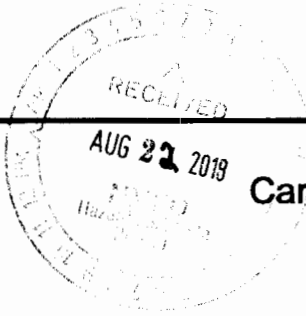




United States Government

Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221DATE: **AUG 22 2018**REPLY TO
ATTN OF: CBFO:OQA:MPN:JM:18-2008:UFC 2300.00

SUBJECT: Interim Audit Report A-18-17, ANL/CCP TRU Waste Characterization and Certification

TO: Dan Misch, DOE-ASO

The Carlsbad Field Office (CBFO) conducted annual Recertification Audit A-18-17, Argonne National Laboratory Central Characterization Program (ANL/CCP) Transuranic (TRU) Waste Characterization and Certification, July 31 – August 2, 2018. The interim audit report is attached.

The audit team concluded that the ANL/CCP TRU waste characterization program procedures for characterizing remote-handled (RH) Summary Category Group S5000 debris waste adequately implement upper-tier requirements. With the exception of the Waste Isolation Pilot Plant Waste Information System (WWIS)/Waste Data System (WDS) process, the program procedures are satisfactorily implemented and effective in achieving the desired results. Effective implementation of the WWIS/WDS process must be deemed indeterminate due to inactivity relative to RH waste characterization by ANL/CCP. Per CBFO Office of National TRU Program memorandum (CBFO:ONTP:KEP:PG:18-0697) dated June 15, 2018, the scope for this audit did not include transportation activities, and enhanced acceptable knowledge (AK) activities were limited to the AK Assessment only.

One CBFO corrective action report was issued as a result of this audit. Additionally, the audit team identified one Observation, and offered one Recommendation for management consideration.

If you have any questions or comments concerning the interim audit report, please contact me at (575) 234-7483.

Martin P. Navarrete
Senior Quality Assurance Specialist

Attachment

180823



cc: w/attachment

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Site Documents

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CBFO M&RC

*ED denotes electronic distribution

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

ARGONNE NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROGRAM

FOR

CHARACTERIZATION AND CERTIFICATION ACTIVITIES
FOR REMOTE-HANDLED TRANSURANIC WASTE

AT

LEMONT, ILLINOIS
and CARLSBAD, NEW MEXICO

AUDIT NUMBER A-18-17

JULY 31 – AUGUST 2, 2018



Prepared by:

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Audit Team Leader

Date:

8/15/2018

Approved by:

Donald C. Gadbury
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Date:

8-22-18

Matt M...

8-22-18

1.0 EXECUTIVE SUMMARY

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Recertification Audit A-18-17 was performed to evaluate the continued adequacy, implementation, and effectiveness of established programs for transuranic (TRU) waste characterization activities performed for the Argonne National Laboratory (ANL) by the Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP). The audit team evaluated the programs, procedures, and processes for characterizing remote-handled (RH) Summary Category Group (SCG) S5000 debris waste. 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)*, the *Remote-Handled TRU Waste Characterization Program Implementation Plan (WCPIP)*, and the *Waste Isolation Pilot Plant Documented Safety Analysis (DSA)*, Chapter 18.

Audit activities were conducted at the ANL facilities in Lemont, Illinois, and at the Skeen-Whitlock Building in Carlsbad, New Mexico, July 31 – August 2, 2018. The audit team concluded that the ANL/CCP TRU waste characterization program procedures for characterizing RH SCG S5000 debris waste adequately implement upper-tier requirements. With the exception of the WIPP Waste Information System (WWIS)/Waste Data System (WDS) process, the program procedures are satisfactorily implemented and effective in achieving the desired results. Effective implementation of the WWIS/WDS process must be deemed indeterminate due to inactivity relative to RH waste characterization by ANL/CCP. Per CBFO Office of National TRU Program memorandum (CBFO:ONTP:KEP:PG:18-0697) dated June 15, 2018, the scope for this audit did not include transportation activities, and enhanced acceptable knowledge (AK) activities were limited to the AK Assessment only.

The audit team identified three concerns during the audit. One concern was identified in the area of project-level data validation and verification and resulted in the issuance of CBFO Corrective Action Report (CAR) 18-046 (see section 6.1). The other concerns, both identified in the area of program status and interface, resulted in an Observation (see section 6.3), and a Recommendation offered to management (see section 6.4).

2.0 SCOPE AND PURPOSE

2.1 Scope

The scope of the audit included evaluations for the continued adequacy, implementation, and effectiveness of the technical and quality assurance (QA) activities performed by the NWP CCP at ANL for characterization of RH SCG S5000 debris waste. Transportation activities were not included in the scope of this audit. An evaluation of shielded container assembly (SCA) loading field activities was conducted by the audit team. The audit team was unable to verify implementation of DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*, requirements because the report

from performance of the generator site technical review (GSTR) of the processes at ANL was not complete at the time of the audit. The following areas were evaluated:

General Activities

- Review of the ANL/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 Activities

- Nonconformances
- Personnel Qualification and Training
- Measuring and Test Equipment
- Software Version Installation
- Records
- Container Management

Technical Activities

- Acceptable Knowledge (AK) (including waste certification) and AK Assessment
- Project-Level Data Validation and Verification (PL/V&V)
- Visual Examination (VE)
- Radiological Characterization (Dose-to-Curie [DTC])
- Dimensional/Gravimetric (DG) Measurement
- WIPP Waste Information System (WWIS)/Waste Data System (WDS)

The evaluation of the adequacy of ANL/CCP documents was based on current versions of the following documents:

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- *Quality Assurance Program Document (QAPD)*, DOE/CBFO-94-1012
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*, DOE/WIPP-02-3122
- *Remote-Handled TRU Waste Characterization Program Implementation Plan (WCIPI)*, DOE/WIPP-02-3214
- *Waste Isolation Pilot Plant Documented Safety Analysis (DSA)*, Chapter 18, DOE/WIPP-07-3372

Programmatic and technical checklists were developed from current versions of the following documents:

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

- *CCP Transuranic Waste Certification Plan, CCP-PO-002*
- *CCP/ANL RH TRU Waste Interface Document, CCP-PO-500*
- Related CCP QA and technical implementing procedures

2.2 Purpose

Audit A-18-17 was conducted to determine the degree of adequacy and effective implementation of program requirements for the characterization and certification of RH SCG S5000 debris waste at the ANL.

3.0 AUDIT TEAM, MANAGEMENT REPRESENTATIVES, AND OBSERVERS

AUDITORS / TECHNICAL SPECIALISTS / CBFO QA REPRESENTATIVE

Martin Navarrete	CBFO Office of Quality Assurance Representative
Micheal Stapleton	CBFO Office of Quality Assurance Representative
Katie Gentry	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Cindi Castillo	Auditor, CTAC
Ricardo Chavez	Auditor, CTAC
Joe Lopez	Auditor, CTAC
Dustin Stegman	Auditor, CTAC
B.J. Verret	Auditor, CTAC
Rick Castillo	Auditor/Technical Specialist, CTAC
Jim Vernon	Auditor/Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Michel Hall	Technical Specialist, CTAC

4.0 AUDIT PARTICIPANTS

The ANL/CCP individuals involved in the audit process are identified in Attachment 1. A pre-audit meeting was held on July 31, 2018, at the ANL facilities in Lemont, Illinois, and at the Skeen-Whitlock Building in Carlsbad, New Mexico. Daily management briefings were held to update ANL/CCP management and staff on audit progress and identified concerns. A post-audit meeting was held on August 2, 2018, in the same locations as mentioned above.

Attachment 2 contains a summary table of audit results. Attachment 3 contains a list of ANL/CCP documents audited. Attachment 4 contains the list of processes and equipment evaluated during the audit. Audit activities, including objective evidence reviewed, are described below.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the capability of ANL/CCP to characterize RH SCG S5000 debris waste for compliance with the requirements specified in the WIPP HWFP Waste Analysis Plan (WAP), the WIPP WAC, Chapter 18 of the DSA, the CBFO QAPD, and the RH TRU WCPIP. The characterization methods assessed were AK, VE, DG, and DTC. Other areas evaluated were data generation and PL/V&V, WWIS/WDS data entry, data quality objective (DQO) reconciliation, container management, SCA loading, and the preparation of Waste Stream Profile Forms (WSPFs).

The audit team concluded that the ANL/CCP TRU waste characterization program procedures for characterizing RH SCG S5000 debris waste adequately implement upper-tier requirements. With the exception of the WWIS/WDS process, the program procedures are satisfactorily implemented and effective in achieving the desired results. Effective implementation of the WWIS/WDS process must be deemed indeterminate due to inactivity relative to RH waste characterization by ANL/CCP. Further, the scope for this audit did not include transportation activities and enhanced AK activities were limited to the AKA only.

5.2 General Activities

5.2.1 Results of Previous Audits

The audit team examined the results of the previous CBFO audit of the ANL/CCP (A-17-25), wherein four concerns were identified. A condition adverse to quality (CAQ) was documented in the area of VE batch data report (BDR) generation and resulted in issuance of CAR 17-048. Another CAQ related to the quarterly review of the Interface Waste Management Documents List was corrected during the audit. One Observation regarding inconsistencies within CCP-PO-500, Revision 7, was also identified. Finally, a concern classified as a Recommendation was offered to management regarding field observations. During the performance of this audit, the audit team did not observe any instances similar to the CAQs identified during audit A-17-25, suggesting that the corrective actions taken were adequate in precluding recurrence. However, the audit team found one similar instance to the Observation identified in the previous audit (CCP-PO-500 needs to be revised for adequacy) (see Observation 1 in section 6.3).

5.2.2 Changes in Programs or Operations

The audit team determined through interviews with the CCP RH Manager and CCP RH Site Project Manager (SPM) that there were no changes in ANL/CCP programs or operations since the previous recertification audit that affected the quality of the audit. During the audit, DTC and VE field activities/operations were verified, but there were no DG field activities being conducted at that time.

5.2.3 New Programs or Activities Being Implemented

There were no new programs or activities being implemented at the ANL since the previous recertification audit.

5.2.4 Changes in Key Personnel

The audit team determined through interviews with the CCP RH Manager and CCP RH SPM that there were no changes in key personnel since the previous recertification audit.

5.2.5 Generator Site Technical Review

A GSTR was performed on June 18 – 22, 2018, but the audit team was unable to verify implementation of DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*, requirements because the report from performance of the GSTR of the processes at ANL was not complete at the time of the audit.

5.2.6 ANL/CCP Program Interface

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to the program interface established between the CCP and the ANL to determine the degree to which the procedures adequately address upper-tier requirements:

- CCP-PO-500, Rev. 7, *CCP/ANL RH-TRU Waste Interface Document*
- CCP-PO-001, Rev. 22, *CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP)* (Revision 23 of this procedure was effective July 19, 2018. The audit team did not perform an adequacy, implementation, or effectiveness review of Revision 23 due to insufficient implementation time before the audit.)

The results of the reviews indicate the documents adequately address the associated requirements and are effectively implemented.

The audit team interviewed the CCP RH Manager, CCP RH SPM, CCP Vendor Project Manager (VPM), and the Site Management Representative (SMR) responsible for ANL/CCP waste characterization activities. The audit team reviewed objective evidence to confirm requirements were met as specified in CCP-PO-500, Rev. 7, for RH TRU waste characterization activities.

The audit team verified the level of oversight by the Host site of the CCP program and that the Host site QA organization conducts periodic surveillances to ensure CCP operations at the ANL site are conducted in accordance with CCP procedures. The audit team evaluated the ANL 2017-2018 assessment schedule, which provided evidence that the Host site conducted periodic assessments of the waste certification

program. The audit team evaluated a report for an assessment (NWM-FY17-MA-007) dated September 1 – 26, 2017. The purpose of the assessment was to evaluate ANL TRU waste management processes to ensure that the necessary program elements are in place, and to ensure that all TRU waste containers generated by ANL are compliant with the WIPP WAC and QA implementing procedures. The Host site also performed a surveillance (NWM-SURV-2018-001) on July 16 – 19, 2018, to determine if the requirements of CCP-TP-081, Rev. 2, *CCP Shielded Container Assembly Loading*, were being implemented as defined and properly documented. The audit team reviewed the assessment reports and found the Host site to be compliant with requirements.

The audit team verified that the CCP QA organization conducts periodic surveillances to assess compliance with applicable WIPP requirements. The audit team evaluated surveillance report S18-01 dated March 28, 2018. The surveillance assessed ANL/CCP RH waste characterization methods including VE and DTC. This surveillance was conducted October 24 – 25, 2017, and was performed in accordance with WP 13-QA.03, Revision 26, *Quality Assurance Independent Assessment Program*. No issues were identified as a result of the surveillance.

As requested through the scope letter issued by the CBFO National TRU Program (NTP) on June 15, 2018, the AK Assessment was the only enhanced AK element evaluated by the audit team during the audit and the audit team was able to verify implementation of the AKA process. The AKA, dated December 12, 2016, was performed on containers for AK Summary Report CCP-AK-ANLE-500, Waste Stream AERHDM (see section 5.4.1 of this report for additional details).

Two concerns were identified in regard to CCP-PO-500, Rev. 7, *CCP/ANL RH-TRU Waste Interface Document*, effective January 14, 2016.

During the adequacy review of the Interface Document, the audit team identified the following inconsistencies/changes that need to be corrected:

1. Wording for CCP responsibilities are inconsistent in section 1.0, paragraph 4, and section 3.0, paragraph 1. A comparison of wording is needed.
2. Section 3.10.1 change the word "personal" to "personnel"
3. Section 4.1.1 references an obsolete procedure (CCP-QP-040). CCP-QP-042 & CCP-QP-043 need to be added.
4. Nondestructive examination (NDE) is referenced throughout the procedure instead of VE. Real-time radiography (RTR) is not applicable at ANL/CCP. (Example section 4.9.3)
5. Section 4.11.6(c) references "radiography units"; however, there are no RTR units at ANL/CCP.
6. Section 4.13.5 references only shipping of RH TRU 72B casks. References to shipments of SCAs should be added.
7. Section 4.17.8 references an obsolete procedure, CCP-QP-040, and CCP-QP-042, and CCP-QP-043 need to be added.

8. Section 4.18.2 (G) references NDE instead of VE only.
(See Observation 1 in section 6.3.)

According to the Interface Document, CCP is to provide the Host site (ANL) with an up-to-date organization chart listing CCP personnel, along with their associated roles and responsibilities. A letter with an attached table listing information for applicable CCP project officials at ANL was transmitted on July 10, 2018, from the CCP NTP Manager to the CBFO NTP Compliance Director, but the Host site was not included on distribution. The audit team recommends adding the ANL SMR to the distribution list, and also recommends including the applicable ANL/CCP RH Manager's information on the organization chart (see Recommendation 1 in section 6.4).

Although there were two concerns identified, the requirements specified in the Interface Document were determined to be adequate, satisfactorily implemented, and effective.

5.3 Quality Assurance Activities

The audit team evaluated the QA elements for personnel qualification and training, nonconformances, and records for compliance with requirements in the WIPP HWFP WAP. The evaluation results for each area audited are described below.

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to personnel qualification and training to determine the degree to which the procedures adequately address upper-tier requirements:

- CCP-QP-002, Rev. 44, *CCP Training and Qualification Plan*
- CCP-QP-042, Rev. 1, *CCP Project Level Training and Qualification*
- CCP-QP-043, Rev. 1, *CCP Operations Level Training and Qualification*

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

Personnel training records associated with VE, DTC, DG, AK, SPM, and SCA loading, were examined to verify implementation of associated requirements and to verify that personnel performing waste characterization activities are appropriately qualified. Record reviews included qualification cards and other pertinent qualification documentation, such as attendance sheets/briefings for AK waste stream summary training for VE operators, and appointment letters for VE experts (VEEs) and RH waste technical staff.

The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for personnel qualification and training were

adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No concerns were identified.

5.3.2 Control of Nonconforming Items

The audit team reviewed implementing procedure CCP-QP-005, Rev. 25, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

The audit team interviewed NWP CCP QA personnel and reviewed the project-level nonconformance report (NCR) log reconciliation report for 2017, the NCR generated since the previous recertification audit, and the only NCR generated in 2018. There was no data generation-level (DGL) NCR log reconciliation report generated for fiscal year 2017 due to no DGL NCRs being generated. The NCRs reviewed by the audit team are:

- NCR-RHANL-0497-17, Rev. 0
- NCR-RHANL-0616-18, Rev. 0 (in process)

The team concluded that deficiencies are being appropriately documented and tracked through resolution as required. There were no NCRs generated that required reporting to the Permittees within seven days, as prescribed by the Permit. Both of the NCRs examined were verified to have been entered, managed, and tracked in the CCP Integrated Data Center (IDC)/Nonconformance Report Log, and through the required reconciliation reporting mechanism.

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

5.3.3 QA Records

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements:

- CCP-PO-001, Rev. 22, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-008, Rev. 26, *CCP Records Management*
- CCP-QP-028, Rev. 17, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*

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

Details for control of QA records were verified by review of the Records Inventory and Disposition Schedule (RIDS) dated June 27, 2018, for NWP/CCP RH (All Sites). The RIDS is reviewed annually, as required. The audit team evaluated a sample of transmittal forms used to document submittal of records from the ANL/CCP Host site location to the CCP Records Center in Carlsbad, New Mexico. The audit team determined that the completed forms adequately described the records being transmitted, and that the transmittal process was performed in accordance with the procedure.

The audit team verified the maintenance of records in file cabinets and in the electronic system. Records that are maintained in paper copy in the CCP Records Center are placed in locked fire-resistant cabinets. Access to the file cabinets is controlled through the use of keys, and labels placed on each cabinet post the names of personnel approved for access to the files. Files are adequately organized and maintained in both the paper and electronic file systems. Records are adequately segregated from non-record documents. Records personnel are familiar with requirements for restricted access files and adequately control distribution of restricted access files. Access to electronic files and restricted files is controlled administratively in the case of physical electronic media and by use of server logon/password methods for electronic files maintained on computer servers.

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

5.3.4 Container Management

The audit team reviewed implementing procedure CCP-TP-509, Rev. 6, *CCP Remote-Handled Transuranic Container Tracking*, to determine the degree to which it adequately addresses applicable upper-tier requirements. The results of this review confirmed that the procedure continues to adequately address upper-tier requirements.

The audit team observed container management activities in Building #331-Shell at the ANL. The audit team verified containers are being stored in the facility where appropriate, and adequate inventory controls are in place to manage the containers. Verification activities included confirmation that administrative controls are used to track containers and characterization status to comply with As Low As Reasonably Achievable requirements. At the time of the audit, there were no NCRs associated with the containers in Building #331-Shell. The audit team verified the location and tracking of sixty 30-gallon containers during the course of the audit.

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for container management are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results. No concerns were identified.

5.4 Technical Activities

Each technical area audited is discussed in detail in the following sections. The method used to select objective evidence is discussed, the objective evidence used to assess compliance with the WIPP HWFP is cited briefly, and the result of the assessment is provided.

5.4.1 Acceptable Knowledge

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to the AK process to determine the degree to which the procedures address upper-tier requirements:

- CCP-PO-001, Rev. 22, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-TP-001, Rev. 22, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 27, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-005, Rev. 29, *CCP Acceptable Knowledge Documentation*
- CCP-TP-200, Rev. 4, *Enhanced Acceptable Knowledge Review*
- CCP-TP-506, Rev. 6, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
- WP 13-QA.03, Rev. 27, *QA Independent Assessment Program*

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

The audit team evaluated the AK process for characterizing RH TRU mixed SCG S5000 debris waste. The AK audit team specifically evaluated compliance with the WAP requirements listed in the C6-2 checklist along with portions of the C6-1 checklist. Objective evidence was reviewed and compiled to demonstrate compliance with each of the applicable requirements on these checklists. The team also reviewed the AK record with respect to relevant requirements of the WAC and the requirements of the WCPIP, Rev. 3.

The AK auditors reviewed the latest revision to the AK Summary Report for this waste stream, CCP-AK-ANLE-500, Rev. 13, and a copy of the WSPF (Rev. 1) and

attachments, in addition to numerous AK source documents to establish support, as noted above, for the conclusions noted in the AK summary. The audit team reexamined the latest revisions to all of these documents to confirm continued support of the required AK elements. This review included the following completed attachments from CCP-TP-005: the AK Documentation Checklist (Attachment 1); an updated AK Information List (Attachment 4); the AK Hazardous Constituents List (Attachment 5); the respective AK Waste Form, Waste Material Parameters, Prohibited Items, and Packaging (Attachment 6), alongside the justification memoranda for waste material parameter weight estimates; and the Waste Containers List (Attachment 8). The add-container memoranda prepared since the previous recertification audit were examined and will be included in the objective evidence for this audit.

The WAP-required container traceability exercise was conducted by the AK audit team for a total of eight waste containers from those that have been completely through the characterization and certification process, have not been previously reviewed, and are still on-site. The traceability exercise included a review of relevant VE BDRs and both DTC and DG data packages along with drum screenshots from the IDC database, a copy of the AK Container Tracking Spreadsheet, add-container memoranda, and ANL WMO-195 and WMO-195A waste container input forms for these individual containers along with other relevant generator documentation.

The audit team also examined the AK record and compiled objective evidence that demonstrates compliance with the requirements of the WCPIP as noted above. Documents reviewed included the AK Summary Report mentioned above, and CCP-AK-ANLE-501, Rev. 11, *CCP RH TRU Radiological Characterization Technical Report*. Since sampling or shipping lots of characterized containers have not been prepared since the previous recertification audit, there were no recent Characterization Reconciliation Reports, Waste Stream Characterization Checklists, or AK Accuracy Reports to review. However, examples of the resolution of AK discrepancies in the AK record and the most recent internal surveillance were collected and examined. A review of the current activity dealing with repatriated waste containers was examined. Repatriated waste involves waste packages stored outside of the Alpha-Gamma Hot Cell Facility (AGHCF) that is determined through AK records to qualify as part of the AERHDM waste stream. CCP examines the generator-supplied information and, if appropriate, adds the container to the AK Tracking Spreadsheet. The container is then inserted into the AGHCF where it is opened, sorted, and repackaged.

With respect to evaluation of the enhanced AK products in compliance with CCP-TP-005 and revision 8 of the WAC, Appendix H, the auditors examined in detail those enhanced AK products that were available as noted below. The AKA was the only enhanced AK product requested for the scope of this audit.

AKA

An AKA (AKA001) was completed on December 16, 2016. The audit team reviewed the contents of that assessment in detail, including the specific container listing covered by and attached to the AKA. In addition, the AKA checklist developed by the SPM in

accordance with CCP-TP-200, Rev. 4, *Enhanced Acceptable Knowledge Review*, was reviewed and compiled as objective evidence in support of the AKA.

The audit team reviewed training records for two AK Experts (AKEs) and two SPMs who have participated or could potentially participate in waste characterization activities at ANL/CCP. The audit team also reviewed the completed BDRs and NCR since the previous recertification audit. There were no discrepancy reports to evaluate since the last recertification audit; however, the audit team verified that a process is in place to resolve AK discrepancies when they occur. The audit team examined the handling of AK records for compliance with preparation, legibility, accuracy, review, approval, and maintenance requirements. The distribution, control, and use of appropriate AK procedures were also reviewed. The audit team examined the most recent audit report relevant to AK, NWP Quality Assurance Audit I18-01, completed November 2, 2017, at Los Alamos National Laboratory. Although the audit report was not specific to ANL, the activities evaluated are relevant to all of CCP's sites. In addition, the audit team examined two NWP CCP QA surveillances specific to RH TRU waste characterization activities at ANL/CCP, S18-01 and S17-35.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for AK activities are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No concerns were identified.

5.4.2 Project-Level Data Validation and Verification

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to the PLV&V process to determine the degree to which the procedures address upper-tier requirements:

- CCP-PO-001, Rev. 22, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-TP-001, Rev. 22, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 27, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-500, Rev. 15, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-504, Rev. 20, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*
- CCP-TP-513, Rev. 4, *CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste*

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

The audit team evaluated the following BDRs in support of RH waste characterization activities completed at the ANL to verify that PLV&V activities were performed in compliance with applicable procedural requirements:

DTC

ANLRHDTTC17001 ANLRHDTTC17002 ANLRHDTTC18001 ANLRHDTTC18002

VE

ANLRHVE17001 ANLRHVE17002 ANLRHVE17003 ANLRHVE18001

DG

RHANLDG18001

All of the reviewed BDRs were found to be in compliance with all applicable procedural requirements.

No new WSPFs or Characterization Information Summaries (CISs) have been generated since the previous recertification audit. However, for completion of the C6 checklist, the audit team reviewed the following:

- WSPF for AERHDM, Revision 1
- WSPF for AERHDM

No new CISs have been generated since the previous recertification audit. For completion of the C6 checklist, the audit team reviewed the following:

- AERHDM, CIS Lots 57 and 58

The audit team verified the required quarterly repeat of the DGL data by the project level for the following:

- 3rd Quarter 2017 Requests and Results for VE
- 4th Quarter 2017 Requests and Results for VE
- 1st Quarter 2018, no VE BDRs were completed in the 1st Quarter 2018
- 2nd Quarter 2018, Requests and Results for VE, the results for VE for the 2nd Quarter of 2018 have not yet been completed.

The results from each quarterly review package indicated there were no inconsistencies reported in the data.

One concern was identified during the PLV&V review regarding the CIS cover page for WSPF Waste Stream AERHDM, Revision 1. The CIS cover page for the WSPF stated "Draft" for both the AK Expert Review and AK Expert review date. The AK Expert approved the WSPF per CCP-TP-002, but did not approve the CIS cover page (see CAR 18-046).

Although there was a concern identified, the procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for PLV&V activities are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.4.3 Visual Examination

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to the VE process to determine the degree to which the procedures address upper-tier requirements:

- CCP-TP-500, Rev. 15, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-163, Rev. 4, *CCP Evaluation of Waste Packaging Records for Visual Examination of Records*

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

ANL/CCP has not performed VE of records utilizing CCP-TP-163 since the previous recertification audit. ANL/CCP uses the two-operator method when performing VE characterization of waste. The audit team interviewed VE operators and the VEE. The audit team also examined the 2017 and 2018 VE operational logbooks (RH-ANL-VE-01 and RH-ANL-VE-002) and verified logbook entries were logged correctly and reviewed by the VPM as required. Logbook evaluations confirmed that current revisions of associated procedures and the AK Summary Report, CCP-AK-ANLE-500, are verified prior to performing VE operations. During the audit, the VE audit team toured the AGHCF in Building 212 and observed VE of an indirect load being performed on RH container 1576.

The audit team examined the following RH VE BDRs generated from operations performed in the AGHCF in Building 212 to verify implementation and compliance with the requirements for documenting VE activities, as stipulated in CCP-TP-500:

ANLRHVE17001 ANLRHVE17002 ANLRHVE17003 ANLRHVE18001

The audit team examined training records for four VE operators/independent technical reviewers (ITRs), and confirmed the appointment of two ANL/CCP VEEs. The audit team verified that VE operators, ITRs, and the VEE were appropriately trained and qualified as required.

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for VE are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No concerns were identified.

5.4.4 Radiological Characterization (Dose-to-Curie & Dimensional/Gravimetric Measurement)

The audit team assessed the continued adequacy, implementation, and effectiveness of the DTC method and DG measurement used at ANL by the CCP to characterize waste stream AERHDM. The audit team evaluated, through inspection of activities and review of supplied BDRs, the actual measurement of the dose rate and measurement of the length of segments of fuel examination waste (FEW) and the subsequent determination of required waste container data. For DTC, the dose rate is defined as the external exposure rate from gamma-ray emitting radionuclides within the waste matrix, predominately Cesium-137 (Cs-137), and for DG, the length (or mass) of a segment of FEW is measured to confirm AK information about the fuel segment. The application of the DTC/DG methodology at ANL to characterize RH TRU waste was previously evaluated by the CBFO as part of Audit A-17-25 in August 2017.

Based on a review of the current revisions of CCP procedures, reports, and waste data provided prior to and during the audit, checklists were prepared and used to evaluate the following:

- Proper development and documentation of the waste stream's AK as documented in an Acceptable Knowledge Summary Report (a "500" report)
- Proper development, implementation, and products were produced from a Radiological Characterization Technical Report (a "501" report)
- Waste stream AERHDM is adequately addressed in a Waste Certification Plan for 40 Code of Federal Regulations (CFR) Part 194 Compliance (a "502" report)
- Development of average radionuclide ratios through sampling and/or modeling
- Development of radionuclide quantities as a function of length (or mass) through modeling
- Development of the relationship between the measured dose or exposure rate and the activity of Cs-137
- Measurement of the external dose, exposure rate, or length (or mass), of the waste/fuel segments
- Calculation of the radionuclide activities and other derived radiological quantities and associated uncertainties
- Any significant program changes or deviation since Audit A-17-25
- Results of applying the DTC methodology/DG measurements to characterize waste or confirm AK information about fuel segments since Audit A-17-25
- Determination of the number of containers examined, completed BDRs, and BDRs that had been through project-level review that were generated since Audit A-17-25

- Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Personnel qualification and training
- Continued operability and condition of the equipment used in the DTC method/DG measurement since Audit A-17-25

The following procedures and documents were reviewed to verify compliance with applicable upper-tier requirements:

- CCP-TP-504, Rev. 20, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*
- CCP-TP-513, Rev. 4, *CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste*
- CCP-AK-ANLE-500, Rev. 13, *CCP Acceptable Knowledge Summary Report*
- CCP-AK-ANLE-501, Rev. 11, *CCP RH TRU Radiological Characterization Technical Report*
- CCP-AK-ANLE-502, Rev. 7, *CCP RH TRU Waste Certification Plan for 40 CFR Part 194 Compliance*
- CCP-AK-ANL-505C, Rev. 1, *CCP Fuel Weight Confirmation Test Program for Argonne Remote-Handled K-Wing Fuel Examination Waste, Waste Stream: AERHDM 2/6/2013*

The results of the review confirmed that the procedures and documents are adequately established for compliance with upper-tier requirements.

The source of the RH waste at the ANL was the examination of fuel pins and reactor materials in the AGHCF and the K-Wing in the Chemical Technology Building. Scaling factors and functions that express the radionuclide content relative to the length or mass of a fuel pin were developed from information about these fuel pins and reactor materials in the AK record. This information included the fuel's initial composition and irradiation history. The ORIGEN2.2 computer code was used to model the burn-up of nuclear fuel including the decay and in-growth of progeny radionuclides to arrive at a radionuclide inventory. This radionuclide inventory and the known dimensions of the fuel segments from the AK record were used to establish functions of length or mass to the activities of all radionuclides present in any appreciable quantity and particularly any of the 10 WIPP-tracked radionuclides present to that of Cs-137 in cases where the DTC methodology was applied.

In the past, to confirm the ORIGEN2.2 modeling results, radionuclide ratios were calculated for approximately 400 fuel pins that were also examined at the Los Alamos National Laboratory (LANL) using mass spectrometry. The modeled values were

compared to the mass spectrometry results. Agreement between the ratios calculated using ORIGEN2.2 and those measured by mass spectrometry demonstrate that ORIGEN2.2 is an appropriate model for calculating the radionuclide ratios for irradiated fuel pins with fuel compositions and irradiation histories similar to those examined at LANL.

The DTC measurement apparatus remained in service in Building #331-Shell for the previous year since Audit A-17-25. In this apparatus, the exposure rate, attributed entirely to Cs-137, is measured four times at a distance of 1.0 meter from the waste containers. Auditors interviewed operations personnel about the set-up and calibration of the measurement apparatus for performing DTC and reviewed calibration certification documentation as well as operations logbooks. A Thermo Electron Model RO-7 survey meter fitted with the appropriate probe (RO-7LD or RO-7BM) is used to gather high-range measurements, and a Model FH 40G fitted with a FHZ 612 probe is used to gather low-range measurements. Each container is rotated 90 degrees successively between each of the four measurements. The average measured dose or exposure rate for each 30-gallon waste container and associated scaling factors are used to estimate the activity of individual radionuclides and other derived radiological quantities and associated uncertainties.

Field activities for DG operations were not being performed during the audit. When conducted, the DG activities and measurement equipment (ruler or scale) are housed in Building 212 (AGHCF). In this building, VE of the fuel segments is performed in a hot cell. CCP operators use a calibrated ruler or scale to verify the length or mass respectively of a fuel segment and confirm that the AK information does apply to that segment. Auditors interviewed operations personnel about the potential for ongoing DG operations. The auditors were informed that DG operations have ceased and most likely will not be conducted at ANL in the future. No DG measurements have been conducted since the previous audit. However, one DG BDR was evaluated during the audit (from measurement activities conducted in 2010).

The audit team interviewed DTC personnel, and examined electronic and paper copies of reports, records, and measurement results.

Since Audit A-17-25, four DTC BDRs have been completed through PL review:

- ANLRHDTTC17001
- ANLRHDTTC17002
- ANLRHDTTC18001
- ANLRHDTTC18002

and one DG BDR:

- RHANLDG18001

The audit team observed the DTC measurement of container 1378 and verified the elements of CCP-TP-504 related to start-up and quality control of measurements as well as the collection of background and container dose rate.

The procedures reviewed provided evidence to confirm that the applicable requirements for RH waste characterization utilizing DTC and DG methodology are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No concerns were identified.

5.4.5 Transportation

Transportation activities were not included in the scope of this audit.

5.4.6 Shielded Container Assembly Loading

The audit team conducted interviews and reviewed implementing procedure CCP-TP-081, Rev. 2, *CCP Shielded Container Assembly Loading*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

ANL/CCP utilizes this procedure to load characterized 30-gallon containers of RH waste into shielded container assemblies (SCAs) in Building 331.

The audit team observed field activities where an empty SCA was filled with a selected 30-gallon container of RH waste (1397). The SCA lid was vented with the proper filter, then replaced on the SCA and tightened per procedure. Once the SCA was loaded, it was removed from Building 331 and surveyed. Following an acceptable survey, the loaded SCA (AE1397SC) was placed onto a pallet, covered in a custom-built cover, and stored outdoors on a concrete pallet to await loading and transport to the WIPP. Empty SCAs are stored outside on pallets and are covered.

The audit team reviewed an NCR relating to SCAs, NCR-RHANL-0616-18, which was found to be complete and accurate.

The audit team reviewed 12 completed Shielded Container Assembly Loading Forms (Attachment 1 to CCP-TP-081) and 12 completed Shielded Container Assembly Contact Dose Rate Surveys (Attachment 2 to CCP-TP-081). All reviewed forms were found to be complete and accurate.

The procedures reviewed provided evidence to confirm that the applicable requirements for SCA loading are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No concerns were identified.

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

The audit team conducted interviews and reviewed implementing procedure CCP-TP-530, Rev. 12, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*, relative to the WWIS/WDS data entry process to determine the degree to which the procedure

adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

There have been no RH waste WWIS/WDS data entries performed since the previous recertification audit, A-17-25. When RH waste characterization activities resume, containers will be processed using CCP-TP-530, which utilizes functions of the IDC for certification and electronic submittal to WWIS/WDS. There has been no shipping of RH waste containers and therefore no shipping packages were reviewed. Per interviews with CCP personnel, the audit team determined that personnel are familiar with the processes for characterization of RH waste containers and building of RH waste packages and that procedure implementation is expected to be adequate once these activities resume.

The procedure reviewed provided evidence to confirm that the applicable requirements for WWIS/WDS are adequately established for compliance with upper-tier requirements. However, since there was no objective evidence provided for review during the audit, the WWIS/WDS process for implementation and effectiveness must be deemed indeterminate due to inactivity in the SCG.

6.0 CARs, CDAs, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality, as defined below, and document such conditions on CARs.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

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

The following CAR was issued as a result of this audit:

CAR 18-046

Condition Adverse to Quality:

The Characterization Information Summary (CIS) cover page for Waste Stream Profile Form Waste Stream AERHDM, Revision 1, states "Draft" for both the AK Expert Review and the AK Expert review date. The AK Expert approved the WSPF per CCP-TP-002, but did not approve the CIS cover page.

Requirement:

CCP-TP-002, Rev. 26, *CCP Reconciliation of DQOs and Reporting Characterization Data*, step 4.6.2 states: "Forward a copy to the AKE for review and concurrence."

WP 13-1, Rev. 38, *Nuclear Waste Partnership LLC Quality Assurance Program Description*, step 1.5.1[3] states: "Individuals shall create QA records that are legible, accurate, and complete."

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. Audit team members, the Audit Team Leader (ATL), and the CBFO QA Representative 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 and the CBFO QA Representative, determines if the CAQ is a minor and isolated case requiring only remedial action and therefore can be corrected during the audit.

Upon determination that the CAQ is minor and isolated, the audit team member, in conjunction with the ATL and the CBFO QA Representative, 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 CBFO QA Representative categorizes the condition as corrected during audit (CDA) according to the definition below:

CDA – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. 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), and one or two individuals that have not completed a reading assignment.

There were no deficiencies corrected during the audit.

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.

Observation 1

During the adequacy review of the Interface Document, the audit team identified the following inconsistencies/changes that need to be corrected:

1. Wording for CCP responsibilities are inconsistent in section 1.0, paragraph 4, and section 3.0, paragraph 1. A comparison of wording is needed.
2. Section 3.10.1 change the word "personal" to "personnel"
3. Section 4.1.1 references an obsolete procedure (CCP-QP-040). CCP-QP-042 & CCP-QP-043 need to be added.
4. NDE is referenced throughout the procedure instead of VE. RTR is not applicable at ANL/CCP. (Example section 4.9.3)
5. Section 4.11.6(c) references "radiography units"; however, there are no RTR units at ANL/CCP.
6. Section 4.13.5 references only shipping of RH TRU 72B casks. References to shipments of SCAs should be added.
7. Section 4.17.8 references an obsolete procedure, CCP-QP-040, and CCP-QP-042, and CCP-QP-043 need to be added.
8. Section 4.18.2 (G) references NDE instead of VE only.

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

According to the Interface Document, CCP is to provide the Host site (ANL) with an up-to-date organization chart listing CCP personnel, along with their associated roles and responsibilities. A letter with an attached table listing information for applicable CCP project officials at ANL was transmitted on July 10, 2018, from the CCP NTP Manager to the CBFO NTP Compliance Director, but the Host site was not included on distribution. The audit team recommends adding the ANL SMR to the distribution list, and also recommends including the applicable ANL/CCP RH Manager's information on the organization chart.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Summary Table of Audit Results

Attachment 3: Table of Audited Documents

Attachment 4: List of Processes and Equipment Reviewed

PERSONNEL CONTACTED DURING AUDIT A-18-17				
NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Fernando Acosta	MLU/TCO, LANL		X	
Rock Aker	ASO Deputy Manager, DOE/ASO	X		
Pat Beallis	CCP VE Operator/WMO		X	
Tim Benoit	QAE, NWM	X		
Michele Billett	CCP Training Manager, NWP/CCP		X	
Noreen Brachaann	Health Physicist/ASO			X
Tom Carver	NTP Waste Certification Manager, CBFO	X		
Robin Colglazier	Regulatory Compliance, ACO	X		X
Eric Dallmann	ESHD Director, DOE/ASO	X		
Dylan Dias	AGHCF Chief Technician, NWM		X	
Patrick Furamo	RWSF/WMOF Facility Manager, NWM	X		X
Curtis Groberg	MLU/Ops, LANL		X	
Jeff Grzymejlo	Waste Management Manager, NWM	X		X
Karen Hellman	DD-PMO, PMO			X
John Daniel Hutke	Nuclear Facility Group Lead, NWM			X
Richard Kantrowitz	SPM, NWP CCP	X	X	X
Creta Kirkes	WCO/CCP, NTP		X	
Robert Leppink	NWM Deputy Division Director, NWM	X		X
Kimberly Lopez	Training Coordinator, NWP/CCP	X	X	
Margaret Marks	ASO IPPD Director, DOE/ASO	X		
Dennis Miehlis	Senior Quality Assurance Specialist, CBFO QA	X		
Tommy Mojica	VPM/VEE, NWP CCP	X	X	
Jason Montoya	AKE/CCEM, LANL-CO	X		
Richard Mooris	Safety Basis Lead, ANL/NWM	X		
Martin Navarrete	Senior Quality Assurance Specialist, CBFO QA			X
Kayla O'Sullivan	Intern, NWM	X		
Berry Pace	Issues Management, NWP CCP	X	X	X
Dan Pancake	TRU Project Manager, ANL/PNO	X	X	X

PERSONNEL CONTACTED DURING AUDIT A-18-17				
NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Sheila Pearcy	CCP Records Manager, NWP/CCP	X	X	
Phil Pferffu	Safety Basis Analyst, NWM			X
Kenneth Princen	NTP Assistant Manager, CBFO	X		
Brandye Pyeatt	QA Analyst, NWP		X	
Cynthia Rock	NWM Division Director, ANL/NWM	X		X
Wesley Root	VPM, NWP CCP	X	X	X
Chris Rosas	Health Physics Operations Manager, HSE	X		
Beverly Schrock	QA Specialist, NWP		X	
Craig Simmons	RH Manager, NWP CCP	X	X	
Jimmy Smith	AGHCF Manager, NWM	X	X	X
Mark Sreniawski	Health Physicist, ANL	X		
Mike Stapleton	Office of Quality Assurance, CBFO	X		X
Peter Washburn	DOE/ASO Facility Representative			X
Jonathan Zarndt	Nuclear Operations Manager, NWM	X		X

SUMMARY TABLE OF AUDIT RESULTS

QA / Technical Elements	Concern Classification				QA Evaluation		Technical Evaluation
	CARs	CDAs	Obs 1	Rec 1	Adequacy A	Implementation S	Effectiveness E
Program Status					A	S	E
Acceptable Knowledge					A	S	E
Reconciliation of DQO's WSPFs					A	S	E
Project Level Data V&V	1				A	S	E
Visual Examination					A	S	E
Dose-to-Curie (DTC)					A	S	E
Dimensional Measurement (DG)					A	S	E
Shielded Container Assembly Loading					A	S	E
Container Mgmt.					A	S	E
QA General C6-1 Training					A	S	E
QA General C6-1 NCRs / Records					A	S	E
QA General C6-1 WWIS / WDS					A	I	I
TOTALS	1		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

TABLE OF AUDITED DOCUMENTS			
	PROCEDURE NUMBER	REV	PROCEDURE TITLE
1.	CCP-PO-001	22	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	29	CCP Transuranic Waste Certification Plan
3.	CCP-PO-500	7	CCP/ANL RH-TRU Waste Interface Document
4.	CCP-QP-002	44	CCP Training and Qualification Plan
5.	CCP-QP-005	25	CCP TRU Nonconforming Item Reporting and Control
6.	CCP-QP-008	26	CCP Records Management
7.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
8.	CCP-QP-042	1	CCP Project Level Training and Qualification
9.	CCP-QP-043	1	CCP Operations Level Training and Qualification
10.	CCP-TP-001	22	CCP Project Level Data Validation and Verification
11.	CCP-TP-002	27	CCP Reconciliation of DQOs and Reporting Characterization Data
12.	CCP-TP-005	29	CCP Acceptable Knowledge Documentation
13.	CCP-TP-081	2	CCP Shielded Container Assembly Loading
14.	CCP-TP-163	4	CCP Evaluation of Waste Packaging Records for VE of Records
15.	CCP-TP-200	4	Enhanced Acceptable Knowledge Review
16.	CCP-TP-500	15	CCP Remote-Handled Waste Visual Examination
17.	CCP-TP-504	20	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
18.	CCP-TP-506	6	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
19.	CCP-TP-509	6	CCP Remote-Handled Transuranic Container Tracking
20.	CCP-TP-513	4	CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste
21.	CCP-TP-530	12	CCP RH TRU Waste Certification and WWIS/WDS Data Entry
22.	WP 13-QA.03	27	QA Independent Assessment Program

List of Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT		
N/A	Acceptable Knowledge	Debris (S5000) – RH
N/A	Data Generation and Project Level Validation & Verification (V&V)	Debris (S5000) – RH
N/A	WIPP Waste Information System (WWIS)/Waste Data System (WDS)	Debris (S5000) – RH
8RHVE1	Visual Examination (VE) CCP-TP-500, CCP Remote-Handled Waste Visual Examination CCP-TP-163, CCP Evaluation of Waste Packaging Records for Visual Examination of Records	Debris (S5000) – RH
8RHVE2	Visual Examination (VE) of Newly Packaged RH Waste Drums CCP-TP-500, CCP Remote-Handled Waste Visual Examination	Debris (S5000) – RH
8DTC1	Radiological Characterization (Dose-to-Curie) CCP-TP-504, CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste	Debris (S5000) – RH
8RHGM1	Dimensional Measurement CCP-TP-513, CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste	Debris (S5000) – RH
N/A	Quality Assurance Program	Debris (S5000) – RH
NEW PROCESSES OR EQUIPMENT		
NONE		
DEACTIVATED PROCESSES OR EQUIPMENT		
NONE		