

United States Government

memorandum**ENTERED**

Department of Energy

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: MAR 15 2012

**REPLY TO
ATTN OF:** CBFO:NTP:JRS:PG:12-0426:UFC 5900.00

SUBJECT: Los Alamos National Laboratory – Central Characterization Project Expansion to Recertification A-11-11 to Include the High Energy Real-Time Radiography (HE-RTR) Unit

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

The Carlsbad Field Office (CBFO) is expanding the Los Alamos National Laboratory–Central Characterization Project (hereinafter referred to as (LANL-CCP) Contact-Handled (CH) Recertification Memorandum (CBFO:NTP:JRS:PG:11-2047:UFC 5900.00) dated December 23, 2011. This expansion reflects the addition of the High Energy Real-Time Radiography (HE-RTR) Unit to the characterization of CH transuranic (TRU) waste activities at LANL-CCP. Although the LANL CCP HE-RTR unit was included in the scope of Audit A-11-11, installation had not been completed and therefore the unit could not be evaluated and was found to be indeterminate. To complete the initial certification of the HE-RTR Unit and to resolve the indeterminate conclusion (solely with respect to the HE-RTR) from Audit A-11-11, the Surveillance S-12-16 was conducted on ~~January 24-25, 2011~~. As a result, the HE-RTR was determined to be adequate, satisfactorily implemented and effective.

The CBFO completed the Recertification Audit A-11-11 of the CCP- LANL TRU waste characterization activities deployed at the LANL Site conducted on May 17-19, 2011. The CBFO certified CH Summary Category Group (SCG) S3000 Homogeneous Solids and SCG S5000 Debris waste. 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 is granting authority at the LANL-CCP for TRU waste characterization, certification, and transportation activities as identified in Table 1, Page 4 of this memorandum. The CBFO is also continuing the certification of the processes associated with the Off-Site Source Recovery Program (OSRP).

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TRU waste characterization, certification, or transportation activities 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 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 the 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 the CBFO on a quarterly basis.

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.


Jose R. Franco, Manager
Carlsbad Field Office

Attachments (4)

cc: w/attachments
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P. Gilbert, LANL-CO ED
G. Lyshik, LANL-CO ED
S. Percy, SM Stoller ED
WIPP Operating Record ED
CBFO M&RC
*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 (NDA) | 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
CERTIFICATION PROGRAM STATUS
AT Los Alamos National Laboratory**

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 Los Alamos National Laboratory (LANL) site (hereinafter referred to as LANL-CCP).

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 20, CCP Transuranic Waste Characterization Quality Assurance Project Plan**
(CBFO Memo-CBFO:NTP:JRS:GS:11-0351:UFC 5900.00, June 15, 2011).
 - **CCP-PO-002, Revision 26, CCP Transuranic Waste Certification Plan QAP – Section 4.0 of CCP-PO-002**
(CBFO Memo-CBFO:NTP:JRS:ANC:11-0396:UFC 5900.00 July 14, 2011).
 - **CCP-PO-003, Revision 12, CCP Transuranic Authorized Method for Payload Control**
(CBFO Memo-CBFO:NTP:MRB:GS:10-2055:UFC 5900.00 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):
 - **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,
 - **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,
 - **NDA PDP – Cycle 10C approval** for radioassay of TRU standard waste boxes using the SuperHENC (LA08/LAN7).
Memo CBFO:NTP:MRB:GS:11-1724:UFC 5822.00 dated August 17, 2011.
- 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.
 - EPA issued concurrence on October 12, 2011.
- CBFO conducted Audit A-11-06 of the CCP Quality Assurance Program (QAP) on March 1-3, 2011.
 - CAR 11-019 and CAR 11-020 were issued on March 15, 2011.
 - Revision of CAR Number 11-019 to CAR Number 11-021 was issued on March 16, 2011.
 - CAR 11-021 was closed on June 2, 1011.
 - CAR 11-020 was closed on July 21, 2011.
 - Audit Report was issued on March 28, 2011.
- CBFO conducted Audit A-11-24 of the CCP CH and RH Transportation Activities for all sites on September 20-22, 2011 and issued the Audit Report on October 4, 2011.
- CBFO requested a Tier 1 change to the LANL-CCP Baseline on July 5, 2011 (CBFO:NTP:NC:GS:11-0372:UFC 5822.00) to add the SuperHENC.
 - CBFO conducted S-11-29 on August 15, 2011 and issued report September 14, 2011.
 - EPA approval issued on October 28, 2011 (Docket No: A-98-49; II-A4-153).

- CBFO conducted Surveillance S-12-16 as a follow-up to the initial certification Audit A-11-11 of the High Energy Real-Time Radiography (HE-RTR) on January 24-25, 2012 and issued the Surveillance Report on February 14, 2012.
- The EPA concurred on the draft expansion memo adding the HE-RTR to the LANL-CCP certification on March 13, 2012.

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 (S5000) waste; to continue the authority for the processes associated with the Off-site Source Recovery Program; and to include the HE-RTR into their certified program. Attachments 2, 3 and 4 list the systems and procedures that constitute the bounds of this authority.

CONCURRENCE



Randy Unger, Director
Office of Quality Assurance

15 Mar 12
Date


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

3-15-12
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. As identified in CCP-TP-063 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Canberra NDA 2000 • Genie 2000 • Multi Group Analysis (MGA) Isotopics • Fixed-energy Response function Analysis with Multiple efficiencies (FRAM) | <i>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 ²⁴⁰Pu_{eff} for multiplying waste streams, LLD to 35.0 g ²⁴⁰Pu_{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.</i> |
| 11HC2 | HENC2 LA07/LAN6 | Canberra Industries High Efficiency Neutron Counter mounted in a trailer. As identified in CCP-TP-063 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Canberra NDA 2000 • Genie 2000 • Multi Group Analysis (MGA) Isotopics • Fixed-energy Response function Analysis with Multiple efficiencies (FRAM) | <i>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 ²⁴⁰Pu_{eff} for multiplying waste streams, LLD to 35.0 g ²⁴⁰Pu_{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.</i> |
| 11SHC1 | SHENC | Super High Efficiency Neutron Counter mounted in a trailer, SWBs. As identified in CCP-TP-059 and CCP-TP-103 | <ul style="list-style-type: none"> • Tin/Copper gamma ray filter and the Add-A-Source (AAS) • Neutron Multiplicity Counter • Digital Signal Processor • (1) Broad range HPGe | <ul style="list-style-type: none"> • NDA 2000 • Genie 2000 • MultiGroup Analysis (MGA) Isotopics • Fixed-Energy Response function Analysis with Multiple efficiencies (FRAM) | <i>Calibration Report for the SuperHENC at Los Alamos National Laboratory including Passive Neutron and Gamma Spectrometer Calibration and Confirmation, LANL-SHENC3-NDA-1003 describes the operating</i> |

| 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 |
| | | | <ul style="list-style-type: none"> detector Analysis equipment | | <p>ranges and methods. The acceptable ranges are: Passive neutron: LLD to 34.0 grams ²⁴⁰Pu/g for all waste streams. Gamma: LLD to 325g of Total Pu limited by dead time. Acceptable density range for gamma is approximately 0.00-1.00 g/cc. The Total Measurement Uncertainty estimates are described in <i>Total Measurement Uncertainty for the Los Alamos SuperHENC with Gamma Spectroscopy</i>, CI-SHENC-TMU-102.</p> |
| Non-destructive Examination | | | | | |
| 11RR2 | RTR2 | Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] As identified in CCP-TP-053 and CCP-TP-028 | <ul style="list-style-type: none"> 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 grapple) X-ray imaging system Video/Audio recording equipment | N/A | N/A |
| 11HER TR3 | HERTR | High Energy Real Time Radiography [built by VJ Technologies] – 55-gallon drums and SWBs. As identified in CCP-TP-053 and CCP-TP-028 | <ul style="list-style-type: none"> 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 grapple) X-ray imaging system Video/Audio recording equipment | NA | NA |
| Visual Examination | | | | | |

| 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 |
| 11VE1 | N/A | CH Visual Examination As identified in 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. | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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] | <ul style="list-style-type: none"> • 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 grapple) X-ray imaging system • Video/Audio recording equipment | 2008 |

| CENTRAL CHARACTERIZATION PROJECT LIST OF CERTIFIED PROCEDURES At Los Alamos National Laboratory | | |
|--|-----------------------------|---|
| No. | Procedure Number | DOCUMENT TITLE |
| 1. | CCP-PO-001 | CCP Transuranic Waste Quality Assurance Project Plan |
| 2. | CCP-PO-002 | CCP Transuranic Waste Certification Plan |
| 3. | CCP-PO-003 | CCP Transuranic Authorized Methods for Payload Control (CCP CH TRAMPAC) |
| 4. | CCP-PO-005 | CCP Conduct of Operations |
| 5. | CCP-PO-008 | CCP Quality Assurance Interface with WTS QA Program |
| 6. | CCP-PO-012 | CCP/LANL Interface Document |
| 7. | CCP-QP-001 | CCP Graded Approach |
| 8. | CCP-QP-002 | CCP Training and Qualification Plan |
| 9. | CCP-QP-004 | CCP Corrective Action Management |
| 10. | CCP-QP-005 | CCP TRU Nonconforming Item Reporting and Control System |
| 11. | CCP-QP-006 | CCP Corrective Action Reporting and Control |
| 12. | CCP-QP-008 | CCP Records Management |
| 13. | CCP-QP-010 | CCP Document Preparation, Approval and Control |
| 14. | CCP-QP-011 | CCP Laboratory Logbooks |
| 15. | CCP-QP-014 | CCP Quality Assurance Trend Analysis and Reporting |
| 16. | CCP-QP-015 | CCP Procurement |
| 17. | CCP-QP-016 | CCP Control of Measuring, Testing, and Data Collection Equipment |
| 18. | CCP-QP-017 | CCP Identification and Control of Items |
| 19. | CCP-QP-018 | CCP Management Assessment |
| 20. | CCP-QP-019 | CCP Quality Assurance Reporting to Management |
| 21. | CCP-QP-021 | CCP Surveillance Program |
| 22. | CCP-QP-022 | CCP TRU Software Quality Assurance Plan |
| 23. | CCP-QP-023 | CCP Handling, Storage, and Shipping |
| 24. | CCP-QP-025 | CCP Lessons Learned |
| 25. | CCP-QP-026 | CCP Inspection Control |
| 26. | CCP-QP-027 | CCP Test Control |
| 27. | CCP-QP-028 | CCP Records Filing, Inventorying, Scheduling, and Dispositioning |
| 28. | CCP-QP-030 | CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel |
| 29. | CCP-TP-001 | CCP Project Level Data Validation and Verification |
| 30. | CCP-TP-002 | CCP Reconciliation of DQOs and Reporting Characterization Data |
| 31. | CCP-TP-003 | CCP Data Analysis for S3000, S4000, S5000 Characterization |
| 32. | CCP-TP-005 | CCP Acceptable Knowledge Documentation |
| 33. | CCP-TP-008 | CCP Solids Sampling Procedure |
| 34. | CCP-TP-028 | CCP Radiographic Test Drum and Training Container Construction |
| 35. | CCP-TP-030 | CCP CH TRU Waste Certification and WWIS/WDS Data Entry |
| 36. | CCP-TP-033 | CCP Shipping of CH TRU Waste |
| 37. | CCP-TP-053 | CCP Standard Real-Time Radiography (RTR) Inspection Procedure |

| CENTRAL CHARACTERIZATION PROJECT LIST OF CERTIFIED PROCEDURES At Los Alamos National Laboratory | | |
|--|-----------------------------|---|
| No. | Procedure Number | DOCUMENT TITLE |
| 38. | CCP-TP-054 | CCP Adjustable Center of Gravity Lift Fixture Preoperational Checks and Shutdown |
| 39. | CCP-TP-055 | CCP Varian Porta-Test Leak Detector Operations |
| 40. | CCP-TP-056 | CCP HSG Performance Demonstration Plan |
| 41. | CCP-TP-058 | CCP NDA Performance Demonstration Plan |
| 42. | CCP-TP-059 | CCP Operating the SuperHENC Using NDA 2000 |
| 43. | CCP-TP-063 | CCP Operating the High Efficiency Neutron Counter Using NDA 2000 |
| 44. | CCP-TP-064 | CCP Calibrating the High Efficiency Neutron Counter Using NDA 2000 |
| 45. | CCP-TP-069 | CCP Sealed Source Visual Examination and Packaging |
| 46. | CCP-TP-082 | CCP Preparing and Handling Waste Drums for Headspace Gas |
| 47. | CCP-TP-083 | CCP Gas Generation Testing |
| 48. | CCP-TP-086 | CCP CH Packaging Payload Assembly |
| 49. | CCP-TP-093 | CCP Sampling of TRU Waste Containers |
| 50. | CCP-TP-098 | CCP Installation of the NucFil HSG Sample Port |
| 51. | CCP-TP-101 | CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization |
| 52. | CCP-TP-103 | CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000 |
| 53. | CCP-TP-106 | CCP Headspace Gas Sampling Batch Data Report Preparation |
| 54. | CCP-TP-113 | CCP Standard Waste Visual Examination |
| 55. | CCP-TP-120 | CCP Container Management |
| 56. | CCP-TP-138 | CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure |
| 57. | CCP-TP-162 | CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis |
| 58. | CCP-TP-163 | CCP Evaluation of Waste Packaging Records for Visual Examination of Records |
| 59. | CCP-TP-180 | CCP Analytical Sample Management |
| 60. | CCP-TP-198 | CCP HE-RTR Operating Procedure |

| CENTRAL CHARACTERIZATION PROJECT LIST OF DEACTIVATED PROCEDURES AT LANL | | | |
|--|--------------------------------|--|-------------------------|
| # | Deactivated Procedure # | Deactivated Procedure Title | Date Deactivated |
| 1. | CCP-QP-009 | CCP Work Control Process | 10/06 |
| 2. | CCP-QP-025 | CCP Lessons Learned | 6/10 |
| 3. | CCP-TP-089 | MGSS Sampling Operations | 10/09 |
| 4. | CCP-TP-092 | CCP Mobile Gas Generation Testing Sampling System (MGSS) Data Calculation | 10/09 |
| 5. | CCP-TP-094 | GGTP Drum Screening and Batching | 10/09 |
| 6. | CCP-TP-123 | CCP Calibrating the Tomographic Gamma Scanning System | 1/07 |
| 7. | CCP-TP-124 | CCP Determining Isotopic Ratios in Waste Containers Using the RANT PC/FRAM Assay System | 1/07 |
| 8. | CCP-TP-125 | CCP Verification and Validation of NDA Data Using a Manual Review Method | 1/07 |
| 9. | CCP-TP-126 | CCP Waste Assay using the Portable Tomographic Gamma Scanner | 1/07 |
| 10. | CCP-TP-127 | CCP Canister Cleaning Using the ENTECH 3100 Canister Cleaning System | 1/06 |
| 11. | CCP-TP-128 | CCP TRU Waste Container HSG Analysis (Entech-Agilent) | 1/06 |
| 12. | CCP-TP-129 | CCP HSG Sampling and Analysis Batch Data Report Preparation (Entech-Agilent) | 1/06 |
| 13. | CCP-TP-130 | CCP Entech Canister Gauge Leak Test | 1/06 |
| 14. | CCP-TP-131 | CCP Manual Headspace Gas Sampling of TRU Waste Containers for the Entech/Agilent Analytical System | 1/06 |
| 15. | CCP-TP-136 | CCP Standardized Prohibited Item Remediation | 9/06 |
| 16. | CCP-TP-043 | CCP Chain of Custody for SUMMA® Canister Sampling Using the INL Lab | 9/07 |

EPA Tiering of Contact-Handled Transuranic Waste Characterization Processes Implemented by LANL-CCP

| WC Process Elements | LANL-CCP WC T1 Changes | LANL-CCP WC T2 Changes* |
|--|---|--|
| Acceptable Knowledge (AK) and Load Management | Any new waste category, or new OSRP wastes addressed in AK Summaries separate from CCP-AK-008; AK (3), AK (6), AK (16) and (AK) 17 Implementation of Load Management for waste streams other than AK-009; AK (5) | Notification to EPA upon completion of AK Accuracy Reports; AK (2) Notification to EPA upon completion of updates to or substantive modifications*** of the following: <ul style="list-style-type: none"> - AK Reassessment Memoranda and combination of waste streams that were distinct at the time of this inspection; AK (2) and AK (6) - AK-VE Memoranda related to VE and/or RTR techniques; VE (2) - AK-NDA Memoranda; AK (2 and 3) - AK Accuracy Reports; AK (2) - Site procedures requiring CBFO approval; AK (4) - AK Summary CCP-AK-008, if changed since the baseline inspection and/or following the addition of new sealed sources AK (6) - Change Notices used to modify and update WSPFs, including additions to waste stream(s) within an approved waste category; AK (9) |
| Nondestructive Assay (NDA) | New equipment or physical modifications to approved equipment**: NDA (1-1, 2-1, 3-1) Extension or changes to approved calibration range for approved equipment; NDA (1-2, 2-2, 3-2) | Notification to EPA upon completion of changes to software for approved equipment, operating range(s) and site procedures that require CBFO approval; NDA (1-2, 2-2, 3-2) |
| Real-Time Radiography (RTR) | N/A | Notification to EPA upon the following: <ul style="list-style-type: none"> - Implementation of new equipment or substantive changes*** to approved equipment; RTR (1) - Completion of changes to site procedures requiring CBFO approvals; RTR (2) |
| Visual Examination (VE) and Visual Examination Technique (VET), including OSRP Wastes (Sealed Source VET or SSVET) | N/A | Notification to EPA upon the following: <ul style="list-style-type: none"> - Completion of changes to site VE and VET procedures requiring CBFO approvals, including OSRP VET procedure; VE (1) and SSVET (1) |
| WIPP Waste Information System (WWIS) | N/A | Notification to EPA upon the following: <ul style="list-style-type: none"> - Completion of changes to WWIS procedure(s) requiring CBFO approvals; WWIS (1) and WWIS (2) - Changes to the Excel spreadsheet, WWIS data entry summary, characterization and certification*** that require CBFO approval; WWIS (1) and WWIS (2) |

* Upon receiving EPA approval, LANL-CCP will report all T2 changes to EPA at the end of each fiscal year quarter.

** Modifications to approved equipment include all changes with the potential to affect NDA data relative to waste isolation and exclude minor changes, such as the addition of safety-related equipment.

*** *Substantive changes* means changes with the potential to impact the site's waste characterization activities or documentation thereof, excluding changes that are solely related to Environmental Safety & Health (ES&H), nuclear safety, the Resource Conservation and Recovery Act (RCRA) or are editorial in nature.