



United States Government

Department of Energy

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

JUN - 8 2016

DATE: JUN 08 2016

REPLY TO
ATTN OF: CBFO:OQA:DSM:BA:16-1390:UFC 2300.00

SUBJECT: Interim Audit Report A-16-19, LANL/CCP TRU Waste Characterization and Recertification

TO: Mr. David J. Nickless, LAFO

The Carlsbad Field Office (CBFO) conducted annual Recertification Audit A-16-19, Los Alamos National Laboratory Central Characterization Program (LANL/CCP) Transuranic (TRU) Waste Characterization and Recertification, May 17 – 19, 2016. The interim audit report is attached.

The audit team concluded that, overall, the LANL/CCP programs evaluated are adequate relative to the flow-down of requirements, and the technical activities evaluated are satisfactorily implemented and effective.

The audit team identified two concerns during the audit. One concern was identified as an observation and one was offered as a recommendation to LANL/CCP management, as described in the report.

If you have any questions or comments concerning the interim audit report, please contact me at (575) 234-7491.

Dennis S. Miehl
Senior Quality Assurance Specialist

Attachment

cc: w/attachment

- | | | | |
|----------------------|------|-------------------------------------|----|
| S. Ross, EM-43 | * ED | B. Allen, NWP | ED |
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| M. Navarrete, CBFO | ED | E. Feltcorn, EPA | ED |
| N. Castaneda, CBFO | ED | R. Joglekar, EPA | ED |
| H. Cruickshank, CBFO | ED | J. Kieling, NMED | ED |
| T. Carver, CBFO | ED | R. Maestas, NMED | ED |
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| T. Wald, NNSA | ED | C. Castillo, CTAC | ED |
| J. Britain, NWP | ED | B. Boyko, CTAC | ED |
| F. Sharif, NWP | ED | G. Knox, CTAC | ED |
| D.E. Gulbransen, NWP | ED | D. Harvill, CTAC | ED |
| R. Reeves, NWP | ED | G. White, CTAC | ED |
| A.J. Fisher, NWP | ED | Site Documents | ED |
| B. Pace, NWP | ED | CBFO QA File | |
| J. Carter, NWP | ED | CBFO M&RC | |
| V. Cannon, NWP | ED | *ED denotes electronic distribution | |



**U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE**

INTERIM AUDIT REPORT

OF THE

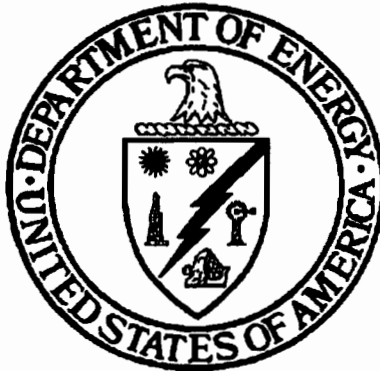
**LOS ALAMOS NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROGRAM**

LOS ALAMOS, NEW MEXICO

AUDIT NUMBER A-16-19

May 17 – 19, 2016

TRU WASTE CHARACTERIZATION AND RECERTIFICATION




Prepared by:


Greg Knox, CTAC
Audit Team Leader

Date: 7 JUN 2016

Approved by:


Michael R. Brown, Director
CBFO Office of Quality Assurance

Date: 6/7/2016

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-16-19 was conducted to evaluate the continued adequacy and effectiveness of established programs for transuranic (TRU) waste characterization and transportation activities performed for the Los Alamos National Laboratory (LANL) by the Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP). The audit team evaluated the programs, procedures, and processes for characterizing contact-handled (CH) Summary Category Group (SCG) S4000 soils/gravel and SCG S5000 debris wastes, excluding wastes processed through the Waste Characterization, Reduction, and Repackaging Facility (WCRRF). Waste characterization processes for SCG S3000 waste at the WCRRF have been suspended since the previous audit; therefore, no waste characterization data have been generated. Furthermore, no TRU waste shipments have been performed since the previous audit (reference memorandum CBFO:NTP:JRS:MAG:14-1947, dated July 16, 2014). The audit was conducted relative to the requirements of 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).

Audit activities were conducted in Los Alamos, New Mexico, and Carlsbad, New Mexico, May 17 – 19, 2016. Overall, 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 and were satisfactorily implemented.

The audit team did not identify any conditions adverse to quality (CAQs) during the audit. The team offered one Observation and one Recommendation to LANL/CCP management for their consideration (see sections 6.3 and 6.4).

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the following LANL/CCP programs and processes for TRU waste characterization, certification, and transportation activities.

General

- Review of the LANL/CCP Site Interface Agreement
- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel

Quality Assurance

- Personnel Qualification and Training
- Quality Improvement/Nonconformance Reporting
- Records

Technical

- Acceptable Knowledge (AK)
- Project-level Data Validation and Verification (PL V&V)
- Real-time Radiography (RTR)
- Visual Examination (VE), including the Off-site Source Recovery Program (OSRP)
- Nondestructive Assay (NDA), including the Performance Demonstration Program (PDP)
- WIPP Waste Information System (WWIS)/Waste Data System (WDS)
- Waste Certification (e.g., Waste Stream Profile Form)

Transportation

- Container Management
- Flammable Gas Sampling and Analysis
- Shipping Documentation

The evaluation of TRU waste characterization and transportation activities was based on current versions of the following documents.

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document*
- WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*
- *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC)*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP)*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH TRAMPAC)*
- CCP-PO-012, *CCP/LANL Interface Document*
- Related technical and QA implementing procedures

2.2 Purpose

Audit A-16-19 was conducted to evaluate the degree of sustained adequacy and effective implementation of program requirements for the characterization, certification, and associated transportation activities of CH-TRU SCG S4000 soils/gravel and SCG S5000 debris wastes for compliance with applicable upper-tier requirements.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Dennis S. Miehls Management Representative, CBFO Office of Quality Assurance

Greg Knox	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Judith Stewart	Auditor, CTAC (AK)
Tammy Ackman	Auditor, CTAC (RTR)
Rick Castillo	Auditor, CTAC (VE/OSRP)
Bob Boyko	Auditor, CTAC (NDA)
Jim Schuetz	Auditor, CTAC (C6 QA)
Kathy Hood	Auditor-in-Training, CTAC (C6 QA)
Porf Martinez	Auditor/Technical Specialist, CTAC (Program Status/Interface and RTR)
Dick Blauvelt	Technical Specialist, CTAC (AK)
Rhett Bradford	Technical Specialist, CTAC (VE/OSRP)
Jim Oliver	Technical Specialist, CTAC (NDA)
Paul Gomez	Technical Specialist, CTAC (PL V&V)
B.J. Verret	Technical Specialist, CTAC (FGA/Transportation/Container Management)

OBSERVERS

J.R. Stroble	CBFO TRU Sites and Transportation Division (TSTD)
Herb Cruickshank	CBFO TSTD
Tom Carver	CBFO TSTD
Ricardo Maestas	New Mexico Environment Department (NMED)
Coleman Smith	NMED
Connie Walker	NMED
Robert Toro	DOE EM-43
Dr. Steven L. Ross	DOE EM-43
Robert Thielke	DOE EM-43 (Trinity)

4.0 AUDIT PARTICIPANTS

The LANL/CCP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held May 17, 2016, in Los Alamos, New Mexico, and in Carlsbad, New Mexico. Daily management briefings were held with LANL/CCP management and staff to discuss audit progress and concerns identified. A post-audit meeting was held May 19, 2016, in Los Alamos, New Mexico, and in Carlsbad, New Mexico.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the LANL/CCP TRU waste characterization, certification, and transportation programs evaluated are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results. The specific program elements and areas evaluated are described below. Attachment 2 contains a summary table of the audit results, Attachment 3 lists the program documents examined during the audit, and Attachment 4 lists the processes and equipment evaluated.

5.2 General Activities

5.2.1 LANL/CCP Program Interface

The audit team evaluated the program interface established between the CCP and LANL as documented in CCP-PO-012, *CCP/Los Alamos National Laboratory (LANL) Interface Document*, Rev. 16. This document describes the interfaces, roles and responsibilities, and program requirements applicable to both organizations in support of CCP waste characterization activities at LANL. Program interface requirements evaluated included responsibilities of the CCP LANL Project Manager, Los Alamos National Security (LANS) Program Manager, LANL Responsible Division Leaders, CCP Site Project Manager, CCP Vendor Project Manager, CCP QA Engineer, and the LANS Quality and Performance Assurance Division Leader. The audit team concluded that requirements evaluated, as described in the interface document, were satisfactorily implemented.

The audit team identified one observation during the audit. CCP-PO-012 requires CCP operators to report specific issues to LANL upon discovery. Actions for RTR operators and NDA personnel identified in CCP-PO-012, *CCP/Los Alamos National Laboratory (LANL) Interface Document*, Rev. 16, sections 4.12.2 [A], 4.13.2, 4.13.3 [A]-[D], 4.13.4, 4.13.5 and 4.13.6 are not being flowed down to operator guidance documents. While this has not yet resulted in violation of the reporting requirement, if not corrected, this issue could lead to a condition adverse to quality. CCP is currently taking actions to address this issue (see section, 6.3).

5.2.2 Results of Previous Audits

The audit team determined that the corrective actions taken to address the concerns identified during CBFO Audit A-15-21 were effective in precluding recurrence. No similar instances were observed during this audit.

5.2.3 Changes in Programs or Operations

The audit team determined through interviews with the LANL/CCP Project Manager that there were no significant changes in programs or operations since the previous recertification Audit A-15-21.

5.2.4 New Programs or Activities Being Implemented

No new programs or activities have been implemented at LANL since CBFO Audit A-15-21.

5.2.5 Changes in Key Personnel

No significant changes were made in key personnel at LANL since CBFO Audit A-15-21.

As a result of personnel interviews and reviews of objective evidence, the requirements specified in the interface documents were determined to be adequately established, effectively implemented, and satisfactory in achieving the desired results.

5.3 Quality Assurance Activities

The audit team evaluated QA program elements for personnel qualification and training, nonconformance reporting, and QA records for compliance with applicable upper-tier requirements and effectiveness of implementation. The evaluation results for each area are described below.

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, *CCP Training and Qualification Plan*, regarding the degree to which it addresses upper-tier requirements. The team determined that the procedure adequately addresses upper-tier requirements.

The audit team examined personnel training records associated with VE (including OSRP) Operator/Independent Technical Reviewer (ITR), AK Expert (AKE), Site Project Manager (SPM), Vendor Project Manager (VPM), RTR Operator/ITR, and Flammable Gas Analysis (FGA) Operator/ITR to verify adherence to and implementation of associated requirements and to verify that personnel were appropriately trained/qualified. Record 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 reviewed the job analyses that were performed for the HENC 1&2 NDA operator / ITR and the SPM qualification cards. These job analyses are in draft form awaiting final review and approval and were reviewed as evidence of implementation of the job analysis process. Once approved, the draft analysis will be used to generate new qualification cards to show details of requirements of the current training program. The new qualification cards will be completed for new qualifications. Where positions do not require requalification, the new qualification cards will be completed and re-administered to concatenate and document details to show qualifications of existing personnel including changes that have been made to the training program since the original qualification. The audit team determined that the scope of job analyses that is being performed for these positions are adequate with respect to the work described on the qualification card and that the analyses are being processed in accordance with procedure.

The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for Personnel Qualification and Training are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results. No concerns were identified.

5.3.2 Quality Improvement/Nonconformance Reporting

The audit team reviewed implementing procedure CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which it addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

The audit team interviewed the CCP/Carlsbad Project Office Quality Assurance Engineer and randomly selected the following nonconformance reports (NCRs) for review:

NCR-LANL-0025-15	NCR-LANL-0126-16
NCR-LANL-0028-15 Rev 0 and Rev. 1	NCR-LANL-0127-16
NCR-LANL-0032-15	NCR-LANL-0128-16
NCR-LANL-0033-15	NCR-LANL-0130-16
NCR-LANL-0122-16	

The NCRs were selected from a log/report that was generated using the Integrated Data Center (IDC) NCR module, with search criteria entered to select all NCRs generated at the LANL host site location within the last 12 months. The NCR log is maintained using data that are entered and captured within the IDC electronic data management system. NCR logs/reports are generated ad hoc with search results of real-time data typically displayed on workstation video screens, reducing the need for distribution and maintenance of printed copies.

The audit team concluded that nonconforming deficiencies are appropriately documented and tracked through resolution. The audit team determined that CCP personnel are familiar with reporting NCRs that document a non-administrative deficiency first identified at the SPM level. One NCR was verified as having been reported to the Permittee within seven days, as required by the NMED HWFP. All of the NCRs reviewed were verified to have been entered, managed, resolved, and tracked in the CCP IDC NCR module.

The audit team identified no issues and offered one recommendation related to nonconformance management. The audit team noted that procedure CCP-QP-005 identifies CCP-QP-014 as a referenced document but does not address trending-related functions connected with CCP-QP-014. Further, CCP-QP-005 and CCP-QP-014 both contain a list of trend codes. The audit team recommends that the trend code list appear in only one procedure to ensure a single point for updating/revising trend codes, and that CCP-QP-005 be revised to reference CCP-QP-014 for selection and assignment of trend codes (see section, 6.4).

The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for Nonconformance Reporting are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results.

5.3.3 Records

The audit team conducted interviews 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 team reviewed procedures CCP-QP-008, *CCP Records Management*, and CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Results of the reviews indicate that the procedures adequately address upper-tier requirements. Control of QA records was verified through review of the WIPP Records Inventory and Disposition Schedule (RIDS) dated June 29, 2015, which addresses records for *Nuclear Waste Partnership (NWP)/Central Characterization Project (CCP)/Contact Handled (CH) For All Sites*. Annual review of the RIDS is scheduled using the commitment tracking system.

The audit team determined that there is a Facility Records Custodian designated for the LANL host site location to administer transmittal of records to the CCP offices in Carlsbad, NM. The audit team reviewed samples of completed transmittal forms used to submit various types of records, including paper and electronic media formats. Control is also adequate for records that have been designated as Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO), Internal Use Only (IUO), and No Foreign National (NOFORN). CCP records personnel are trained in the administration and control of these types of records and access to copies that are stored on electronic servers is adequate.

The audit team reviewed fire-rated storage capabilities at the Skeen-Whitlock Building in Carlsbad and determined that storage and control of access to storage cabinets is adequate.

The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for Records are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results. No concerns were identified.

5.4 Technical Activities

5.4.1 Acceptable Knowledge

The audit team conducted a review of the CCP Certification Program for LANL TRU waste for SCGs S5000 debris waste and S4000 soils/gravel. AK auditors examined the AK record for the S5000 debris stream LA-MHD01.001 from the TA-55 operations described in AK Summary Report CCP-AK-LANL-006, Rev.13, dated 2/10/14, and the S4000 soils/gravel stream LA-MSG04.001 from the area associated with activities in TA-21 described in AK Summary Report CCP-AK-LANL-010, Rev. 6, dated 2/14/13. AK auditors also examined a limited portion of the AK record for the S5000 OSRP sealed source waste stream LA-OS-00-01.001 addressing the recent creation of a waste stream characterization checklist and the requisite characterization information summary (CIS) for container lot 86. No other CCP activities had been performed on this waste stream since the previous audit. A review of S3000 solids waste streams was not part of the audit scope.

The AK portion of this recertification audit was based on the requirements contained in the WIPP Resource Conservation and Recovery Act (RCRA) permit and described in the Waste Analysis Plan (WAP), as well as the requirements of the WIPP WAC. The AK audit team therefore examined AK documentation addressing all applicable AK requirements, completed WAP C6-1, C6-2 and C6-3 checklists and applicable WAC checklists, and compiled and reviewed objective evidence to demonstrate compliance.

In addition to a review of the AK Summary Reports for the two waste streams referenced above, the auditors examined approved waste stream profile forms (WSPFs) and AK attachments for both waste streams. The following AK attachments were reviewed: the AK Documentation Checklist, Attachment 1; the AK Information List, Attachment 4; the AK Hazardous Constituents List, Attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Pkg., Attachment 6, along with attached memos providing the justification for waste material parameter weight estimates; and the AK Container List, Attachment 8, with add-container memos designated as AK Source Documents documenting the analysis supporting addition of containers to the waste streams as applicable. The auditors also examined numerous other relevant AK Source Documents and Source Document Summaries for verification in support of the information in the AK Summary Reports. It should be noted that most of the AK attachments had not been revised since the previous recertification Audit A-15-21 in September 2015. However, both AK Attachment 4 documents and the relevant add-container memo for the AK Attachment 8 for the debris stream had been revised and appropriate time was taken to examining those changes.

A significant part of the AK portion of this recertification audit was the review of the Interface Waste Management Documents List (IWMDL) for the newly generated waste container population of waste stream LA-MHD01.001. The IWMDL requirement was a major addition to CCP-TP-005, *CCP Acceptable Knowledge Documentation*. The objective is to work with the site to develop and maintain "a current list of generator site plans, procedures, and reports associated with current waste management and packaging (e.g., waste management, waste generation, waste treatment, waste packaging, waste repackaging, waste remediation, waste stream delineation, and waste characterization procedures)" that have the ability to affect waste stream characterization and certification activities. Each LANL procedure or guidance document was reviewed for relevance, and documentation of the required CCP "walk down" of each document was noted. The creation of AK Attachment 9 allowed CCP to add additional containers of the debris stream for CCP characterization and certification activities. The requisite add-container memo was reviewed and included in the objective evidence submitted.

A second major review activity during this audit addressed an approved AK Assessment for debris waste stream LA-MHD04.001 from TA-21 activities. Although this waste stream was not included in the AK audit process, it has a close association with the TA-21 soils/gravel waste stream that was reviewed. In addition, it provides an example of the application of the requirement designed "to ensure that the AK documentation relating to the management of potentially reactive, corrosive, ignitable, and incompatible TRU waste materials is adequate, current, and accurately described in existing AK Summary Reports...". An examination of the document, including the appropriate

application of the procedure, supporting references, and conclusions reached, was performed. All questions were satisfactorily addressed.

NCRs addressing prohibited items identified during RTR of waste drums were also reviewed. The NCRs dealt with prohibited liquids, sealed containers greater than four liters, pressurized containers, and the presence of impenetrable objects in the waste. The AK audit team reviewed examples of discrepancies in the AK record and also examined discrepancies between the AK record and characterization activities and resultant AK re-evaluations. Several examples of movement of waste containers between SCGs S5000, S4000, and S3000 as a result of RTR examination were reviewed. AK Accuracy Reports were also reviewed as applicable and available.

All AK elements of the C6-1, C6-2 and C6-3 checklists were reviewed during the audit to assure that sufficient and relevant objective evidence had been compiled to demonstrate compliance. In keeping with previous audit recommendations, there was discussion regarding use of absorbents with the waste streams examined and a confirmation that the appropriate material safety data sheets (MSDS) were included in the AK records.

In addition to the WAP requirements, the AK 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. AK/NDA memos were reviewed as applicable.

The WAP-required traceability exercise was conducted for six containers from the three waste streams. In addition to specific VE, RTR, and NDA batch data reports (BDRs) for the drums selected, the audit team also examined container input forms, including current and historical database records as available and IDC screenshots. With regard to the traceability of an OSRP waste container and its sealed sources, the BDRs examined were based solely upon AK, such as manufacturer's drawings and fabrication dates, U.S. Department of Transportation (DOT) Special Form documentation, and information from the Nuclear Regulatory Commission (NRC) Registry of Radioactive Sealed Sources and Device Registry. No characterization is performed.

With regard to the QA portion of the AK audit, the audit team examined training records for six AKEs and two SPMs and reviewed BDRs, discrepancy reports, and NCRs. The team noted that for some of the NCRs reviewed, administrative controls had been used rather than tagging to maintain segregation of some of the containers due to accessibility considerations, as allowed by procedure. In addition, the handling of AK records was examined for compliance with preparation, legibility, accuracy, review, approval, and maintenance requirements. Distribution, control and use of appropriate AK procedures were also discussed.

The audit team performed follow-up for Corrective Action Report (CAR) 15-063 and Corrected During the Audit (CDA) item 2 resulting from CBFO Audit A-15-21. The number of containers reported in the waste streams was in agreement between the AK Summary Reports and the AK Tracking Spreadsheet. Standing Order CCP-SO-LANL-69, Rev. 0, was issued to explain that the value for U-232 is not a required value and is not used.

The audit team examined the most recent audit report relevant to AK, NWP I15-14, completed October 8, 2015, which specifically addressed LANL/CCP activities.

Overall, the Acceptable Knowledge Program was judged to be adequate in representing the requirements of the WAP version reviewed, and satisfactory and effective in the implementation of these requirements. It is understood that the process of compliance with the added requirements of CCP-TP-005, *CCP Acceptable Knowledge Documentation*, is a task moving forward based upon programmatic priorities and will be completed before containers at LANL can be shipped to WIPP.

5.4.2 Project-level Data Validation and Verification

The audit team verified that project-level validation and verification activities continue to meet the requirements of the upper-tier documents and the requirements provided in procedures CCP-TP-001, *CCP Project Level Validation and Verification*.

The audit team verified Project Level Site Project Manager reviews of the following BDRs:

- LA-HERTR-16-0001, LA-HERTR-16-0002, LA-HERTR-14-0036
- LAVE030019, LAVE030021, LAVE550228, LAVE550246, LAVE550259, LAVE550297, LA14-OSR-VE-014, LA15-OSR-VE-004
- 5LANDA0012, 5LANDA0015, 5LANDA0017, 5LANDA0018, 5LANDA0019, LA14-OSR-CH-014, LA15-OSR-CH-004

The BDRs were verified to be complete and accurate, meeting the descriptions of the waste contained in the AK Summaries offered as objective evidence. The audit team verified the contents of the AK Summaries and this past year's Characterization Information Summary (CIS) with the following new container lots.

- CP:13:01218-Transmittal of Los Alamos National Laboratories Site Waste Stream Profile Form LA-MHD01.001, Rev. 1 for Waste Stream LA-MHD01.001
- CP:14:01128-Transmittal of Los Alamos National Laboratories Characterization Information Summary for CCP-AK-LANL-006 Waste Stream LA-MHD01.001 Lots 446 through 451
- CP:06:01200-Transmittal of Waste Stream Profile Form for Waste Stream LA-MHD01.001, LA-MIN03-NC.001, LA-OS-00-01.001, and LAMHD02.001
- CP:16:01094-Transmittal of Los Alamos National Laboratories Waste Stream Profile Form LA-MSG04.001 for Waste Stream LA-MSG04.001
- CP:13:01258-Transmittal of Los Alamos National Laboratories Waste Stream Profile Form LA-MSG04.001 for Waste Stream LA-MSG04.001
- CP:14:01112-Transmittal of Los Alamos National Laboratories Characterization Information Summary for CCP-AK-LANL-010 Waste Stream LA-MHD04.001 Lots 71 through 79
- CP:07:01269-Transmittal of Waste Stream Profile Form for Waste Stream LA-MHD03.001

- CP:14:01100-Transmittal of Los Alamos National Laboratories Characterization Information Summary for CCP-AK-LANL-009, Waste Stream LA-MHD03.001, Lots 102 through 105

The AK summaries and the CIS provided adequate information to complete the characterization processes at LANL and support the containers characterized by LANL-CCP.

The audit team verified through interviews with the SPM that neither a discrepancy resolution nor a waste adequacy determination request were necessary during this audit period.

The audit team verified the quarterly requests and the results of the required quarterly data-generation level (DGL) reviews of data for RTR and VE data. The following data were reviewed.

- CP:15:01195-Request for Third Quarter 2015 Off-Site Recovery Project (OSRP) Visual Examination Quarterly Repeat of DGL Review at Los Alamos National Laboratories
- CP:15:01197-Request for Third Quarter 2015 VE Quarterly Repeat of DGL Review at Los Alamos National Laboratories
- CP:15:01241-Results of VE Quarterly Repeat DGL Review: LANL Third Quarter 2015
- CP:15:01242-Results of OSRP VE Quarterly Repeat DGL:LANL Third Quarter 2015
- CP:16:01034-Request for OSRP VE Quarterly Repeat of DGL Review: LANL Fourth Quarter 2015 - No Characterization
- CP:16:01035-Request for RTR Quarterly Repeat of DGL Review: LANL Fourth Quarter 2015 - No Characterization
- CP:16:01036-Request for VE Quarterly Repeat of DGL Review LANL Fourth Quarter 2015
- CP:16:01057-Results of Quarterly Repeat DGL Review for VE Data: Fourth Calendar Quarter 2015
- CP:16:01072-First Quarter 2016 OSRP VE Repeat of DGL at LANL - No Characterization
- CP:16:01073-Request of First Quarter 2016 VE Quarterly Repeat of DGL Data Review, Verification and Validation LANL
- CP:16:01074-First Quarter 2016 RTR Repeat of DGL Review at LANL - No Characterization
- CP:16:01096-Results of Quarterly Repeat DGL Review for VE Data: First Quarter 2016
- CP:15:01196-Request for Third Quarter 2015 RTR Quarterly Repeat of DGL Review at LANL- No Characterization

The results of the required quarterly generation-level review of the data was determined to meet the requirements of the upper-tier documents.

Overall, the audit team verified that Project-level Validation and Verification activities continue to meet the requirements of the upper tier documents. The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for PL V&V activities are adequately established for compliance with upper-tier requirements and are satisfactorily implemented.

5.4.3 Real-time Radiography

The audit team evaluated the adequacy, implementation, and effectiveness of the LANL/CCP RTR characterization process for SCG S4000 soils/gravel and S5000 debris waste.

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

The audit team evaluated required test and training drum audio/video media for three RTR operators. Records of RTR operators training and qualification, including test and training drum documentation, were examined. The team verified that RTR operators were appropriately trained and qualified for compliance with training requirements.

No RTR activities were being performed during the audit. The audit team interviewed RTR operators and examined the only two BDRs generated since the previous audit: LA-HERTR-16-0001 and LA-HERTR-16-0002 from the High Energy (HE) RTR unit. In addition, audio/video media of selected containers were reviewed for comparison to accuracy of data recorded on RTR data sheets. The audit team verified LANL/CCP demobilized RTR unit 2 on August 17, 2015; no waste characterization activities have been performed using this instrument since. RTR unit 2 will not be re-certified for waste characterization purposes.

No concerns were identified in the area of Real-time Radiography. The procedure reviews, training documentation reviews, and BDR and audio/video reviews provided evidence that the applicable requirements for characterizing S4000 soils/gravel waste, and S5000 debris waste using the HE RTR unit were determined to be adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.4 Visual Examination

The audit team evaluated the adequacy, implementation, and effectiveness of LANL/CCP activities to characterize and certify CH SCG S5000 debris waste using the VE characterization process, including support of the OSRP. The team reviewed CCP VE procedures:

- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*

- *CCP-TP-113, CCP Standard Contact-Handled Waste Visual Examination*

Results of the review indicated that the procedures adequately address upper-tier requirements.

The audit team conducted interviews with responsible personnel and examined records documenting VE of debris waste, including the OSRP. The audit team examined training records for three VE Operators/ITRs and confirmed the appointment of three LANL/CCP VE Experts (VEEs), one OSRP VE Operators/ITR, and two OSRP VEEs. The team verified that these personnel were appropriately trained and qualified as required.

During the audit, the team toured TA-55 and observed VE of drum 70868. The team also toured the Chemical Metallurgy Research (CMR) facility; however, VE activities were not being performed on the date of the tour. LANL/CCP uses the two-operator method (Method 2) when performing VE characterization.

The audit team verified the container scale used during VE operations was calibrated. Logbooks for TA-55 and CMR facilities were reviewed and verified to be in compliance with CCP-PO-005, *CCP Conduct of Operations*.

The team examined the following BDRs:

LAVE030021	LAVE550257	LAVE550289	LAVE030028	LAVE550263
LAVE550297	LAVE030029	LAVE550277	LAVE550299	

No VE OSRP BDRs have been generated since recertification Audit A-15-21.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for Visual Examination activities are adequately established for compliance with upper-tier requirements, effectively implemented, and satisfactory in achieving the desired results. No concerns were identified.

5.4.5 Nondestructive Assay and PDP

The audit team assessed the adequacy, implementation, and effectiveness of the NDA systems used at LANL/CCP to characterize waste from SCGs S4000 (HENC #3 and MILCC) and S5000 (all units), excluding wastes processed through the WCRRF.

The audit team conducted interviews with responsible NDA personnel and reviewed the following implementing procedures to determine the degree to which the procedures adequately address WIPP WAC requirements:

- *CCP-TP-058, CCP NDA Performance Demonstration Plan*
- *CCP-TP-059, CCP Operating the Super High Efficiency Neutron Counter (SHENC) Using NDA 2000*
- *CCP-TP-063, CCP Operating the High Efficiency Neutron Counter Using NDA 2000*

- **CCP-TP-064, CCP Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000**
- **CCP-TP-076, CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000**
- **CCP-TP-077, CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000**
- **CCP-TP-103, CCP Data Reviewing, Validating, and Reporting Procedure for the NDA Counters at LANL Using NDA 2000**
- **CCP-TP-107, CCP Operating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000**
- **CCP-TP-108, CCP Calibrating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000**

The results of the review confirmed that the procedures adequately address WIPP WAC requirements.

The audit team evaluated HENC #2 and the SuperHENC located on Pad 10 in Area G of TA-54 and the Mobile In-Situ Object Counting System (ISOCS) Large Container Counter (MILCC) located in Dome 54-283 in Area G of TA-54. The HENC #1 was not evaluated as part of this audit as it did not operate in the period since the previous recertification Audit A-15-21, has produced no data, and has been deactivated. The audit team also evaluated the HENC #3 located in Building 407 of TA-55. These systems were last evaluated by CBFO in September 2015 during Audit A-15-21.

The two HENC units (HENC #2 at TA-54, and HENC #3 at TA-55) are passive neutron counters with integral high purity germanium (HPGe) gamma-ray spectrometer. HENC #2 uses a ^{252}Cf Add-A-Source (AAS) to correct for waste matrix moderation properties, while HENC #3 uses an efficiency calibration based on the bulk density of the waste. While the two HENC units assay drummed waste, the SuperHENC can assay waste in standard waste boxes (SWBs). The SuperHENC is similar to the HENC units in that it detects passive neutrons from spontaneous fissions and has an integrated gamma spectrometer; however, the SuperHENC uses efficiency curves to account for variations in waste matrix properties.

The MILCC system consists of two gamma spectrometers that are mounted on carts and aligned 180 degrees apart, aiming at the waste container. The two gamma spectrometers acquire spectra for direct quantification of gamma-emitting radionuclides, as well as providing isotopic ratios for plutonium isotopes analyzed through Multi-Group Analysis (MGA) or Fixed-energy Response Function Analysis with Multiple Efficiencies software. The gamma spectrometers use a multi-curve efficiency calibration to compensate for variations in waste matrix density. Both gamma spectrometers use a tin-copper "filter" and can be operated from either a near field (42-inch) or far field (72 inches for drums and 144 inches for SWBs) location. The MILCC system can assay SCGs S3000, S4000, and S5000 wastes contained in 55-gallon drums, SWBs and corrugated metal boxes; however, the assay of S3000 wastes is currently suspended.

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

- System stability as evidenced 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 waste assayed since the last audit
- Successful participation in the CBFO-sponsored NDA Performance Demonstration Program (PDP)
- Completed BDRs to ensure data are reported and reviewed as required
- Calibration and condition of associated measuring and test equipment
- Data storage and retrievability
- Personnel qualification and training for operators, SPMs, and NDA Expert Analysts
- Continued operability and condition of the HENC #2 unit, the SuperHENC, and the MILCC at TA-54, as well as the HENC #3 at TA-55 since CBFO recertification Audit A-15-21
- Operational logbooks and current software versions for all systems

The operations process and associated procedures were evaluated for the four NDA systems. The audit team witnessed characterization activities for the HENC #3 unit and the SuperHENC; however, no characterization activities for the HENC #2 and MILCC systems were available for observation during the audit. Measuring and test equipment activities associated with the containers are performed during the RTR process prior to relocation to the associated NDA areas.

HENC #2

The HENC #2 unit has a damaged roll up door that precludes operation of the system. HENC #2 did not participate in PDP cycle 22A. The HENC #2 unit did perform assays that resulted in the generation of a single BDR (2LANDA1289) that contained results for two waste drums in May 2016. An NCR (NCR-LANL-0131-16) was issued upon completion of the BDR because the HENC #2 has not successfully participated in a cycle of the CBFO-sponsored PDP for over a year. The audit team verified that the drums identified in the NCR were properly segregated and tagged pending reanalysis with a qualified system.

The audit team determined that the procedures applied to the HENC #2 and the reports documenting its calibration range, operating parameters, and measurement uncertainty are technically adequate and show a proper flow-down of upper-tier requirements. However, because the HENC #2 has not participated in the current CBFO-sponsored PDP cycle, the effective implementation of the operating procedure (specifically CCP-TP-058) could not be verified. Successful participation in a PDP cycle is the only necessary activity from the standpoint of this audit to demonstrate that the HENC #2 has adequate controls that are satisfactorily and effectively implemented.

HENC #3

The HENC #3 successfully participated in PDP Cycle 22A. The HENC #3 generated eight BDRs (5LANDA0012, 5LANDA0013, 5LANDA0014, 5LANDA0015, 5LANDA0016,

5LANDA0017, 5LANDA0018, and 5LANDA0019) that contain assay results for 27 waste drums. Since the previous audit (A-15-21), 14 weekly interfering matrix drums were analyzed.

SuperHENC

The SuperHENC assayed containers resulting in a three BDRs (3LANDA0263, 3LANDA0265, and 3LANDA0287) that include 10 waste drums.

The SuperHENC successfully participated in CBFO-sponsored PDP Cycle B15A. Additionally, the unit has maintained required quality measurement controls since the last review by CBFO (Audit A-15-21). The audit team was able to observe measurement operations and interview operations personnel to determine that the operating procedures and governing technical reports are adequate, satisfactorily implemented and effective.

MILCC

The MILCC successfully participated in PDP Cycle B15A. The MILCC generated one BDR (4LANDA0080) that contains assay results for three waste boxes and one weekly interfering matrix box.

The audit team interviewed operations personnel and observed equipment to determine that the operating procedures and governing technical reports are adequate, satisfactorily implemented, and effective.

NDA Summary

Through review of training records, the audit team confirmed that NDA personnel were appropriately trained and qualified and that software versions installed and being used to perform NDA were appropriately identified and consistent with the versions on the CCP software inventory list. A review of associated operational logbooks confirmed that they are appropriately completed and reviewed as procedurally required.

No concerns were identified during the course of the audit of the four NDA systems.

The HENC #2 had adequate controls but the audit team was not able to verify the effectiveness of the operating procedure (CCP-TP-058). Successful participation in a PDP cycle is the only necessary activity from the standpoint of this audit to demonstrate that the HENC #2 has adequate controls that are satisfactorily and effectively implemented.

The HENC #3 had adequate controls that were found to be satisfactorily implemented and effective.

The SuperHENC had adequate controls that were found to be satisfactorily implemented and effective.

The MILCC had adequate controls that were found to be satisfactorily implemented and effective.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for Nondestructive Assay activities are adequately established for compliance with upper-tier requirements, effectively implemented where appropriate, and satisfactory in achieving the desired results. No concerns were identified.

5.4.6 WIPP Waste Information System (WWIS)/Waste Data System (WDS)

Procedure CCP-TP-030 *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*, was evaluated with respect to requirements of the CBFO QAPD section 2.1, *Work Processes*. The audit team determined that QAPD requirements are adequately addressed and that the procedures contain adequate flow-down of upper-tier requirements.

The audit team interviewed the CCP Waste Certification Manager and determined that CCP Waste Certification Officials (WCOs) are qualified to perform certification activities for CH waste. Waste Certification Assistants (WCAs) were also determined to be qualified to perform certification activities for CH waste, including WWIS/WDS data entry activities. WCOs and WCAs were determined to be qualified to perform these activities for LANL waste as well as waste from all other CCP host site locations.

The audit team discussed the status of waste certification operations at the CCP host site location with the Waste Certification Manager and determined that waste certification activities for LANL waste containers have resumed since last audit including certification of Off-site Source Recovery (OSR) containers. During interviews with the Waste Certification Manager and WCO personnel, the audit team determined that there are no unique or different aspects of the WWIS/WDS data entry and waste certification processes for LANL waste when compared to the process implemented for waste certification at other CCP host site locations.

The audit team determined that there are no new WSPFs in process of approval for CH waste streams at the LANL host site location. The team found no recent evidence of building LANL containers into shipment packages. Waste characterization activities continue at the LANL host site location. CCP WCOs implement procedure steps that include WWIS/WDS data entry and certification features using the IDC electronic data management system. Implementation of the IDC waste certification process for LANL waste is performed in accordance with approved procedures using the process that is implemented for waste certification activities performed at other CCP host site locations.

The audit team identified no issues related to WWIS/WDS data entry and waste certification. The audit team determined that CCP personnel are familiar with implementation of procedure steps for waste certification of LANL waste containers and that procedure implementation is satisfactory and provides an effective WWIS/WDS data entry and container certification program for LANL waste.

5.5 Transportation Activities

5.5.1 Transportation/Container Management

The audit team observed container management activities in the TA-55 and CMR facilities. The team verified containers are being stored in the basements of each associated facility, where controls are in place to manage the containers. Verification activities included confirmation that administrative control tags, NCR hold tags, and travelers describing their characterization status were affixed to waste containers as required. The audit team also verified that the scale used to weigh containers was appropriately calibrated. Use of the current procedure was verified by ensuring the current revision of the procedure was in QMIS and checked prior to beginning work.

5.5.2 Flammable Gas Sampling and Analysis

LANL/CCP has not performed any Flammable Gas sampling and analysis since the previous audit. It was verified that LANL/CCP will use the latest revision of DOE procedure, DOE/WIPP 06-3345, Waste Isolation Pilot Plant Flammable Gas Analysis, when flammable gas operations resume. This is the same procedure that LANL/CCP has used successfully in the past.

5.5.3 Shipping Documentation

As discussed in the Executive Summary, no TRU waste shipments have been performed since the previous audit (reference memorandum CBFO:NTP:JRS:MAG:14-1947, dated July 16, 2014).

The objective evidence assembled provided evidence that the applicable requirements related to Container Management and Flammable Gas Sampling and Analysis activities, as prescribed in DOE/WIPP 06-3345, are effectively implemented and satisfactory in achieving the desired results. No concerns were identified.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs), as defined below, 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 audit team did not identified any CAQs, and no CARs were generated during Audit A-16-19.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The Audit Team Leader (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 who 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.

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 identified one Observation which was submitted for LANL/CCP management consideration during the audit.

Observation 1

CCP-PO-012 requires CCP operators to report specific issues to LANL upon discovery. Actions for RTR operators and NDA personnel identified in CCP-PO-012, *CCP/Los Alamos National Laboratory (LANL) Interface Document*, Rev. 16, sections 4.12.2 [A], 4.13.2, 4.13.3 [A]-[D], 4.13.4, 4.13.5 and 4.13.6 are not being flowed down to operator guidance documents.

There have been no instances where these notifications have not been made, which would have resulted in a violation of the reporting requirement.

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.

The audit team offered one Recommendation for LANL/CCP management consideration during the audit.

Recommendation 1

The audit team recommends that CCP-QP-005 be revised to reference the list of trend codes and trend code assignment in CCP-QP-014.

CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*, Revision 25 identifies CCP-QP-014, *CCP Quality Assurance Trend Analysis and Reporting*, as a referenced document but does not address trending-related functions connected with CCP-QP-014, other than assignment of trend codes. Further, CCP-QP-005 contains a list of trend codes as an attachment, whereas CCP-QP-014 also contains a list of trend codes as an attachment. The trend code list should appear in only CCP-QP-014 to ensure single point updating/revision of the list of trend codes.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During Audit A-16-19

Attachment 2: Summary Table of Audit Results

Attachment 3: List of Audited Documents

Attachment 4: Processes and Equipment Reviewed

PERSONNEL CONTACTED DURING AUDIT A-16-19				
NAME	TITLE/ORG	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Abeyta, C.	OSRP POC/LANL	X		
Ams, D.	AKE/LANL-CO	X	X	
Aragon, I.	System Auditor/CCP		X	
Armijo, C.	Training Records Analyst/CCP		X	
Arreola, S.	Records/CCP	X		
Auckland, S.	AKE/LANL-CO	X	X	
Baca, R.	Records/CCP	X		
Barras, A.	Sr. Cost Consultant/EM-LA-PT&C			X
Barton, T.	Lead-NDA/Canberra	X	X	X
Billett, M.	Training Coordinator/CCP		X	
Cadelaria, J.	VEE/CCP		X	
Carver, T.	Waste Control Manager/ DOE-CBFO	X	X	
Chavarria, A.	QA Engineer/CCP		X	
Cruickshank, H.	Work Control Manager/DOE-CBFO	X	X	
Elliot, A.	NDE/CCP (VJT)	X		
Frederici, D.	Waste Process Engineer/LANL		X	
Fresquire, J.	QA Specialist/QPA-IQ NPI-7		X	
Gallegos, A.	System Auditor/CCP		X	
Ganigoi, M.	VEO/NPI-7		X	
Garcia, E.	R&D Manager/CI_IAC		X	
Green, L.	Team Leader/C-IIAC		X	
Greenwood, T.	AKE/CCP		X	
Groover, T.	SPM/CCP	X	X	X
Gulbranson, E.	Manager/CCP	X		X
Harvill, J.	Tech. Advisor-NDA/NWP	X	X	
Hines, R.	QPA-IQ EM/LANS	X	X	X
Hohs, W.	Div. Leader/LANL ADEM-WD			X
Hurtle, J.	LANL	X		X

PERSONNEL CONTACTED DURING AUDIT A-16-19				
NAME	TITLE/ORG	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Inald, T.	QA/NA-LA	X		
Jagielski, R.	FGA-SME/CCP	X		
Kirkes, C.	WCO-WCA/NWP		X	
Lacy, K.	NPI-7 GL/LANS	X	X	
Larson, P.	FLM-NPI-7/LANL	.X		X
Maestas, R.	Observer/NMED	X		X
Martinez, S.	CE-NDE/CCP	X		
Mojica, T.	VEE-VPM-CM/CCP	X	X	
Montoye, A.	WM Manager/LANL	X		
Nance, S.	AK/CCP	X	X	
Papp, M.	AKE/CCP		X	
Pearcy, S.	Records Manager/CCP		X	
Pyett, B.	QA Analyst/NWP		X	
Rhodes, D.	OD QA/EM-LA			X
Ross (PhD), S.	Observer/EM-43	X	X	X
Salazar, M.	Tech 3/NPI-7		X	
Sanchez, J.	QA/NA-LA			X
Schoen, J.	AKE/CCP		X	
Schriber, S.	NPI-DO DL/LANS	X		
Sharif, A.	AK/CCP	X	X	
Sharif, F.	Manager NTP/NWP	X		
Simmons, C.	PM/CCP	X	X	X
Simpson, K.	NDE/CCP (VJT)	X	X	
Sisson, C.	Observer/LANL ADEM-WD			X
Smith, C.	Observer/NMED	X		X
Stroble, J.R.	Director/DOE-CBFO	X		
Tepley, D.	QPA-IQ GL/LANS	X		
Thielke, R.	Auditor/Trinity	X	X	X

PERSONNEL CONTACTED DURING AUDIT A-16-19				
NAME	TITLE/ORG	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Toro, R.	QAS/EM-43	X		X
Trillo, M.	VEO/NPI-7		X	
Wachter, J.	Tech. Dir./Canberra	X	X	X
Walker, C.	Observer/NMED	X	X	X
Withowski, I.	OSRP-CH-SME/LANL	X		X
Withowski, J.	VEO/NEN-3		X	
Worker, A.	Waste Program/NNSA			X
Yturalde, J.	RECORDS/CCP	X		

**Audit A-16-19
Summary Table of Audit Results**

QA / Technical Elements	Concern Classification				QA Evaluation		Technical Evaluation
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Program Status/Changes			1				
C6 General QA Elements (NCRs, Quals & Training, Records, WWIS/WDS)				1	A	S	E
Acceptable Knowledge & Waste Certification (WSPF)					A	S	E
Project Level Data V&V					A	S	E
Visual Examination					A	S	E
Real-time Radiography					A	S	E
Nondestructive Assay					A	S	E
Container Mgmt/ FGA/ Shipping Documentation					A	S	E
TOTALS			1	1	A	S	E

Definitions

E = Effective

S = Satisfactory

I = Indeterminate

M = Marginal

U = Unsatisfactory

CAR = Corrective Action Report

CDA = Corrected During Audit

NE = Not Effective

Obs – Observation

Rec = Recommendation

A = Adequate

NA = Not Adequate

Audit A-16-19 LIST OF AUDITED DOCUMENTS

	Document No.	Rev.	Document Title
1.	CCP-PO-001	22	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	27	CCP Transuranic Waste Certification Plan
3.	CCP-PO-003	13	CCP Transuranic Authorized Methods for Payload Control
4.	CCP-PO-005	27	CCP Conduct of Operations
5.	CCP-PO-012	16	CCP/LANL Interface Document
6.	CCP-QP-001	8	CCP Graded Approach
7.	CCP-QP-002	40	CCP Training and Qualification Plan
8.	CCP-QP-005	25	CCP TRU Nonconforming Item Reporting and Control
9.	CCP-QP-008	25	CCP Records Management
10.	CCP-QP-010	25	CCP Document Preparation, Approval and Control
11.	CCP-QP-014	7	CCP Quality Assurance Trend Analysis and Reporting
12.	CCP-QP-015	12	CCP Procurement
13.	CCP-QP-016	21	CCP Control of Measuring and Testing Equipment
14.	CCP-QP-017	4	CCP Identification and Control of Items
15.	CCP-QP-018	11	CCP Management Assessment
16.	CCP-QP-019	8	CCP Quality Assurance Reporting to Management
17.	CCP-QP-022	17	CCP Software Quality Assurance Plan
18.	CCP-QP-023	4	CCP Handling, Storage, and Shipping
19.	CCP-QP-026	14	CCP Inspection Control
20.	CCP-QP-027	6	CCP Test Control
21.	CCP-QP-028	16	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
22.	CCP-QP-030	9	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
23.	CCP-QP-032	2	CCP Written Practice for the Qualification of CCP Pressure Change Leak Testing Personnel
24.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
25.	CCP-TP-002	26	CCP Reconciliation of DQOs and Reporting Characterization Data
26.	CCP-TP-005	28	CCP Acceptable Knowledge Documentation
27.	CCP-TP-028	9	CCP Radiographic Test and Training Drum Requirements
28.	CCP-TP-030	34	CCP CH TRU Waste Characterization and WWIS Data Entry
29.	CCP-TP-033	22	CCP Shipping of CH TRU Waste
30.	CCP-TP-053	15	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
31.	CCP-TP-055	5	CCP Varian Porta-Test Leak Detector Operations
32.	CCP-TP-058	6	CCP NDA Performance Demonstration Plan
33.	CCP-TP-059	4	CCP Operating the Super High Efficiency Neutron Counter (SHENC) Using NDA 2000
34.	CCP-TP-063	17	CCP Operating the High Efficiency Neutron Counter Using NDA 2000
35.	CCP-TP-064	8	CCP Calibrating the High Efficiency Neutron Counter and the Super High Efficiency Neutron Counter Using NDA 2000
36.	CCP-TP-068	12	CCP Standardized Container Management
37.	CCP-TP-069	6	CCP Sealed Source Visual Examination and Packing
38.	CCP-TP-076	1	CCP Operating the Mobile ISOCs Large Container Counter Using NDA 2000

Audit A-16-19			
LIST OF AUDITED DOCUMENTS			
	Document No.	Rev.	Document Title
39.	CCP-TP-077	1	CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
40.	CCP-TP-086	19	CCP CH Packaging Payload Assembly
41.	CCP-TP-101	7	CCP Off-Site Source Recovery Project Sealed Source Radiological Characterization
42.	CCP-TP-103	12	CCP Data Reviewing, Validating and Reporting Procedure for the High Efficiency Neutron Counter Using NDA 2000
43.	CCP-TP-107	14	CCP Operating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000
44.	CCP-TP-108	7	CCP Calibrating the High Efficiency Neutron Counter #3 (HENC #3) Using NDA 2000
45.	CCP-TP-113	19	CCP Standard Contact-Handled Waste Visual Examination
46.	CCP-TP-120	16	CCP Container Management
47.	CCP-TP-138	2	CCP Execution of Long-Term Objective for the Unified Flammable Gas Test Procedure
48.	CCP-TP-198	8	CCP HE-RTR Operating Procedure
49.	DOE/CBFO 94-1012	12	CBFO Quality Assurance Program Document (QAPD)
50.	WP 13-1	36	NWP Quality Assurance Program Description
51.	WP 13-QA.03	25	Quality Assurance Independent Assessment Program
52.	WP 15-GM1002	4	Issues Management Processing of WIPP Forms
53.			

Processes and Equipment Reviewed During Audit A-16-19 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				
11RR2	Real-Time Radiography (RTR) Procedures – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography (RTR) Mobile Characterization System [built by VJ Technologies] 55-gallon drums	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11HERTR3	High Energy Real-Time Radiography (HERTR) Procedures CCP-TP-053 and CCP-TP-198 Description – High Energy Real-Time Radiography (RTR) [built by VJ Technologies] 55-gallon drums and SWBs	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11VE1	CH Visual Examination Procedure – CCP-TP-113 Description – CH Characterization performed utilizing Visual Examination (VE) and Acceptable Knowledge (AK)	Soils/Gravel (S4000) 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 (VE) and Acceptable Knowledge (AK)	Debris (S5000)	YES	YES
N/A	Acceptable Knowledge Procedure – CCP-TP-005 Description – Acceptable Knowledge (AK)	Soils/Gravel (S4000) Debris (S5000)	YES	YES

Processes and Equipment Reviewed During Audit A-16-19 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	Data Verification and Validation Procedure(s) – CCP-TP-001, CCP-TP-002, CCP-TP-003, CCP-TP-103, CCP-TP-162	Soils/Gravel (S4000) Debris (S5000)	YES	YES
11HC1	Nondestructive Assay Procedure – CCP-TP-063, CCP-TP-064, CCP-TP-103 Description – Canberra Industries High-Efficiency Neutron Counter (HENC) mounted in a transportation container	Soils/Gravel (S4000) Debris (S5000)	N/A	YES
11HC2	Nondestructive Assay Procedure – CCP-TP-063, CCP-TP-064, CCP-TP-103 Description – Canberra Industries High-Efficiency Neutron Counter (HENC) mounted in a trailer	Soils/Gravel (S4000) Debris (S5000)	N/A	YES
11HC3	Nondestructive Assay Procedure – CCP-TP-107, CCP-TP-108, CCP-TP-103 Description – Canberra Industries High-Efficiency Neutron Counter (HENC) mounted in a trailer	Soils/Gravel (S4000) Debris (S5000)	N/A	YES
11SHC1	Nondestructive Assay* Procedure – CCP-TP-059, CCP-TP-064, CCP-TP-103 Description – Super High-Efficiency Neutron Counter mounted in a trailer, SWBs	Soils/Gravel (S4000) Debris (S5000)	N/A	YES

Processes and Equipment Reviewed During Audit A-16-19 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
11MILCC1	Nondestructive Assay Mobile In-Situ Object Counting System (ISOCS) Large Container Counter (MILCC) Procedure(s) – CCP-TP-076, CCP-TP-077 and CCP-TP-103	Soils/Gravel (S4000)	N/A	YES
N/A	WIPP Waste Information System/Waste Data System (WWIS/WDS) Procedure – CCP-TP-030 Description – CH TRU Waste Certification and WWIS/WDS Data Entry	Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	Quality Assurance Program	Soils/Gravel (S4000) Debris (S5000)	N/A	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	Soils/Gravel (S4000) Debris (S5000)	N/A	N/A