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Carlsbad Field Office
Carlsbad, New Mexico 88221

JUN 2011

DATE: JUN 10 2011

REPLY TO
ATTN OF: CBFO:OQA:DSM:MAG:11-0584:UFC 2300.00

SUBJECT: Interim Audit Report A-11-11, LANL/CCP TRU Waste Characterization and Certification

TO: M. Lee Bishop, LASO

The Carlsbad Field Office (CBFO) conducted Audit A-11-11 of the Los Alamos National Laboratory Central Characterization Project (LANL/CCP) Transuranic (TRU) Waste Characterization and Certification on May 17-19, 2011. The Interim Audit Report is attached.

The audit team concluded that the LANL/CCP technical and quality assurance programs for these activities were adequate for compliance with the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the CBFO *Quality Assurance Program Document* (QAPD), the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC), and the *Contact-Handled Transuranic Waste Authorized Methods for Payload Control* (CH-TRAMPAC). The audit team also concluded that, overall, the LANL/CCP programs and procedures were satisfactorily implemented and effective.

If you have any questions or comments, please contact me at (575) 234-7491.



Dennis S. Miehs
Senior Quality Assurance Specialist

Attachment

cc: w/attachment

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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

LOS ALAMOS NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROJECT

LOS ALAMOS, NEW MEXICO

AUDIT NUMBER A-11-11

MAY 17 – 19, 2011

TRU WASTE CHARACTERIZATION AND CERTIFICATION



Prepared by:



Greg Knox, CTAC
Audit Team Leader

Date:

6/7/11

Approved by:



Randy Unger, CBO
Director, Office of Quality Assurance

Date:

9 Jun 11

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-11-11 was conducted to evaluate the adequacy, implementation, and effectiveness of Los Alamos National Laboratory (LANL) transuranic (TRU) waste characterization activities performed for LANL by the Washington TRU Solutions (WTS) Central Characterization Project (CCP) relative to the requirements detailed in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the *CBFO Quality Assurance Program Document (QAPD)*, the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*, and the *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)*.

The audit team evaluated the characterization processes for contact-handled (CH) Summary Category Group (SCG) S3000 homogeneous solids and SCG S5000 debris wastes. The specific elements evaluated during this audit are listed in section 2.1.

The audit was conducted at the LANL facilities in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, May 17 – 19, 2011. The audit team concluded that the LANL/CCP technical and quality assurance (QA) programs evaluated were adequately established for compliance with applicable upper-tier requirements. The audit team verified that the LANL/CCP technical and QA programs used for characterization and certification of CH SCG S3000 homogeneous solids and SCG S5000 debris waste continue to be satisfactorily implemented and effective.

The audit team identified nine concerns during the audit. Three concerns identified in the areas of Headspace Gas (HSG) Sampling, Real-Time Radiography (RTR), and Training were determined to be Conditions Adverse to Quality (CAQ) and were documented in CBFO Corrective Action Reports (CARs) 11-036, 11-037, and 11-038 (see section 6.1). Four concerns identified in the areas of Acceptable Knowledge (AK), Visual Examination (VE), and Training were determined to be isolated CAQs, and were corrected during the audit (CDA) (see section 6.2).

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the continued adequacy, implementation, and effectiveness of the LANL/CCP TRU waste characterization and certification activities for SCG S3000 homogeneous solids and SCG S5000 debris wastes. The following elements were evaluated:

Quality Assurance

- Personnel Qualification and Training
- Nonconformance Reporting
- Records

Technical

Generation and Project-level Data Validation and Verification (V&V)
Acceptable Knowledge (AK)
Headspace Gas (HSG) Sampling
Real-Time Radiography (RTR),
 including initial qualification of the High Energy RTR equipment
Visual Examination (VE),
 including Off-Site Source Recovery Program (OSRP)
Nondestructive Assay (NDA),
 including initial qualification of Super High Energy Neutron Counter
 (SuperHENC) equipment
Performance Demonstration Program (PDP)
Flammable Gas Analysis (FGA)
WIPP Waste Information System (WWIS)/Waste Data System (WDS)
Load Management

TRUPACT-II Operations/Waste Certification/Transportation

Waste Certification
Packaging Operations
Payload Assembly
Shipping
Payload Management
Container Management

The evaluation of LANL/CCP TRU waste activities was based on current versions of the following documents:

Hazardous Waste Facility Permit Waste Isolation Pilot Plant, EPA No. NM4890139088-TSDF, New Mexico Environment Department

CBFO Quality Assurance Program Document, DOE/CBFO-94-1012

Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC), DOE/WIPP-02-3122

Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)

CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP), CCP-PO-001

CCP Transuranic Waste Certification Plan, CCP-PO-002

*CCP Transuranic Authorized Methods for Payload Control (CCP CH TRAMPAC),
CCP-PO-003*

Related technical and QA implementing procedures

2.2 Purpose

Audit A-11-11 was conducted to assess sustained compliance with requirements applicable to waste characterization and certification activities for CH TRU SCG S3000 homogeneous solids and SCG S5000 debris waste.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Dennis Miehls	Audit Team Management Representative, CBFO
Greg Knox	Audit Team Leader (ATL), CBFO Technical Assistance Contractor (CTAC)
Rick Castillo	Auditor, CTAC
Cindi Castillo	Auditor, CTAC
Charleen Roberts	Auditor, CTAC
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Paul Gomez	Technical Specialist, CTAC
Mavis Lin	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Joe Willis	Technical Specialist, WTS

OBSERVERS

Martin Navarrete	CBFO Office of Quality Assurance
Norma Castaneda	CBFO Office of the National TRU Program
Steve Holmes	New Mexico Environment Department (NMED)
Tim Hall	NMED
Ricardo Maestas	NMED
Connie Walker	NMED

4.0 AUDIT PARTICIPANTS

LANL/CCP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held in the Taos Conference Room at the Best Western Hilltop

Inn, in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, on May 17, 2011. Daily briefings were held with LANL/CCP management and staff to discuss issues, potential deficiencies, and audit progress. On May 19, 2011, due to resource issues, audit activities were moved to the URS Corporate Office Building in Los Alamos, NM, and the final management/post-audit meeting was held there and in the Skeen-Whitlock Building on May 19, 2011.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the LANL/CCP TRU waste characterization and certification activities evaluated, as related to CH TRU waste and described in the associated implementing procedures, were adequate, satisfactorily implemented, and effective. Audited activities are described below. With the exception of a revised LANL/CCP interface agreement, there have been no significant changes to the LANL/CCP characterization and certification program management or processes since the previous recertification Audit A-10-14. Attachment 2 contains an overall summary of audit results. Attachment 3 contains a list of documents that were evaluated during the audit. Attachment 4 contains a list of the processes and equipment evaluated.

5.2 Quality Assurance Activities

The audit team evaluated the QA elements for personnel qualification and training, quality assurance records, and control of nonconformances to applicable upper-tier requirements. The evaluation results for each area audited are described below.

Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing Procedure CCP-QP-002, Rev. 31, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records associated with VE (including OSRP), RTR, NDA, HSG Sampling, FGA, Transportation and Packaging Operations, AK, and Site Project Management were examined to verify implementation of associated requirements and to verify that personnel performing characterization activities are appropriately qualified. Records reviews included qualification cards and other pertinent qualification documentation, including attendance sheets/briefings on newly revised AK summaries for RTR and VE operators, capability demonstration tests and training container documentation, eye exams, etc.

The audit team identified one CAQ resulting in the issuance of CBFO CAR 11-038 and one CAQ resulting in a CDA. CBFO CAR 11-038 involved issuance and use of current revisions of FGA qualification cards. CCP Training personnel did not issue the current revision (revision 4) of FGA-01, Flammable Gas Analysis Operator/Independent Technical Reviewer (ITR) Qualification Card, for qualifying an operator in April 2011. Revision 0 was issued instead of revision 4. This appears to be an administrative issue

concerning the qualification card revision letter and does not impact qualification of personnel (see section 6.1, CBFO CAR 11-038).

The CDA concerned an individual included on the List of Qualified Individuals (LOQI), dated 5/7/2011, as a qualified Expert Analyst (EA) for both the NDA HENC 1 and 2 systems as well as the SuperHENC system. Objective evidence provided (Qualification Card EA-01, Rev. 5, dated 5/11/2011) indicated that the individual was qualified for the SuperHENC, but the HENC 1 and 2 system sign-off lines and dates were marked "N/A." Additional objective evidence was provided to the audit team to clarify that the individual was previously qualified as an EA for the LANL HENC 1 and 2 systems on a qualification card that was obsolete. This was annotated on the current qualification card during the audit, and the obsolete qualification card was attached to the new record showing evidence of qualification on all systems (see section 6.2, CDA 4).

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for Personnel Qualification and Training are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

Nonconformance Reporting

The audit team reviewed implementing Procedure CCP-QP-005, Rev. 20, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedure adequately addresses upper-tier requirements. The audit team interviewed the CCP/Carlsbad quality assurance engineer and then randomly selected a batch of nonconformance reports (NCRs) (NCR-LANL-0640-10, NCR-LANL-0653-10, NCR-LANL-0695-10, NCR-LANL-2311-11, NCR-LANL-2313-11, and NCR-LANL-2230-11) to confirm that deficiencies are appropriately documented and tracked through resolution. Two NCRs (NCR-LANL-0507-10 and NCR-LANL-0506-11) documented non-administrative deficiencies first identified at the site project management (SPM) level, which must be reported to the Permittee within seven days of identification. The audit team verified that the seven-day reporting requirement was met. All NCRs were verified as being managed and tracked in the CCP data center, in the CCP NCR 2010 and 2011 logs, and through the required reconciliation reporting mechanism. No concerns were identified.

Overall, Nonconformance Reporting activities were determined to be adequate, satisfactorily implemented, and effective.

Records

The audit team interviewed personnel and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The procedure review included CCP-QP-008, Rev. 18, *CCP Records Management*, and CCP-QP-028, Rev. 12, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Control of QA

records was verified through review of the CH Records Inventory and Disposition Schedule (RIDS) dated 3/15/11. No concerns were identified.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA Records activities are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3 Technical Activities

5.3.1 Project-level Data Validation and Verification

The audit team assessed the project-level data V&V process for waste characterization activities. The ability of the LANL/CCP to characterize SCG S5000 debris waste and SCG S3000 solids waste was evaluated. Objective evidence was reviewed as part of this assessment and utilized in the completion of Table C6 Waste Analysis Plan (WAP) checklists. The objective evidence included batch data reports (BDRs) completed through CCP SPM review for RTR and VE, HSG sampling and analysis, and solids sampling and analysis characterization processes. In addition, procedures and objective evidence were reviewed to ensure that LANL/CCP adequately performs data reconciliation and preparation of Waste Stream Profile Forms (WSPFs).

Objective evidence was reviewed to determine the adequacy of the SPM V&V procedures, including BDRs from each of the waste characterization activities.

To ensure that all applicable requirements were captured in the site operating procedures, the auditors verified the flow of data from the point of generation to inclusion in the WSPF for each characterization technique. The material in this section is addressed in more detail in the checklists, which identify the specific procedures audited and the objective evidence reviewed.

Compliance with the characterization requirements of the WAP was confirmed through documentation and characterization activity demonstrations. The project-level data V&V process was evaluated by reviewing the following BDRs:

Radiography

LA-RTR2-10-0137	LA-RTR2-11-0001	LA-RTR2-11-0023
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VE

LAVE500427	LAVE500433	LAVE550041
LAVE4120006	LAVE4120010	LA10-OSR-VE-016
LA11-OSR-VE-001		

Headspace Gas Sampling and Analysis

LAHSGS100002	ECL10028G	ECL10028M
LAHSG1101	ECL11001G	ECL11001M
LAHSG1102	ECL11003G	ECL11003M

Solids Sampling and Analysis

SSC10-00003	ALD10006V	ALD10006S
ALD10006N	ALD10006M	

These randomly chosen BDRs were used to demonstrate confirmation of AK, to reconcile data quality objectives (DQOs), and to prepare WSPF LA-OS-00-03 for the Off-Site Source Recovery Project and WSPF LA-CIN01.001 for Mixed Cemented Homogeneous Solid Waste from TA-55.

The audit team reviewed objective evidence to ensure project-level activities were adequately performed to support waste characterization. The quarterly repeat of data generation-level re-reviews for RTR, HSG sampling, and VE were requested. LANL/CCP provided quarterly data for all quarters requested. HSG was characterized in the 4th quarter of 2010 and the 1st quarter of 2011; therefore, no random selection was necessary for HSG sampling from the 2nd and 3rd quarters of 2010 because HSG was not characterized during those quarters. As a follow-up to CBFO CAR 10-029 (no objective evidence quarterly report data), issued during Audit A-10-14, the audit team verified that corrective actions continue to be effective.

A review was performed of the WSPF Characterization Information Summary (CIS) for the S3000 and S5000 waste streams. The WSPF included all correct and appropriate documentation.

The audit team determined that random selection of containers for the site's waste streams was properly completed for solids waste streams LA-MIN04-S.001 and LA-CIN03.001, and debris waste streams LA-MHD02-PTX.001, LA-MHD01.001, and LA-MHD09.001. LANL/CCP performs HSG sampling using SUMMA[®] canisters. Sampling BDRs LAHSGS100002, LAHSG1101, and LAHSG1102 for SCG S5000 debris waste were examined. Drum age criteria (DAC), sample chain-of-custody (COC), and shipment to the analytical laboratory were reviewed and determined to be compliant with project-level requirements.

Solids sampling is not performed at LANL. All drums requiring sampling are transported to the Idaho National Laboratory for processing with the LANL/CCP performing V&V activities on the resulting BDRs.

The audit team concluded that the LANL/CCP Solids V&V processes are adequate, satisfactorily implemented, and effective.

The audit team verified continued corrective actions for CBFO CAR 10-27, identified during Audit A-10-14. The HSG analysis of the SUMMA[®] samples was reviewed by the team, as well as the training and qualification of V&V personnel. The analysis and reporting of the field reference standard was accurately completed.

The audit team concluded that the LANL/CCP HSG sampling and analysis V&V processes are adequate, satisfactorily implemented, and effective.

The LANL/CCP RTR and VE project-level processes were evaluated to determine the effectiveness of RTR and VE as characterization methods. The audit team reviewed BDRs LA-RTR2-10-0137, LA-RTR2-11-0001, and LA-RTR2-11-0023. VE BDRs LAVE500427, LAVE500433, LAVE550041, LAVE4120006, LAVE4120010, LA10-OSR-VE-016, and LAVE11-OSR-VE-001 were also examined by the audit team.

The audit team concluded that the LANL/CCP Solids, RTR and VE V&V processes are adequate, satisfactorily implemented, and effective.

Project-level data V&V for NDA was evaluated by the audit team using characterization reports 1LANDA1374, 2LANDA0770, 2LANDA0772, and LA-11-OSR-CH-001. The reports were found to be adequate, the procedure was satisfactorily implemented, and the V&V processes were effective.

Overall, Project-level Data Validation and Verification activities were found to be adequate, satisfactorily implemented, and effective.

5.3.2 Solids Sampling and Analysis

Solids sampling is not performed at LANL. All drums requiring sampling are transported to the Idaho National Laboratory for processing.

5.3.3 Acceptable Knowledge

The audit team reviewed the AK process and examined AK documentation for two waste streams, a contaminated mixed heterogeneous debris stream from the Lovelace Respiratory Research Institute (LRRI), LA-MHD05.ITRI.001, and a mixed homogeneous inorganic solids stream from TA-55, LA-CIN01.001. The respective AK Summary Reports are CCP-AK-LANL-013, Rev. 3, and CCP-AK-LANL-006, Rev. 10.

In addition to the AK Summary Reports and approved or draft WSPFs for the two LRRI waste streams, the audit team reviewed the following attachments for each stream: the AK Documentation Checklist, attachment 1; the AK Source Document Reference List, attachment 4; the AK Hazardous Constituents List, attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Packaging Form, attachment 6, including the justification for waste material parameter weight estimates; and the AK Container List, attachment 8, including memos supporting the addition of containers to the waste stream. A concern regarding the inclusion of incorrect attachments in AK documentation submitted to CCP records was identified and corrected. Investigative actions indicated this was an isolated occurrence (see Section 6.2, CDA 3).

The audit team also examined numerous AK Source Documents and Source Document Summaries for the two streams to verify support for the information in the AK Summary Reports. The team reviewed examples of discrepancies in the AK record and examined discrepancies between the AK record and characterization activities and resultant AK reevaluations.

NCRs written addressing prohibited items identified during RTR of waste drums were reviewed, including excess liquids, sealed containers greater than four liters, and the presence of impenetrable objects. The WAP-required traceability exercise was conducted for five containers from the two streams, including containers from HSG sampling for the LRR1 debris stream and solids sampling from the TA-55 cemented liquids stream.

In addition to specific BDRs for the drums selected, the audit team examined HSG and Solids Sampling Random Container Selection memos, the HSG Summary Report, the Solids Summary Report, container input forms, historical and current database records, and waste stream characterization checklists used to reconcile characterization results with the AK record for those drums placed in a shipping lot. The AK Accuracy Report for the TA-55 solids stream was also reviewed. A concern regarding the inclusion of conflicting memoranda for the LA-CIN01.001 waste stream was identified and corrected. Investigative actions showed this to be an isolated occurrence and the issue was resolved (see section 6.2, CDA 1).

Finally, training records for AK Expert (AKE) and SPM personnel were also examined by the audit team, along with an example of a recent AK internal surveillance. All applicable elements of Table C6-3 and C6-1 checklists were reviewed during the audit to assure that sufficient and relevant objective evidence had been compiled to demonstrate compliance.

In addition to the WAP requirements, the audit team also examined the AK record for objective evidence to demonstrate compliance with the requirements of the WIPP CH WAC, including information on the ten tracked radionuclides and identification of the two most prevalent radionuclides. The AK/NDA memos were reviewed for both waste streams.

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for Acceptable Knowledge are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

The audit team offered two Recommendations to improve the AK process (see section 6.4).

5.3.4 Headspace Gas Sampling

The audit team evaluated LANL/CCP operations for HSG sampling using SUMMA[®] canisters.

Sampling BDRs LAHSGS100002, LAHSG1101, and LAHSG1102 for debris waste were examined. DAC, operational logbooks, and sample COC and transfer to the analytical laboratory were reviewed and found to be compliant. Material and testing equipment (M&TE) certifications were audited and found to be acceptable. Training and

qualification of sampling individuals were confirmed to be in compliance with training requirements. Interviews were conducted with sampling personnel.

No TRU waste sampling activities were being performed during the audit. The audit team observed a demonstration of sampling on a mock container, which was found to be satisfactory.

During the audit, one CAQ was identified resulting in the issuance of CBFO CAR 11-036. The container ages for four containers listed in BDR LAHSG1101 were not calculated correctly based on the AK documentation. The Sample Container Data Form had previously been revised to address container age discrepancies for three containers as a result of NCR-LANL-0506-11. The container ages for four other containers were inadvertently revised and the errors were not identified during the ITR and SPM reviews. The four containers in question met the WIPP Drum Age Criteria and had not yet been shipped to WIPP (see section 6.1, CBFO CAR 11-036).

COC documents reviewed during the audit confirmed sustained corrective actions for CBFO CAR 10-027 (unsigned chain of custody form) identified during the previous recertification Audit A-10-14.

Overall, LANL/CCP Headspace Gas Sampling procedures and processes evaluated were found to be adequate, satisfactorily implemented, and effective.

5.3.5 Real-Time Radiography

The audit team evaluated the adequacy, implementation and effectiveness of the ability of LANL/CCP to characterize and certify CH SCG S3000 solids waste and SCG S5000 debris waste using the RTR characterization process.

The audit team evaluated the following RTR-related CCP procedures: CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*; CCP-TP-028, Rev. 6, *CCP Radiographic Test Drum and Training Container Construction*; and CCP-TP-053, Rev. 10, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*. The review determined that the procedures adequately address upper-tier requirements.

The audit team examined the following CH RTR BDRs:

LA-RTR2-10-0152	LA-RTR2-10-0087	LA-RTR2-10-0023
LA-RTR2-10-0137	LA-RTR2-10-0083	LA-RTR2-10-0147
LA-RTR2-10-0136	LA-RTR2-10-0055	LA-RTR2-10-0129
LA-RTR2-10-0115	LA-RTR2-11-0003	
LA-RTR2-10-0110	LA-RTR2-11-0008	
LA-RTR2-11-0019	LA-RTR2-11-0001	

The audit team examined personnel qualifications including RTR Operator/ITR qualification cards, test and training drum documentation, and the associated LOQI sheets for the dates RTR operations were performed by RTR personnel. The audit

team evaluated RTR operator-required test and training drum audio/video media for two RTR operators. It was determined by the audit team that all personnel were trained and qualified to perform their assigned tasks.

The audit team witnessed the RTR characterization process for container 65669 using the RTR2 unit, which was equipped with the required hardware to effectively characterize CH SCG S3000 solids waste and SCG S5000 debris waste. The audit team interviewed the RTR operator and verified the use of current AK summaries and RTR operating procedures. The audit team also examined RTR operational logbook LANL-NDE-RTR2-008, and verified logbook entries were recorded correctly and reviewed by the vendor project manager (VPM) as required. Review of operational logbooks confirmed that the RTR1 unit has not been operational since previous Audit A-10-14.

During the review of RTR BDRs, the audit team identified two CAQs. In one container, the assigned weights and the waste material parameters did not correlate to the actual items identified in the waste container. In another BDR, associated NCRs were not recorded on the SPM checklist, BDRs identified in the SPM checklist were not recorded correctly, and for two different containers, the assigned weights and waste material parameters did not correlate to the actual items identified in the waste container (see section 6.1, CBFO CAR 11-037).

Although the LANL/CCP High Energy RTR (HERTR) unit was included in the scope of the audit, installation had not been completed and therefore the unit could not be evaluated. For this reason, adequacy, implementation, and effectiveness of the HERTR unit is indeterminate.

The procedure reviews, field observations, and document reviews performed by the audit team provided evidence that the applicable requirements for characterizing CH SCG S3000 solids waste and SCG S5000 debris waste using the RTR2 unit are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.6 Visual Examination

VE CH TRU Waste

The audit team evaluated the continued adequacy, implementation and effectiveness of the ability of LANL/CCP to characterize and certify CH SCG S3000 solids waste and SCG S5000 debris wastes using the VE characterization process, as well as VE in support of the OSRP.

The audit team evaluated the following BDRs:

LAVE4120001
LAVE500427
LA-10-OSR-VE-016

LAVE4120006
LAVE500433
LA-10-OSR-VE-017

LAVE4120010
LAVE550041
LA-11-OSR-VE-001

The audit team evaluated the following procedures: CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-002, *CCP Training and Qualification Plan*; CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*.

The audit team conducted interviews with VE operators and reviewed training files. The audit team toured the Waste Characterization Reduction and Repackaging (WCRR) facility to observe VE activities. No VE was being performed at the time of the audit for certification, only remediation for Prohibited Items.

One concern was identified for VE using Procedure CCP-TP-113. Attachment 3, CCP Waste VE Independent Technical Reviewer Checklist, item 6, is being answered inconsistently by the VE ITRs. Item 6 states, "Has the data been reviewed for transcription errors?" If VE is from previously packaged waste, the answer is to be marked "N/A," as there is no transcription from raw data to the BDR documents. Several BDRs were marked incorrectly for previously packaged waste. All BDRs since the last audit were reviewed by the CCP VE Expert (VEE) and four were found to be incorrectly marked. The four BDRs were corrected, dated and signed, and given to the SPM for review and submittal to Records. Copies of the corrections and the transmittals to Records were provided to the auditors for verification prior to the end of the audit (see section 6.2, CDA 2).

During Audit A-10-14, CAR 10-025 was identified involving the destruction of field data after transference of information to VE data sheets, therefore not allowing the ITR to verify that data had been properly transferred and reduced from the field data. Documentation reviewed during this audit indicated LANL/CCP continues to comply with the requirements for completeness and accuracy of records. Examination of the VE BDRs verified that when field records are documented, these records are retained in the BDRs. CCP is directing VE operators to include any field records generated during VE of containers to be submitted in the BDR, making the information available for review by the ITR.

VE Off-Site Source Recovery Program

The audit team toured Area 46-234, where the OSRP is located. The LANL/CCP performs VE of sealed sources in support of the OSRP. The OSRP collects sealed sources from various locations, both domestically and overseas, and packages them in pipe-overpack components for shipment to LANL. At the time of packaging, the sources are subject to VE in accordance with Procedure CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*. The audit team examined associated BDRs and training files, and interviewed OSRP VE operations personnel. No concerns were identified.

Overall, VE activities evaluated, including OSRP, were determined to be adequate, satisfactorily implemented, and effective.

5.3.7 Nondestructive Assay

The audit team assessed the adequacy, implementation, and effectiveness of the NDA systems used at LANL/CCP to characterize waste from CH SCG S3000 and SCG S5000 waste streams. The audit team evaluated HENC units 1 and 2 located on Pad 10 in TA-54 Area G. The two HENC units are passive neutron counters with an integral high-purity germanium (HPGe) gamma-ray spectrometer and a ^{252}Cf Add-A-Source to correct for waste matrix moderation properties. CBFO evaluated these NDA systems during the previous LANL/CCP Audit A-10-14.

Based on a review of the current revisions of LANL/CCP procedures provided prior to the audit, a checklist was prepared and used to evaluate the following:

- System stability as indicated by the implementation and effectiveness of quality control measurements, calibration verifications, and weekly interfering matrix checks
- Applicability of each system's calibration and operational range to the matrix, geometry, and radionuclide content of samples assayed since the last audit
- Successful participation in the CBFO-sponsored NDA PDP
- Completed BDRs to ensure data are reported and reviewed as required
- Identification and control of nonconforming items
- Document distribution, control and maintenance
- Data and record storage and retrievability
- Personnel qualification and training
- Continued operability and condition of the two HENC units since Audit A-10-14

The audit team interviewed NDA personnel, observed equipment and practices, and examined electronic and paper copies of reports and records. No concerns were identified during this portion of the audit.

Necessary information regarding the operation of the SuperHENC and its compliance with requirements was not available in time to allow for proper technical review. (The Calibration Report was provided on May 16, 2011, and the total measurement uncertainty (TMU) report was not available during the audit.) Additionally, feedstock waste boxes were not available to the SuperHENC; therefore, no assays of actual waste were performed prior to the audit. Without waste boxes to assay, no BDRs were produced and there were no records of a history of performance checks to evaluate. The SuperHENC has not yet participated in a CBFO-sponsored PDP exercise. As a result, the SuperHENC was deemed indeterminate for adequacy, implementation, and effectiveness.

Overall, NDA activities were determined to be adequate, satisfactorily implemented, and effective.

5.3.8 Performance Demonstration Program

Both HENC units 1 and 2 participated in PDP Cycle 17A. Sample matrices included combustibles and metals. Both HENC units successfully passed PDP criteria for all tested matrices.

During PDP Cycle 14A in 2008, HENC unit 2 did not meet the precision criteria when measuring greater than two curies (Ci) in TRU alpha activity of heat source material in a non-interfering waste matrix. Because of this limited failure, CBFO issued, and LANL/CCP accepted, a conditional approval for performing WIPP-certified NDA of drummed wastes. This conditional approval is based on the following:

- Demonstrated proficiency for all other matrices for both bias and precision over the last two NDA PDP cycles;
- Met the NDA PDP scoring criterion for result bias in the measurements of heat source material contained in a previous cycle's non-interfering sample; and
- Met the precision criterion for NDA PDP matrix samples of higher densities (considered interfering matrix drums) for the six-replicate data set for this sample.

The restriction placed upon HENC unit 2 is for low-density drums (less than 100 lbs per drum), with simultaneously high activity (greater than two Ci total TRU alpha activity).

The LANL/CCP HENC unit 2 has been conditionally approved for NDA of TRU waste drums containing weapons-grade plutonium at all certified activity levels, heat source plutonium at levels below two Ci total TRU alpha activity for all waste densities within the calibrated ranges, and heat source plutonium at levels greater than two Ci total TRU alpha activity in drums weighing greater than 100 lbs and within the system's calibrated ranges.

LANL/CCP has accepted the limitation of the system and has elected not to pursue a corrective action.

During the audit, review of BDRs confirmed that HENC unit 2 has performed WIPP assays only on waste that is not precluded as a result of the conditional approval described above.

Because HENC unit 1 passed all PDP criteria, there are no limitations on the waste that this system can assay within the documented calibration range.

Overall, PDP activities were determined to be adequate, satisfactorily implemented, and effective.

5.3.9 Flammable Gas Analysis

The audit team evaluated flammable gas sampling and analysis operations at LANL/CCP by examining sampling and analysis equipment, observing sampling and analysis operations, conducting personnel interviews, and reviewing selected BDRs for SCG S3000 and SCG S5000 CH TRU waste.

BDRs LA11FG8042, LA11FG8045 (S5000), LA11FG8046, and LA11FG8047 (S3000) were reviewed against DOE/WIPP-06-3345, *Waste Isolation Pilot Plant Flammable Gas Analysis*, Rev. 4, and were found to be satisfactory. Initial and continuing calibrations, determination of minimum detection limit (MDL), records management, container analysis via WIPP TRAMPAC Evaluation Software (WTES) in the WDS, and personnel qualification were verified. Laboratory notebooks, standard certification, and M&TE certification were found to be compliant.

Overall, the LANL/CCP Flammable Gas Sampling and Analysis program was determined to be adequate, satisfactorily implemented, and effective.

5.3.10 WIPP Waste Information System.

The audit team evaluated implementation of the CCP TRU waste certification and WWIS/WDS data entry procedure CCP-QP-030, Rev. 28, *CH TRU Waste Certification and WWIS/WDS Data Entry*. The evaluation included data population of the WDS spreadsheet, review of data entry by a Waste Certification Assistant (WCA), and waste certification by the Waste Certification Official (WCO). Records reviews included container information summaries, pages from BDRs showing analyses values, WWIS/WDS Container Data Reports, and submittals for WWIS review/approval.

The audit team reviewed two complete WWIS/WDS waste certification packages for CH waste (LA00000085371 and LA00000057675). No concerns were identified. Overall, the WIPP Waste Information System/Waste Data System activities were determined to be adequate, satisfactorily implemented, and effective.

5.3.11 Load Management

Load management is not currently conducted at LANL because no LANL waste streams are currently approved for load management. The audit team reviewed the LANL/CCP procedure for load management.

The audit team concluded that the requirements related to load management were adequately addressed and provisions were satisfactorily established for implementation should load management activities resume.

5.4 Transportation/Waste Certification/TRUPACT-II Operations

The audit team evaluated transportation operations performed at LANL/CCP. CH TRUPACT-II receipt, maintenance, container management, container integrity, payload

preparation operations, and loading were audited for shipment LA110053 containing CH payloads LA1993, LA1994, and LA1995. Payloads were observed being loaded into TRUPACT-II 130, TRUPACT-II 189, and TRUPACT-II 190. Use of the current revision of all procedures was verified, showing continued acceptable attention to the condition which resulted in CDA 2 during Audit A-10-14, where the wrong revision of a procedure was found in a binder.

The audit team interviewed personnel and observed receipt and maintenance of empty transport vessels. Payload preparation and container integrity were evaluated and loading of TRUPACT-II shipping vessels was observed. Shipping documentation was examined. M&TE calibration was verified. Personnel training and qualification documentation was evaluated. WCO and Transportation Certification Official activities were also evaluated. Helium leak-testing of inner and outer containment vessels was observed. The maintenance log was examined and the records were found to be compliant and complete.

During Audit A-10-14, CDA 1 was identified involving incomplete entries in the maintenance records. Documentation reviewed during this audit indicated that LANL/CCP continues to comply with the requirements for completeness of records. Examination of the maintenance logbook verified that it contained sufficient information to show that there was no repeat of the infraction identified during Audit A-10-14, which resulted in CAR 10-026 regarding inability to confirm replacement of an O-ring during TRUPACT-II maintenance.

Overall, the procedures used for transportation/shipping of CH waste for LANL/CCP were found to be adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQ) and document such conditions on corrective action reports (CARs).

Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, regulatory compliance demonstration, or the effective implementation of the QA program.

The following CARs were issued as a result of Audit A-11-11.

CBFO CAR 11-036 (HSG)

The container age for four containers listed in BDR LAHSG1101 was not calculated correctly based on the AK documentation. The Sample Container Data Form had previously been revised to address container age discrepancies for three containers as a result of NCR-LANL-0506-11. The container age for the four other containers was inadvertently revised and the errors were not identified during the ITR and SPM reviews. In addition, the revised Sample Container Data Form was dated with the original date of 01/10/11, instead of the actual revision date. The original data form was superseded on 01/24/11, and NCR-LANL-0506-11 was initiated on 01/26/11.

CBFO CAR 11-037 (RTR)

For container 61265 in BDR LA-RTR2-10-0137, the assigned weights and the waste material parameters documented in CCP-TP-053, Attachment 2, section 4, "Packaging Material and Waste Material Parameters," do not correlate to the actual items identified in the waste container as documented in section 3, "Container Inventory and Comments."

In BDR LA-RTR2-10-0129, NCRs associated with the BDR are not recorded on the SPM checklist item 6. The BDRs identified in SPM checklist items 17 and 18 are not recorded correctly. In containers 65720 and 87139, the assigned weights and the waste material parameters documented in CCP-TP-053, Attachment 2, section 4, "Packaging Material and Waste Material Parameters," do not correlate to the actual items identified in the waste container as documented in section 3, "Container Inventory and Comments."

CBFO CAR 11-038 (Training)

CCP Training personnel did not issue the current revision (Rev. 4) of FGA-01, Flammable Gas Analysis (FGA) Operator/Independent Technical Reviewer (ITR) Qualification Card, for qualifying operators in 4/2011. Revision 0 was issued instead of revision 4.

NOTE: This is an administrative issue with form revision, not content, and does not affect qualification of personnel.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The ATL and audit team members evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified

prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals have not completed a reading assignment.

Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA.

The following concerns were identified and corrected during Audit A-11-11:

CDA-1 (AK)

There are two "Solids Random Sample Selection" memoranda for the LA-CIN01.001 waste stream. The first is CP:09:01057 dated 1/27/2009; the second is CP:09:01131 dated 3/17/2009. The second memorandum changed container 91887 to 61887 in two places, but did not change the container number in a third location (Container Population Listing for Lot).

A revised memorandum (CP:11:01340 dated May 18, 2011) was issued, which corrected the third location. The auditor verified that the revised memorandum had been entered into CCP Records.

CDA-2 (AK)

CCP-TP-113, Rev. 16, Attachment 3, CCP Waste VE Independent Technical Reviewer Checklist, item 6, is being answered inconsistently by the VE ITRs. Item 6 states, "Has the data been reviewed for transcription errors?" If VE is from previously packaged waste, the answer is to be marked "N/A." Several BDRs were marked wrong for previously packaged waste.

All BDRs since the last audit were reviewed by the CCP VEE and only four BDRs were found that were incorrectly marked. The four BDRs were corrected, dated, and signed, and were given to the SPM for review and submittal to Records. Copies of the corrections and the transmittals to Records were provided to the auditors prior to the end of the audit.

CDA-3 (VE)

Attachments 1 and 4 for AK6 retrieved from CCP Records were actually the Attachments 1 and 4 for AK7. Attachments 1 and 4 for AK6 had not been submitted to CCP Records. As a result of this concern, two actions were taken:

1. The correct Attachments 1 and 4 for AK6 were obtained and submitted to CCP Records.

2. The incorrect Attachments 1 and 4 that were in CCP Records as AK6 were attached to the correct Attachments 1 and 4 and entered into CCP Records.

These actions clarified the appropriate records for the new AK6, which combined the previous AK6 and AK7 into the current AK6. CCP-QP-008, Rev. 18, paragraph 3.7.3 states: "Ensures that records are legible, accurate and complete, appropriate to the work accomplished, when generating, reviewing and validating records."

CDA-4 (Training)

An individual was listed on 5/7/2011 LOQI as a qualified EA for both the NDA HENC units 1 and 2 and the SuperHENC system. Objective evidence provided (Qualification Card EA-01, Rev. 5, dated 5/11/2011) only stated that the individual was qualified for the SuperHENC (the HENC units 1 and 2 sign-off lines & dates were marked N/A and should not have been.)

The individual was previously qualified as an EA for the LANL HENC units 1 and 2 on an obsolete qualification card. This was annotated on the current qualification card, and provides evidence that the EA is qualified for the SuperHENC and the HENC units 1 and 2. This is a matter of documentation, and does not impact the qualifications of the individual.

6.3 Observations

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Observations using the following definition.

Observation – A condition that, if not controlled, could result in a CAQ.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

The audit team did not identify any Observations during the audit.

6.4 Recommendations

During the audit, the audit team may identify suggestions for improvement that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Recommendations using the following definition.

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

Recommendation 1

The audit team recommended that the following changes/additions be made to AK Summary CCP-AK-LANL-013, Rev. 3, for clarification:

- Add AK Source Document reference D052 to section 4.3.1 to document the early (1974) WAC for TRU waste storage.
- Revise section 5.2 to correct the number of drums currently stored below/above grade. The numbers were reversed in revision 3.
- Add AK Source Documents to section 5.5 to support the statement that the “unused stock and generator solutions” do not represent examples of plutonium/uranium hazardous waste numbers.
- Add AK Source Document M003 to Table 5-5 to provide additional support and justification for the assignment of HWN D007.

Recommendation 2

The audit team recommended that freeze file changes, as applicable, be made to the AK Summaries for the waste streams examined during this audit to address the permit modifications dealing with Acceptable Knowledge. These changes are noted on the NMED matrix and will be attached to the AK Summaries submitted with the final report, as discussed with and concurred by the audit participants.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During Audit

Attachment 2: Summary Table of Audit Results

Attachment 3: Listing of Audited Documents

Attachment 4: Processes and Equipment Reviewed

PERSONNEL CONTACTED DURING AUDIT A-11-11				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Acosta, F.	TCO TP Operator/CCP		X	
Almanza, C.	AK NDA Support/CCP		X	
Apodaca, P.	TRUPACT Ops/CCP		X	
Aragon, I.	NDA Op./CCP		X	
Aragon, S.	FGA/CCP		X	
Baca, R.	Records/CCP	X		
Baumann, R.	NDA/CCP	X	X	X
Billet, M.	Training/CCP		X	
Blunn, D.	VEE/CCP	X	X	
Brothers, D.	RTR/CCP	X	X	
Cameron, W.	VPM/CCP		X	
Chavarria, A.	QA Engineer/CCP	X		
Davis, C.	Record Specialist/CCP		X	
Davis, V.	Doc. Services/CCP		X	
Ewing, S.	RTR/CCP	X	X	
Fisher, A.	Sr. Tech. Advisor/CCP	X	X	X
Francis, J.	NDA/CCP	X	X	
Gerlock, C.	NDA/Canberra		X	
Gomez, C.	NCR Co-Ordin./CCP	X	X	
Haar, D.	Manager Ret/Char/Trans			X
Hammon, R.	NDA Op./CCP		X	
Harvill, J.	NDA Support/CCP	X		X
Hudston, J.	NDA/CCP	X	X	X
Keathley, S.	Records/CCP		X	
Kirkes, C.	WWIS Data Entry/CCP		X	
Loechell, E.	FGA/CCP	X	X	X
Lyles, E.	RTR Operator/CCP		X	
Martin, R.	Training/CCP		X	

PERSONNEL CONTACTED DURING AUDIT A-11-11				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Matzke, J.	OSRP PM/CCP		X	
McTaggart, K.	TCO TP Operator/CCP		X	
Morales, J.	QA Spec./CCP		X	
Papp, M.	AKE /CCP		X	X
Pearcy, M.	Manager Project Cert./CCP			X
Pearcy, S.	Records Manager/CCP	X	X	
Ploetz, D.	Manager , CCP			X
Porter, L.	SPM/CCP	X	X	X
Peterman, S	SPM/CCP	X	X	X
Schoen, J.	AKE /CCP		X	
Sensibaugh, M.	CCP Project Manager	X		X
Simmons, C.	PM/CCP	X		
Stanfield, S.	NDA/CCP	X	X	X
Stepzinski, C.	PM Manager/CCP	X		X
Thompson, J.	VEE/CCP	X	X	X
Wade, L.	QA/CCP	X		
Waldram, V.	SPM/CCP	X	X	X
Whitworth, J.	OSRP PM/CCP		X	
Witkowski, I.	OSR - CH/CCP	X		
York, R.	TRUPACT Ops/CCP		X	
Zarling, J.	R&D Eng./LANL		X	
Zbryk, K.	Tech. Support/CCP	X	X	X

**Audit A-11-11
Summary Table of Audit Results**

Program Element	Concern Classification				QA Evaluation		Technical
	CARs	CDAs	Obs.	Rec.	Adequacy	Implementation	Effectiveness
Activity							
Program Status					A	S	E
Personnel Qualification & Training	1	2			A	S	E
Nonconformance Reporting					A	S	E
Records					A	S	E
Project Level V&V					A	S	E
Acceptable Knowledge (AK)		1		2	A	S	E
Visual Examination (VE)		1			A	S	E
Real-Time Radiography (RTR)	1				A	S	E
High Energy RTR					I	I	I
Nondestructive Assay (NDA)					A	S	E
SuperHENC					I	I	I
Headspace Gas Sampling (HSGS)	1				A	S	E
Performance Demonstration Program					A	S	E
WIPP Waste Information System					A	S	E
Flammable Gas Analysis					A	S	E
TRUPACT-II Operations/Waste Certification/Transportation					A	S	E
TOTALS	3	4		2	A	S	E

Definitions

E = Effective
S = Satisfactory
I = Indeterminate
M=Marginal

CAR = Corrective Action Report
CDA = Corrected During Audit
NE = Not Effective
Obs. = Observation

Rec. = Recommendation
A = Adequate
NA = Not Adequate

Audit A-11-11
LISTING OF AUDITED DOCUMENTS

	Document No.	Rev.	Document Title
1.	CCP-AK-LANL-004	9	CCP AK Summary Report for LANL TA-50 Mixed TRU Waste Streams LA-MIN03-NC.001, LA-CIN02.001, LA-MHD09.001
2.	CCP-AK-LANL-006	10	CCP AK Summary Report for LANL TA-55 Mixed TRU Waste Streams LA-MHD01.001, LA-CIN01.001, LA-MIN02-V.001, LA-MIN04-S.001
3.	CCP-AK-LANL-008	8	CCP AK Summary Report for LANL OSRP Waste Streams LA-OS-00-01.001, LA-OS-00-03, LA-OS-00-04
4.	CCP-AK-LANL-009	6	CCP AK Summary Report for LANL CMR Waste Streams LA-MSG03.001, LA-MHD03.001, LA-CIN03.001
5.	CCP-AK-LANL-010	4	CCP AK Summary Report for LANL TA-21 DP West Waste Streams LA-MHD04.001, LA-MSG04.001
6.	CCP-AK-LANL-011	0	CCP AK Summary Report for LANL Pantex Waste Stream LA-MHD02-PTX.001
7.	CCP-AK-LANL-012	2	CCP AK Summary Report for LANL TA-48 ALPHA Waste Stream LA-MHD08.001
8.	CCP-AK-LANL-013	2	CCP AK Summary Report for LANL LRRRI Waste Stream LA-MHD05-ITRI.001
9.	CCP-PO-001	19	CCP Transuranic Waste Characterization Quality Assurance Project Plan
10.	CCP-PO-002	25	CCP Transuranic Waste Certification Plan
11.	CCP-PO-003	12	CCP Transuranic Authorized Methods for Payload Control
12.	CCP-PO-005	21	CCP Conduct of Operations
13.	CCP-PO-008	9	CCP QA Interface with WTS QA Program
14.	CCP-PO-012	8	CCP/LANL Interface Document
15.	CCP-QP-002	31	CCP Training and Qualification Plan
16.	CCP-QP-005	20	CCP TRU Nonconforming Item Reporting and Control
17.	CCP-QP-008	18	CCP Records Management
18.	CCP-QP-016	15	CCP Control of Measuring and Testing Equipment
19.	CCP-QP-017	3	CCP Identification and Control of Items
20.	CCP-QP-021	7	CCP Surveillance Program
21.	CCP-QP-022	12	CCP Software Quality Assurance Plan (Version Installation Verification)
22.	CCP-QP-028	12	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
23.	CCP-QP-030	8	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
24.	CCP-TP-001	19	CCP Project Level Data Validation and Verification
25.	CCP-TP-002	23	CCP Reconciliation of DQOs and Reporting Characterization Data
26.	CCP-TP-003	18	CCP Data Analysis for S3000, S4000, and S5000 Characterization
27.	CCP-TP-005	22	CCP Acceptable Knowledge Documentation
28.	CCP-TP-008	9	CCP Solids Sampling Procedure
29.	CCP-TP-028	6	CCP Radiographic Test Drum and Training Container Construction
30.	CCP-TP-030	28	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
31.	CCP-TP-033	18	CCP Shipping of CH TRU Waste
32.	CCP-TP-053	10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure

Audit A-11-11
LISTING OF AUDITED DOCUMENTS

	Document No.	Rev.	Document Title
33.	CCP-TP-054	2	CCP Adjustable Center of Gravity Lift Fixture Preoperational Checks and Shutdown
34.	CCP-TP-055	4	CCP Varian Porta-Test Leak Detector Operations
35.	CCP-TP-056	4	CCP HSG Performance Demonstration Plan
36.	CCP-TP-058	3	CCP NDA Performance Demonstration Plan
37.	CCP-TP-059	0	CCP Operating the SuperHENC Using NDA 2000
38.	CCP-TP-063	13	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
39.	CCP-TP-064	6	CCP Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
40.	CCP-TP-069	5	CCP Sealed Source Visual Examination and Packaging
41.	CCP-TP-082	8	CCP Waste Container Filter Vent Operation
42.	CCP-TP-086	15	CCP CH Packaging Payload Assembly
43.	CCP-TP-093	15	CCP Sampling of TRU Waste Containers
44.	CCP-TP-098	3	CCP Installation of the NucFil HSG Sample Port
45.	CCP-TP-101	4	CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization
46.	CCP-TP-103	9	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
47.	CCP-TP-106	7	CCP Headspace Gas Sampling Batch Data Report Preparation
48.	CCP-TP-113	16	CCP Standard Contact-Handled Waste Visual Examination
49.	CCP-TP-120	14	CCP Container Management
50.	CCP-TP-162	1	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
51.	CCP-TP-180	2	CCP Analytical Sample Management
52.	CCP-TP-198	2	CCP HE-RTR Operating Procedure
53.	DOE/CBFO 94-1012	11	CBFO Quality Assurance Program Document (QAPD)
54.	DOE/WIPP 02-3122	7.0	Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant
55.	DOE/WIPP 02-3183	6	CH Packaging Program Guidance
56.	DOE/WIPP 02-3184	10.1	CH Packaging Operations Manual
57.	DOE/WIPP 02-3220	12	CH Packaging Operations for High-Wattage Waste
58.	DOE/WIPP 06-3345	3.2	Waste Isolation Pilot Plant Flammable Gas Analysis
59.	WP 08-PT.01	6	Standard Waste Box Handling and Operation Manual
60.	WP 08-PT.02	7	Ten-Drum Overpack Handling and Operation Manual
61.	WP 08-PT.04	5	CH Packaging Trailer O&M Manual
62.	WP 13-QA.03	17	Quality Assurance Independent Assessment Program

Processes and Equipment Reviewed During Audit A-11-11 of the LANL/CCP

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT				
N/A	Headspace Gas Sampling Procedure – CCP -TP-093 Description – Headspace Gas Sampling	Debris (S5000)	YES	N/A
*11RR1	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES	YES
11RR2	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES	YES
11VE1	CH Visual Examination Procedure – CCP-TP-113 Description – CH Characterization Performed Utilizing Visual Examination and Acceptable Knowledge	Debris (S5000)	YES	YES
11VE2	Off-Site Source Recovery Program Procedure(s) – CCP-TP-069 and CCP-TP-101 Description – Characterization Performed Utilizing Visual Examination and Acceptable Knowledge	Debris (S5000)	YES	YES

* WIPP #11RR1 (RTR1) has not been operational since previous Recertification Audit A-10-14, and was not evaluated.

Processes and Equipment Reviewed During Audit A-11-11 of the LANL/CCP

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	Acceptable Knowledge Procedure – CCP-TP-005 Description – Acceptable Knowledge	Solids (S3000) Debris (S5000)	YES	YES
N/A	Data Verification and Validation Procedure(s) – CCP-TP-001, CCP-TP-002, CCP-TP-003, CCP-TP-103, CCP-TP-162	Solids (S3000) Debris (S5000)	YES	YES
11HC1	Nondestructive Assay Procedure – CCP-TP-063 Description – Canberra Industries High Efficiency Neutron Counter (HENC) mounted in a transportation container	Solids (S3000) Debris (S5000)	N/A	YES
11HC2	Nondestructive Assay Procedure – CCP-TP-063 Description – Canberra Industries High Efficiency Neutron Counter (HENC) mounted in a trailer	Solids (S3000) Debris (S5000)	N/A	YES
N/A	WWIS/WDS Procedure – CCP-TP-030 Description – CH TRU Waste Characterization and WWIS Data Entry	Solids (S3000) Debris (S5000)	YES	YES
N/A	Transportation Procedure(s) – CCP-TP-054, CCP-TP-055, CCP-TP-086, DOE/WIPP-02-3184, DOE/WIPP-02-3220, DOE/WIPP-02-3183	Solids (S3000) Debris (S5000)	N/A	N/A

Processes and Equipment Reviewed During Audit A-11-11 of the LANL/CCP

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
11HG2	Flammable Gas Analysis Procedure – DOE/WIPP-06-3345 Description – Flammable Gas Analysis	Solids (S3000) Debris (S5000)	N/A	N/A
N/A	Quality Assurance Program	Solids (S3000) Debris (S5000)	N/A	YES