Knox, NWP		ED
R. Martin, NWP		ED
M. McDaniel, NWP		ED
B. Pace, NWP		ED
R. Reeves, NWP		ED
C. Simmons, NWP		ED
J. Stepzinski, NWP		ED
D. Wade, NWP		ED
R. Chavez, RES		ED
J. Haschets, RES		ED
J. Vajda, RES		ED
M. Doherty, CTAC		ED
K. Lickliter, CTAC		ED
P. Martinez, CTAC		ED
J. Trone, SNL		ED
Site Documents		ED
WIPP Operating Record		ED
CBFO M&RC		

*ED denotes electronic distribution

CBFO:OOM:JC:PG:17-0032:UFC 5900.00

CENTRAL CHARACTERIZATION PROGRAM DEPLOYED AT OAK RIDGE NATIONAL LABORATORY CERTIFICATION PROGRAM STATUS

The CBFO Directors of the National TRU Program Compliance Division and the Office of Quality Assurance have evaluated the documentation supporting the compliance of the Central Characterization Program (CCP) TRU waste program deployed at the Oak Ridge National Laboratory (ORNL) (hereinafter referred to as ORNL-CCP).

PROGRAM STATUS

- All program elements remain complete.

- The following site program documents are current and comply with the CBFO requirements*:
  - **CCP-PO-001, Revision 22,** *CCP Transuranic Waste Characterization Quality Assurance Project Plan,*
    CBFO Approval - CBFO:NTP:JRS:GL:16-1809:UFC 5900.00 approved January 13, 2016;

  - **CCP-PO-002, Revision 29,** *CCP Transuranic Waste Certification Plan,*
    CBFO Approval - CBFO:TSTD:JRS:PG:16-2021:UFC 5900.00 dated July 22, 2016;

  - **CCP-PO-003, Revision 14,** *CCP Transuranic Authorized Method for Payload Control,*
    CBFO Approval - CBFO:NTP:JRS:GL:17-0728:UFC 5900.00 dated February 15, 2017; and

  - **CCP-PO-505, Revision 3,** *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control,*
    CBFO Approval - CBFO:NTP:JRS:GL:14-1860:UFC 5900.00 approved March 5, 2014.

***Note that the program documents listed above are the revisions that were audited and may not be the current revisions.**

- Attachment 2 contains the list of processes/equipment from Table 1 and 2 of this memorandum certified at this site;
- Attachment 3 contains the list of the ORNL/CCP certified procedures/documents;
- Attachment 4 describes specific ORNL/CCP waste characterization process elements that must be reported to the EPA. These process elements are identified as Tier 1 changes and Tier 2 changes. The ORNL/CCP shall not ship for disposal at the WIPP any wastes affected by a Tier 1 process element change without prior CBFO approval, and the ORNL/CCP/ shall report Tier 2 changes to the CBFO on a quarterly basis; and

- The CCP participated in the following performance demonstration programs (PDPs)*:
  - **NDA PDP – Cycle 21A approval** during Audit A-15-09 for radioassay of WIPP wastes contained in TRU waste drums using the IQ3 (NDA PDP Registration # OR02/ORG1) and the MILCC2 (NDA PDP Registration # OR04/ORG3). Memorandum CBFO:NTP:NC:LEC:14-1941:UFC 5900.00 dated July 25, 2014.

  - **NDA PDP – Cycle 22A approval** during Audit A-16-15 for radioassay of WIPP wastes contained in TRU waste drums using the IQ3 (NDA PDP Registration # OR02/ORG1) and the MILCC2 (NDA PDP Registration # OR04/ORG3). Memorandum CBFO:TSTD:NC:LEC:15-0974:UFC 5900.00 dated June 1, 2015.

  - **NDA PDP – Cycle 23A approval** during Audit A-17-21 for radioassay of WIPP wastes contained in TRU waste drums using the IQ3 (NDA PDP Registration # OR02/ORG1) and the MILCC2 (NDA PDP Registration # OR04/ORG3). Memorandum CBFO:TSTD:NC:MR:16-1984:UFC 5900.00 dated July 6, 2016.

  - **NDA PDP – Cycle 24A approval** for radioassay of WIPP wastes contained in TRU waste drums using the IQ3 (NDA PDP Registration # OR02/ORG1) and the MILCC2 (NDA PDP Registration # OR04/ORG3). Memorandum CBFO:ONTP:NC:RMS:17-2037:UFC 5900.00 dated July 17, 2017.

***Note that the PDP cycles listed above are the cycles that were audited and may not be the current cycles.**

- **The CCP participated in the following certification activities:**
  - The CBFO conducted recertification Audit A-15-09 of the ORNL-CCP on March 31 - April 2, 2015.
    - CAR 15-033 was issued on April 13, 2015 and closed on June 11, 2015.
    - The Interim Audit Report was issued on April 29, 2015.
    - The Audit Report was issued to NMED on July 6, 2015.
    - The NMED issued approval on March 9, 2017.

  - The CBFO conducted recertification Audit A-16-15 of the ORNL-CCP on April 19 - 21, 2016. The SCG for S3000 was not evaluated due to inactivity and will require an additional surveillance.
    - CAR 16-035 was issued on May 9, 2016 and closed on June 29, 2016.
    - The Interim Audit Report was issued on May 12, 2016.
    - The Audit Report was issued to NMED on July 26, 2016.
    - The NMED issued approval on March 9, 2017.

  - The CBFO conducted Audit A-17-07 of the ORNL-CCP to evaluate compliance with the WAC, Rev 8 applicable to the characterization activities on October 17 - 19, 2016. The AK Enhancement was found indeterminate.
    - CAR 17-006 was issued on October 25, 2016 and closed on January 4, 2017. The Audit Report was issued on November 17, 2016.

- The CBFO conducted recertification Audit A-17-21 of the ORNL-CCP on April 18 - 20, 2016. The AK Enhancement was found indeterminate.
  - CARs 17-031 and 17-032 were issued on April 27, 2017.
  - CAR 17-031 was closed on June 12, 2017.
  - CAR 17-032 was closed on June 20, 2017.
  - The Audit Report was issued on June 14, 2017.
  - The NMED issued approval on July 27, 2017.

- The CBFO conducted Surveillance S-17-40 of the ORNL-CCP on July 11 – 18, 2017 to evaluate the Acceptable Knowledge Enhancement process as a follow-up to A-17-21, A-17-07, and for the Transportation Authorization for Waste Stream OR-NFS-CH-SOIL. The surveillance team determined that the ORNL-CCP has met the enhanced AK process and are now in compliance.
  - The Surveillance Report was issued on July 26, 2017.

- The CBFO conducted Surveillances S-17-07 on February 21 - 28, 2017 and S-17-32 on March 21 – 31, 2017 of the Waste Data System (WDS) system and found the system satisfactory and effective.
  - The Surveillance Report for S-17-07 was issued on March 29, 2017.
  - The Surveillance Report for S-17-32 was issued on March 31, 2017.

- **The CBFO audited the following for Quality Assurance activities:**
  - The CBFO conducted A-15-12 on April 7 - 9, 2015 of the Nuclear Waste Partnership LLC (NWP)/Central Characterization Program (CCP) Quality Assurance Program.
    - CAR 15-034, 5-035, 15-036, and 15-038 were issued on April 24, 2015.
    - CAR 15-034 was closed on July 9, 2015.
    - CAR 15-035 was closed on August 18, 2015.
    - CAR 15-036 was closed on June 24, 2015.
    - CAR 15-038 was closed on August 19, 2015.
    - The Audit Report was issued on May 1, 2015.

  - The CBFO conducted Audit A-16-12 on March 29 - 31, 2016 of the NWP/CCP Quality Assurance Program.
    - CAR 16-030 was issued on April 5, 2016 and closed on September 6, 2016.
    - CAR 16-031 was issued on April 5, 2016 and closed on May 24, 2016.
    - The Audit Report was issued on April 20, 2016.

  - The CBFO conducted Audit A-17-13 on March 28 - 30, 2017 of the NWP/CCP Quality Assurance Program.
    - The Audit Report was issued on June 8, 2017.

- **The CCP participated in the following transportation activities:**
  - The CBFO conducted Audit A-14-05 of the All Sites Transportation Activities for CH and RH TRU Waste activities on December 3 - 5, 2013.
    - CAR 14-007 was issued on December 12, 2013 and was closed on February 7, 2014.
    - The Audit Report was issued on January 15, 2014.

- The CBFO conducted Audit A-14-19 at Los Alamos National Laboratory on August 19 - 21, 2014. During the Recertification audit the activities for transportation Container Management, Flammable Gas Sampling and Analysis and Shipping Documentation was performed and found to be adequately established for compliance with the upper-tier requirements, effectively implemented, and satisfactory.
  - The Interim Audit Report was issued on September 19, 2014.
  - The Audit Report was issued on October 23, 2014.

- The CBFO conducted Audit A-15-07 of the All Sites Transportation Activities for CH and RH TRU Waste activities on January 20 - 22, 2015.
  - The Audit Report was issued on February 18, 2015.

- The CBFO conducted Surveillance S-16-24 on February 23, 2016 of the All Sites CCP Transportation Training Activities for CH and RH.
  - The Surveillance Report was issued on February 29, 2016.

- The CBFO conducted Surveillance S-17-26 on March 7, 2017 of the Mobile Loading Unit Training at Waste Control Specialists performed for the Nuclear Waste Partnership LLC/Central Characterization Program.
  - The Surveillance Report was issued on March 20, 2017.

- The CBFO conducted Surveillance S-16-57 of the Generator Site Technical Review (GSTR) on September 19 - 23, 2016.
  - The Surveillance Report was issued on October 26, 2017.
  - The GSTR report OR-1-16-01 was issued on December 13, 2016.

- **The EPA provided the following inspections and reports:**
  - The CBFO requested to the EPA on May 3, 2017 a Tier 1 change to allow the assembly of CH TRU waste payloads to include some containers where the radionuclide contents cannot be directly measured for technical reasons.
    - The EPA issued analysis of the request on June 19, 2017.

  - The CBFO requested to the EPA on July 21, 2016 a Tier 1 requesting to characterize additional containers in the previously approved Waste Stream OR-REDC-RH-HET using a new neutron dose-to-curie process to generate new scaling factors requiring EPA approval.
    - The EPA issued approval on July 7, 2017, DOCKET NO: A-98-49; II-A4-209.
    - The CBFO conducted A-17-09 on October 4 – 5, 2016 in support of the above Tier 1 request for the Neutron Dose-to-Curie and Radiological Characterization Sampling program.
    - The Audit Report was issued on November 29, 2016.

- The EPA provided a continued compliance inspection on August 2 - 4, 2016 and confirmed that the CH TRU waste characterization program was technically adequate and compliance with 40CFR 194.24 requirements.
  - The EPA issued report on June 14, 2017, DOCKET NO: A-98-49, II-A4-207.

- The EPA issued concurrence on the draft recertification memo on date via email on _____(Input date)_____.

RECOMMENDATION

The recommendation to the CBFO Manager is to grant authority at the CCP at ORNL for TRU Waste characterization, certification, and transportation activities listed in Attachment 1 and as identified in Table 1 of this memorandum, subject to the following limitations and conditions:

CONCURRENCE

J.R. Stroble — 8-5-17

J. R. Stroble, Director
National TRU Program Compliance Division
Date

SEE ATTACHED E-MAIL 8-3-17 WITH ATTACHED CORRECTION — JRS 8-5-17

Michael R. Brown, Director
Office of Quality Assurance
Date

Gilbert, Patsy - LANL

From: Mike Brown <mike.brown@cbfo.doe.gov>
Sent: Thursday, August 03, 2017 2:28 PM
To: Gilbert, Patsy - LANL
Cc: Miehls, Dennis - FedNet; Navarrete, Martin - FedNet
Subject: FW: Request blue sheet conc and Signatures via email for ORNL cert memo

I approve with one minor clarification for the S-17-40 audit as shown below. Mike

Sent with Good (www.good.com)

From: Martin Navarrete
Sent: Thursday, August 03, 2017 2:15:28 PM
To: Mike Brown
Subject: RE: Request blue sheet conc and Signatures via email for ORNL cert memo

Mike,
On the attached memorandum page 1, fourth bullet please add ...S-17-40 was performed on july 11-18,2017 as a follow up for the AK Enhancement and for the Transportation Authorization Surveillance for the ORNL-CCP, ***for waste stream OR-NFS-CH-SOIL.***

Thanks Martin

From: Mike Brown
Sent: Thursday, August 03, 2017 10:54 AM
To: Dennis Miehls <dennis.miehls@cbfo.doe.gov>; Martin Navarrete <martin.navarrete@cbfo.doe.gov>
Subject: FW: Request blue sheet conc and Signatures via email for ORNL cert memo

I will sign off once I hear from you all. Please give it a quick turnaround. Mike

Sent with Good (www.good.com)

From: Site Documents - DOE
Sent: Thursday, August 03, 2017 10:35:46 AM
To: J.R. Stroble; Brown, Mike - DOE; Jeff Carswell
Cc: Norma Castaneda; Lickliter, Kenneth - CTAC; Martin Navarrete; Britney Andersen (CONTR)
Subject: Request blue sheet conc and Signatures via email for ORNL cert memo

J. R.
Please see the attached.

Step 1
Attachment 1 needs signatures from Stroble and Brown
EPA letter needs Strobles signature

Site docs sends to EPA for conc.
Step 2
Once we receive their conc then it is ready for Shrader signature on memo.

Thank you,

Patsy Gilbert
Los Alamos National Laboratory, Contractor to the
United States Department of Energy
(office) 575-234-7517
(cell) 575-302-7400

From: J.R. Stroble [mailto:j.r.stroble@cbfo.doe.gov]
Sent: Tuesday, August 01, 2017 8:17 PM
To: Site Documents - DOE
Subject: request blue sheet conc via email for ORNL cert memo

Patsy,

Please ask for e-mail review on the letter since most of the names on the blue sheet are here in Idaho.

Thanks,

J. R.

Sent with Good (www.good.com)

CENTRAL CHARACTERIZATION PROGRAM at Oak Ridge National Laboratory List of Processes/Equipment Certified from Table's 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	Canberra Mobile Qualitative and Quantitative Drum Counter with Isotopics (IQ3) Applicable to Waste Summary Category Group S3000, S4000, S5000 Procedure CCP-TP-046, CCP-TP-047, CCP-TP-048	• High Sensitivity Gamma Waste Assay System • 3 HPGe Coaxial Detectors • 3 LEGe Detectors	NDA-2000 Genie 2000	The calibration of the IQ3 is documented in MCS-IQ3-CALIB-2012. Revision 1, *Calibration Report for the MCS IQ3*, MCS-IQ3-TMU-2009. *Total Measurement Uncertainty for the MCS IQ3* documents the estimate of total measurement uncertainty.
16MILCC2	MILCC2	Mobile ISOCs Large Container Counter (MILCC2) Applicable to Waste Summary Category Group S3000, S4000, S5000 Approved for 55 gallon drums Procedures CCP-TP-076, CCP-TP-077, and CCP-TP-048	• 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	The calibration of the MILCC is documented in CI-MILCC2-NDA-1001, Revision A, *Calibration Report for the MCS Mobile ISOCS Large Container Counter (MILCC) at the Transuranic Waste Processing Center in Oak Ridge, TN.* 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, *Oak Ridge Mobile ISOCS Large Container Counter 2 Total Measurement Uncertainty Report,* documents the estimate of

CENTRAL CHARACTERIZATION PROGRAM at Oak Ridge National Laboratory
List of Processes/Equipment Certified from Table's 1 and 2 of this Memorandum

WDS Method ID#	Site Equipment # or Title	Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
					total measurement uncertainty.
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
Non-Destructive Examination (NDE)					
16RR1	MCS RTR #6	Real-Time Radiography Mobile Characterization System RTR #6 Applicable to Waste Summary Category Group S3000, S4000, S5000 Procedure CCP-TP-053, CCP-TP-165	• Shielded x-ray enclosure with a hydraulic drum loading door and manually opened personnel door • Conveyer cart including drum manipulation equipment • X-ray imaging system including x-ray tube, image intensifier, and video camera • Video/audio recording equipment • Mobile platform	N/A	N/A
			•		
Visual Examination (VE)					
16RHVE1	Visual Examination	Visual Examination Applicable to Waste Summary Category	N/A	N/A	N/A

CENTRAL CHARACTERIZATION PROGRAM at Oak Ridge National Laboratory List of Processes/Equipment Certified from Table's 1 and 2 of this Memorandum					
WDS Method ID#	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**NDA Calibrated Range, Operating Range and TMU**
		Group S5000 Procedure CCP-TP-500			
16VE1	Visual Examination	Visual Examination Applicable to Waste Summary Category Group S4000, S5000 Procedure CCP-TP-113	N/A	N/A	N/A
Flammable Gas Analysis (FGA)					
N/A	N/A	Headspace Gas Sampling and Analysis DOE/WIPP 06-3345	N/A	N/A	N/A
*NOTE: Equipment must remain in compliance with the PDP program to certify waste.					

List of Deactivated Equipment 2015 and 2016			
WIPP #	**Site Equipment #**	**Site Description**	**Date Deactivated**
16RR2	MCS RTR #7	Real-Time Radiography Mobile Characterization NOTE: BDRs were generated since the previous ORNL audit utilizing RTR #7 until its deactivation on November 17, 2015.	November 2015

CENTRAL CHARACTERIZATION PROJECT at OAK RIDGE NATIONAL LABORATORY LIST OF CERTIFIED PROCEDURES/DOCUMENTS			
#	Procedure No.	Rev No.*	PROCEDURES/DOCUMENT Title
1.	CCP-PO-001	22	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	29	CCP Transuranic Waste Certification Plan
3.	CCP-PO-003	14	CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)
4.	CCP-PO-005	28	CCP Conduct of Operations
5.	CCP-PO-016	6	CCP Gas Generation Testing Quality Assurance Project Plan
6.	CCP-PO-027	6	CCP/TRU Waste Processing Center/Oak Ridge National Laboratory Interface Document
7.	CCP-PO-043	0	CCP Interface Document Preparation
8.	CCP-PO-045	2	CCP Waste Management Field Observation
9.	CCP-PO-047	0	CCP Training and Qualification Program Document
10.	CCP-PO-050	1	CCP TRUPACT-III TRU Waste Authorized Methods for Payload Control (CCP TRUPACT-III TRAMPAC)
11.	CCP-PO-505	3	CCP RH Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)
12.	CCP-QP-002	42	CCP Training and Qualification Plan
13.	CCP-QP-005	25	CCP TRU Nonconforming Item Reporting and Control
14.	CCP-QP-008	26	CCP Records Management
15.	CCP-QP-016	23	CCP Control of Measuring and Testing Equipment
16.	CCP-QP-017	4	CCP Identification and Control of Items
17.	CCP-QP-022	18	CCP Software Quality Assurance Plan
18.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
19.	CCP-QP-037	3	CCP Calculations
20.	CCP-QP-041	0	CCP Job Needs Analysis and Design
21.	CCP-QP-042	0	CCP Project Level Training and Qualification
22.	CCP-QP-043	0	CCP Operations Level Training and Qualification
23.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
24.	CCP-TP-002	26	CCP Reconciliation of DQOs and Reporting Characterization Data
25.	CCP-TP-005	29	CCP Acceptable Knowledge Documentation
26.	CCP-TP-028	10	CCP Radiographic Training Container Construction
27.	CCP-TP-030	36	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
28.	CCP-TP-033	23	CCP Shipping of CH TRU Waste
29.	CCP-TP-046	6	CCP Mobile IQ3 System Calibration Procedure
30.	CCP-TP-047	13	CCP Mobile IQ3 Gamma Scanner Operation
31.	CCP-TP-048	17	CCP ORNL NDA System Data Reviewing, Validating, and Reporting Procedure
32.	CCP-TP-053	16	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
33.	CCP-TP-058	6	CCP NDA Performance Demonstration Program
34.	CCP-TP-068	12	CCP Standardized Container Management
35.	CCP-TP-076	2	CCP Operating the Mobile ISOCS Large Container Using NDA 2000
36.	CCP-TP-077	2	CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
37.	CCP-TP-082	10	CCP Waste Container Filter Vent Maintenance and Operation
38.	CCP-TP-083	8	CCP Gas Generation Testing
39.	CCP-TP-086	19	CCP CH Packaging Payload Assembly
40.	CCP-TP-113	20	CCP Standard Contact-Handled Waste Visual Examination
41.	CCP-TP-138	2	CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure
42.	CCP-TP-163	4	CCP Evaluation of Waste Packaging Records for Visual Examination of Records
43.	CCP-TP-165	3	CCP Real-Time Radiography #6 Operating Procedure
44.	CCP-TP-200	1	Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review
45.	CCP-TP-201	0	Verification of Shipping Criteria and Emplacement Criteria
46.	CCP-TP-500	15	CCP Remote-Handled Waste Visual Examination
47.	CCP-TP-504	18	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste

CENTRAL CHARACTERIZATION PROJECT at OAK RIDGE NATIONAL LABORATORY LIST OF CERTIFIED PROCEDURES/DOCUMENTS			
#	**Procedure No.**	**Rev No.***	**PROCEDURES/DOCUMENT Title**
48.	CCP-TP-506	5	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
49.	CCP-TP-507	8	CCP Shipping of Remote-Handled Transuranic Waste
50.	CCP-TP-508	11	CCP RH Standard Real-Time Radiography Inspection Procedure
51.	CCP-TP-509	6	CCP Remote-Handled Transuranic Container Tracking
52.	CCP-TP-512	6	CCP Remote-Handled Waste Sampling
53.	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, the revision listed are from the most recent certification audit A-17-21

Table 1. Tiering of Contact-Handled Transuranic Waste Characterization Processes Implemented by ORNL-CCP (Based on November 13–15, 2007, Baseline Inspection and Subsequent Inspections and Evaluations, Updated August 2016)

Process Elements	ORNL-CCP CH Waste Characterization Process – T1 Changes	ORNL-CCP CH Waste Characterization Process – T2 Changes*
Acceptable Knowledge, including Load Management	Any new waste category other than retrievably stored debris, soils/gravel and solids (i.e., any type of newly generated waste) Load management	Submission of a list of active ORNL-CCP CH AKEs and SPMs Notification to the EPA upon completion of or substantive modification** to: • AK accuracy reports (annually, at a minimum) • AK-AK and AK-NDA/NDE Discrepancy Resolution Reports • WSPFs and related attachments (e.g., CIS) for all new or modified waste streams, including change notices • AKSRs (new and updated versions) • CCP TP 005, Attachments 4, 6, 7, 8, and 9 and/or associated memoranda, including "Add Container" memoranda • Site AK procedures requiring CBFO approval • AKAs, CCFMs, IWMDLs and/or other documentation of waste handling and chemical compatibility evaluations.
Nondestructive Assay	New equipment or substantive physical modifications** to approved equipment Extension of or changes to approved calibration range for approved equipment Relocation of MILCC2 onsite or other activities that require system recalibration Addition of new measurement configurations or container types	Submission of a list of ORNL-CCP NDA operators, EAs and ITRs that performed work during the previous quarter Notification to the EPA upon substantive modification** to: • Software for approved equipment • Operating ranges upon CBFO approval • Site NDA procedures requiring CBFO approval Notification to the EPA upon successful calibration verification of MILCC2 following on-site relocation or other equipment changes
Real-Time Radiography	None	Submission of a list of ORNL-CCP RTR operators and ITRs that performed work during the previous quarter Notification to the EPA upon: • New equipment or substantive physical modifications** to approved equipment • Substantive modification** to site RTR procedures requiring CBFO approval
Visual Examination and Visual Examination Technique	Use of VE to characterize homogenous solid CH TRU waste (SCG 3000)	Submission of a list of ORNL CCP VE operators, VE Experts and ITRs that performed work during the previous quarter
WIPP Waste Data System	Load management	Notification to the EPA upon substantive modification** to site WDS procedures requiring CBFO approval

New T1s, T2s and significant modifications to existing T1s or T2s are in bold text; T1s or T2s that were only revised for style are not shown in bold.

* ORNL-CCP will report all T2 changes to the EPA every three months.

** "Substantive modification" refers to a change with the potential to affect ORNL CCP's CH waste characterization processes or documentation of them, excluding changes that are solely related to the environment, safety and health; nuclear safety; or the Resource Conservation and Recovery Act; or that are editorial in nature or are required to address administrative concerns. The EPA may request copies of new references that the DOE adds during a document revision.

Table 1. Tiering of Remote-Handled Transuranic Waste Characterization Processes Implemented by ORNL-CCP (Based on June 30–July 2, 2008, Baseline Inspection and Subsequent Tier 1 Evaluations, Updated July 2017)

Process Elements	ORNL-CCP RH Waste Characterization Process – T1 Changes	ORNL-CCP RH Waste Characterization Process – T2 Changes*
Acceptable Knowledge	Any new waste streams not approved under the baseline Modification of the approved population of the OR REDC RH HET wastes to include any containers not included in the CCP-AK-ORNL-501, Revision 3 analysis Substantive modification** to the AKSR (e.g., CCP-AK-ORNL-500), certification test plan (e.g., CCP-AK-ORNL-502), correlation and surrogate summary form, AK accuracy report and waste stream profile form Implementation of load management	Submission of a list of active ORNL-CCP RH AKEs and SPMs Notification to the EPA upon availability of or nonsubstantive modification** to: • AKSRs and certification test plans (e.g., CCP-AK-ORNL-500, CCP-AK-ORNL-502) • Correlation and surrogate summary form • AK accuracy reports (annually, at a minimum) • The waste stream data package for waste streams and any modifications to the WSPF, including the CRR and CIS Notification to the EPA upon availability of or substantive modification** to: • CCP-AK-ORNL-002 • Add container memoranda • DRs or information pertaining to limits on uses of historical data • Site AK procedures requiring CBFO approval • CCP-TP-005, Attachment 9s; AKAs; CCEMs and/or other documentation of waste handling and chemical compatibility evaluations. • Documentation of RH sample reclassified as CH and subject to confirmatory analyses via NDA*
Radiological Characterization, including Dose-to-Curie	Application of new scaling factors for isotopic determination other than those documented in CCP-AK-ORNL-501, Revision 3 Use of any alternate radiological characterization procedure other than gamma- or neutron-based DTC, with established scaling factors, as documented in CCP-TP-504 Any new waste stream not approved under the baseline or addition of containers to Waste Stream OR REDC RH HET that requires changing the established radionuclide scaling factors in CCP-AK-ORNL-501, Revision 3 Substantive modification** of EPA-approved procedures or radiological characterization technical reports (e.g., CCP TP 504, CCP-AK-ORNL-501)	Submission of a list of ORNL-CCP DTC operators, EAs and ITRs that performed work during the previous quarter Notification to the EPA upon: • Nonsubstantive modification** to procedures or radiological technical reports (e.g., CCP TP 504, CCP AK ORNL 501) requiring CBFO approval • Results from any RH TRU containers that qualify as CH and are subject to NDA
Visual Examination	Implementation of VE by any system other than two operators performing VE (i.e., viewing a previously recorded VE event)	Submission of a list of ORNL-CCP VE operators, VE Experts and ITRs that performed work during the previous quarter

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Process Elements	ORNL-CCP RH Waste Characterization Process – T1 Changes	ORNL-CCP RH Waste Characterization Process – T2 Changes*
		Notification to the EPA upon: • Substantive modification** to site VE procedures requiring CBFO approval • Characterization of SCG S3000 or S4000 RH waste by an approved process
Real-time Radiography	Any use of real-time radiography	Not Applicable At This Time
WIPP Waste Data System	None	Notification to the EPA upon substantive modification** to: • Site WDS procedures requiring CBFO approval • The Excel spreadsheet titled WWIS Data Entry Summary Characterization and Certification

New T1s, T2s and significant modifications to existing T1s or T2s are in **bold** text: T1s or T2s that were only revised for style are not shown in bold.

* ORNL-CCP will report all unmarked T2 changes to the EPA every three months.

** "Substantive modification" refers to a change with the potential to affect ORNL-CCP's RH waste characterization processes or their documentation, excluding changes that are solely related to the environment, safety and health; nuclear safety; or the Resource Conservation and Recovery Act; or that are editorial in nature or are required to address administrative concerns. The EPA may request copies of new references that DOE adds during a document revision.

† This T2 change was a one-time requirement for provision to the EPA of a formal document describing the selection of samples for confirmatory testing to confirm RH radiological modeling. The requirement has been fulfilled and no further action relative to this requirement is expected