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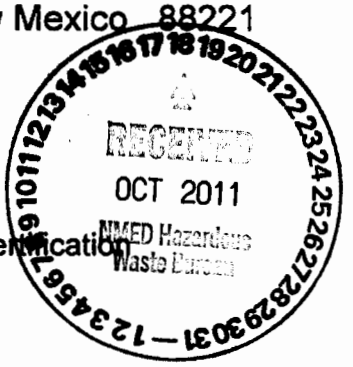
memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221



DATE: OCT 18 2011

REPLY TO ATTN OF: CBFO:NTP:JRS:MAG:11-1777:UFC 5900.00

SUBJECT: Los Alamos National Laboratory - Central Characterization Project Recertification Audit A-11-11

TO: George Rael, LASO
M. Farok Sharif, General Manager, WTS

The Carlsbad Field Office (CBFO) has completed the Recertification Audit A-11-11 of the Central Characterization Project (CCP) Transuranic (TRU) waste characterization activities deployed at the Los Alamos National Laboratory (LANL) (hereinafter referred to as LANL-CCP) conducted on May 17-19, 2011. The characterization, certification, and quality assurance activities were determined to be adequate, satisfactorily implemented, and effective.

The audit team determined that the LANL-CCP TRU programs were in compliance with the *Waste Analysis Plan* (WAP) of the Waste Isolation Pilot Plant (WIPP) *Hazardous Waste Facility Permit* (HWFP), the Quality Assurance Program Document (QAPD), the *TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP WAC), and the *CH Transuranic Authorized Methods for Payload Control* (TRAMPAC). The audit team determined that the procedures/documents were effectively implemented.

Based on the result of audits, surveillances, conditions, and limitations provided by the New Mexico Environment Department (NMED) and the U.S. Environmental Protection Agency (EPA), the CBFO grants authority at the LANL-CCP for TRU waste characterization, certification, and transportation activities as identified in Table 1, Page 3 of this memo. The CBFO is also continuing the certification of the processes associated with the Off-Site Source Recovery Program (OSRP).

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

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

111020

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

Edward Ziemianski
Interim Manager

Attachments (4)

cc: w/attachments

G. Basabilvazo, CBFO	*ED	V. Waldram, WTS	ED
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N. Castaneda, CBFO	ED	J. Harvill, WTS	ED
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E. Feltcorn, EPA	ED	G. Knox, CTAC	ED
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J. Kieling, NMED	ED	P. Gilbert, LANL	ED
S. Holmes, NMED	ED	G. Lyshik, LANL	ED
L. Bishop, LASO	ED	S. Pearcy, SM Stoller	ED
M. Pearcy, WTS	ED	WIPP Operating Record	ED
D.K. Ploetz, WTS	ED	CBFO M&RC	
M. Sensibaugh, WTS	ED	*ED denotes electronic distribution	

Table 1
LANL-CCP CH Certified Waste Characterization Processes

Characterization Process	CH S3000 Homogeneous Solids		CH S5000 Debris	
	Newly generated	Retrievably-Stored	Newly generated	Retrievably-Stored
Acceptable Knowledge (AK)	N/A	Approved	Approved[1]	Approved
Load Management	N/A	Approved	Approved[1]	Approved
Data Validation and Verification (V&V)	Approved	Approved	Approved	Approved
Headspace gas sampling and analysis[2]	Approved	Approved	Approved	Approved
Non-destructive assay	N/A	Approved	N/A	Approved
Real-Time Radiography (RTR)	N/A	Approved	N/A	Approved
Solids sampling and analysis[3]	Approved	Approved	N/A	N/A
Visual Examination (VE)	N/A	Approved[4]	Approved[1]	Approved
WIPP Waste Information System/Waste Data System (WWIS/WDS)	Approved	Approved	Approved	Approved

[1] Off Site Recovery Program (OSRP) Activities-includes characterization of sealed sources for newly generated debris waste.
[2] For CH waste, SUMMA sampling is performed by CCP, analysis is performed by the Idaho National Laboratory, which is approved under a separate certification. For the 16 canisters of RH waste, NMED granted exemption by approving an AK Sufficiency Determination on April 16, 2009.
[3] Solid sampling and analysis done by IN Laboratory.
[4] Pending CBFO surveillance of VE
* RH S5000 Debris (LA-MHD03.002 16 RH 72B canisters) was certified on April 30, 2009 and shipped.

CENTRAL CHARACTERIZATION PROJECT DEPLOYMENT AT LOS ALAMOS NATIONAL LABORATORY (LANL) CERTIFICATION PROGRAM STATUS

The CBFO Director of the Office of the National TRU Program and the CBFO Director of 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 Los Alamos National Laboratory (LANL) site (hereinafter referred to as LANL-CCP). Attachments 2 and 3 provide complete lists of certified processes, procedures, documents, and systems deployed at the LANL-CCP. Attachment 4 is the CH Tiering of TRU Waste Characterization Processes implemented by the CCP at LANL.

STATUS

- All program elements remain complete.
- The following site documents demonstrate how the CCP complied with the CBFO requirements for Audit A-11-11.
    - **CCP-PO-001, Revision 19,** *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (CBFO Memo-CBFO:NTP:NC:GS:10-2048:UFC 5900.00 dated December 9, 2010).
    - **CCP-PO-002, Revision 25,** *CCP Transuranic Waste Certification Plan* **QAP** – Section 4.0 of CCP-PO-002 (CBFO Memo-CBFO:NTP:JRS:MDA:10-2076:UFC 5900.00 dated December 20, 2010).
    - **CCP-PO-003, Revision 12,** *CCP Transuranic Authorized Method for Payload Control* (CBFO Memo-CBFO:NTP:MRB:GS:10-2055:UFC 5900.00 dated December 17, 2010).
- Certified Systems – see Attachment 2 List of Processes/Equipment from Table 1 of this Memorandum that is certified and used by the CCP at the LANL.
- Standard Operating Procedures – see Attachment 3 for the complete list of certified procedures/documents used by the CCP at the LANL.
- Tiering of the CH TRU Waste Characterization Processes – see Attachment 4 for the implementation by CCP at LANL (based on EPA Baseline Inspections).

- CCP participated in the following performance demonstration program (PDP) for Audit A-11-11:
  - **HSG PDP (CCP-INL)** – For CH waste, SUMMA sampling is performed by CCP, analysis is performed by the Idaho National Laboratory, which is approved under a separate certification.
  - **NDA PDP - Cycle 17A approval** for analysis of TRU waste drums by nondestructive assay using the High Efficiency Neutron Counter (HENC) HENC #1 (LA06/LAN5) and HENC #2 (LA07/LAN6).
    Memo CBFO:NTP:MB:GS:10-1437:UFC 5822.00 dated July 8, 2010.

- CBFO conducted CH Recertification Audit A-11-11 of the LANL-CCP on May 17-19, 2011.
  - The Interim Audit Report was issued on June 10, 2011.
  - The Final Audit Report was issued to NMED on August 8, 2011.
  - CARs 11-036, 11-037, 11-038 were issued on May 31, 2011.
    - CAR 11-036 was closed on August 5, 2011.
    - CAR 11-037 was closed on July 21, 2011.
    - CAR 11-038 was closed on July 7, 2011.
  - NMED approval on Audit A-11-11 was issued on September 23, 2011.

- CBFO conducted Audit A-11-06 of the CCP Quality Assurance Program (QAP) on March 1-3, 2011.
  - The Audit Report was issued on March 28, 2011.

- CBFO conducted Audit A-10-25 of the CCP Transportation Activities for all sites on September 21-23, 2010.
  - The Audit Report was issued on October 5, 2010.

- The EPA concurred on the draft recertification memo on October 12, 2011.

RECOMMENDATION

The recommendation to the CBFO Manager is to continue the authority for CCP at LANL for TRU waste characterization, certification, and transportation activities of contact-handled homogeneous solids (S3000) and debris waste (S5000) and to continue the authority for the processes associated with the Off-site Source Recovery Program at the LANL. Attachments 2, 3 and 4 list the systems and procedures that constitute the bounds of this authority.

CONCURRENCE

R. Unger — 7 Oct 11.

Randy Unger, Director
CBFO Quality Assurance

Date

J.R. Stroble — 10-11-11

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

Date

CENTRAL CHARACTERIZATION PROJECT List of Processes/Equipment Certified from Table 1 of Memo at Los Alamos National Laboratory					
WIPP WWIS #	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**Calibration**
Non-destructive Assay					
11HC1	HENC1 LA06/LAN5	Canberra Industries High Efficiency Neutron Counter mounted in a transportation container. Procedure: CCP-TP-063	• Cadmium gamma ray filter and the Add-A-Source (AAS) • Canberra Neutron Multiplicity Counter • Canberra Digital Signal Processor • (1) Broad range HPGe detector • Analysis equipment	• Canberra NDA 2000 • Genie 2000 • Multi Group Analysis (MGA) Isotopics • Fixed-energy Response function Analysis with Multiple efficiencies (FRAM)	*Calibration Report for the HENC#1 Including Passive Neutron and Gamma Spectrometer Calibration and Confirmation*, MCS-HENC#1-NDA-1002 describes the operating ranges and methods. The acceptable ranges are: Passive neutron; LLD to 16.28 g $^{240}Pu_{eff}$ for multiplying waste streams, LLD to 35.0 g $^{240}Pu_{eff}$ for non-multiplying waste streams, and Gamma: LLD to 217g of Weapons Grade Pu limited by dead time. Acceptable density range for gamma is 0.018 – 2.1 g/cc. The Total Measurement Uncertainty estimates are described in *Total Measurement Uncertainty for the MCS HENC#1 With Integral Gamma Spectrometer*, CI-HENC-TMU-101.
11HC2	HENC2 LA07/LAN6	Canberra Industries High Efficiency Neutron Counter mounted in a trailer. Procedure: CCP-TP-063	• Tin/Copper gamma ray filter and the Add-A-Source (AAS) • Canberra Neutron Multiplicity Counter • Canberra Digital Signal Processor • (1) Broad range HPGe detector • Analysis equipment	• Canberra NDA 2000 • Genie 2000 • Multi Group Analysis (MGA) Isotopics • Fixed-energy Response function Analysis with Multiple efficiencies (FRAM)	*Calibration Report for the HENC#2 Including Passive Neutron and Gamma Spectrometer Calibration and Confirmation*, HENC#2-NDA-1002 describes the operating ranges and methods. The acceptable ranges are: Passive neutron; LLD to 16.28 g $^{240}Pu_{eff}$ for multiplying waste streams, LLD to 35.0 g $^{240}Pu_{eff}$ for non-multiplying waste streams, and Gamma: LLD to 217g of Weapons Grade Pu limited by dead time. Acceptable density range for gamma is 0.018 – 2.1 g/cc. The Total Measurement Uncertainty estimates are described in *Total Measurement Uncertainty for the HENC#2 With Integral Gamma Spectrometer*, CI-HENC2-TMU-101.

CENTRAL CHARACTERIZATION PROJECT List of Processes/Equipment Certified from Table 1 of Memo at Los Alamos National Laboratory					
WIPP WWIS #	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**Calibration**
Non-destructive Examination					
11RR2	RTR2	Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] Procedure CCP-TP-053 and CCP-TP-028	• **Control and Data Acquisition console/station** • **X-ray producing component with controls** • **Shielded X-ray enclosure.** • **waste container handling system with turntable dolly assembly** • **Conveyor cart, drum handling equipment (forklift with container grappler) X-ray imaging system** • **Video/Audio recording equipment**	**NA**	**N/A**
Visual Examination					
11VE1	N/A	CH Visual Examination Procedure CCP-TP-113	N/A	N/A	N/A
11VE2	N/A	CH Visual Examination (OSRP) Procedure CCP-TP-069 Description: Characterization performed utilizing VE	N/A	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

LANL CCP List of Deactivated Equipment				
WIPP #	**Site Equipment #**	**Description**	**Components/Software**	**Date Deactivated**
11PT1	PTGS/FRAM System 1 PTGS/FRAM System 3 LA05/LAG5	Portable Tomographic Gamma Scanner (PTGS) - The data from this system is used along with the relative isotopic data from the FRAM systems to generate quantitative isotopic information for each waste container.	• Components: Portable Tomographic Gamma Scanner; HPGe Detector; EG&G Ortec solid state photon detector; EG&G Ortec spectroscopy system; Drum turntable • Software: Maestro spectroscopy software; PC/FRAM software; ANTECH MasterScan; ANTECH MasterAnalysis	January 8, 2007
11HG1	Agilent GC/MS	N/A	• Components: Two Entech 7032-L MiniCan autosamplers (Units A - DB-624 column; and B - GS-Mole Sieve Particle Lined Open Tubular (PLOT) column) with autoloop systems with independent pressurization ports. • Software: SmartLab; Agilent Technologies EnviroQuant ChemStation G1701BA (Version D.00.00.38, or higher); Nomad®Data Logger Software; DicksonWare®; LabSmart MiniCan Autosampler	2006
11RR1	RTR1	Real-Time Radiography Mobile Characterization System RTR-[built by VJ Technologies]	• Control and Data Acquisition console/station • X-ray producing component with controls • Shielded X-ray enclosure • Waste container handling system with turntable dolly assembly • Conveyor cart, drum handling equipment (forklift with container grappler) X-ray imaging system • Video/Audio recording equipment	2008