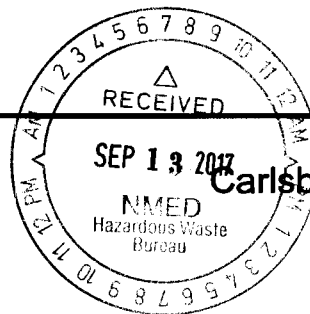




United States Government

Department of Energy

memorandum


 Carlsbad Field Office
 Carlsbad, New Mexico 88221

DATE: SEP 13 2017
 REPLY TO
 ATTN OF: CBFO:OQA:MPN:BA:17-2152:UFC 2300.00

SUBJECT: Interim Audit Report A-17-25, ANL/CCP TRU Waste Characterization and Certification

TO: Mr. Dan Misch, DOE-ASO

The Carlsbad Field Office (CBFO) conducted annual Recertification Audit A-17-25, Argonne National Laboratory Central Characterization Program (ANL/CCP) Transuranic (TRU) Waste Characterization and Certification, August 15 – 17, 2017. The interim audit report is attached.

Overall, the audit team concluded that the ANL/CCP technical and quality assurance programs evaluated were adequately established for compliance with applicable upper-tier requirements. However, the audit team was unable to verify effective implementation of most processes due to inactivity at the Host site and lack of objective evidence for review. Batch data reports were not evaluated in regard to Project-Level Data Validation and Verification (PL/V&V) and field activities for Dimensional Measurement (DM) were not evaluated during this audit due to inactivity for the AERHDM remote-handled (RH) Summary Category Group (SCG) S5000 debris waste. The audit team therefore concluded that implementation and effectiveness of PL/V&V and DM processes at ANL/CCP must be deemed indeterminate. The Waste Isolation Pilot Plant (WIPP) Waste Information System/Waste Data System process was also deemed indeterminate due to inactivity for the RH waste SCG. Further, the implementation and effectiveness of the enhanced Acceptable Knowledge (AK) products must be deemed indeterminate until all AK requirements can be demonstrated.

CBFO has not provided the Basis of Knowledge document, as required by the WIPP Waste Acceptance Criteria, specifying when waste with oxidizing chemicals is acceptable; therefore, the document was not available for evaluation during the audit.

One CBFO corrective action report was issued as a result of this audit. Additionally, the audit team identified a condition adverse to quality considered to be an isolated deficiency that was corrected during the audit, 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



Mr. Dan Misch

-2-

SEP 13 2017

cc: w/attachment

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B. Pace, NWP	ED
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J. Harvill, NWP	ED
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G. White, CTAC	ED
Site Documents	ED
WWIS Database Admin	ED

CBFO QA File

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-17-25

AUGUST 15 – 17, 2017



Prepared by:

Katie D. Gentry
Katie D. Gentry, CTAC
Audit Team Leader

Date:

8/29/2017

Approved by:

Michael R. Brown
Michael R. Brown, Director
CBFO Office of Quality Assurance

Date:

9/12/2017

1.0 EXECUTIVE SUMMARY

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Recertification Audit A-17-25 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, August 15 – 17, 2017. Overall, the audit team concluded that the ANL/CCP technical and quality assurance (QA) programs evaluated were adequately established for compliance with applicable upper-tier requirements. However, the audit team was unable to verify effective implementation of most processes due to inactivity at the Host site and lack of objective evidence for review. Batch data reports (BDRs) were not evaluated in regard to Project-Level Data Validation and Verification (PLV&V) and field activities for Dimensional Measurement (DG) were not evaluated during this audit due to inactivity with regard to RH SCG S5000 debris waste. Consequently, implementation and effectiveness of PLV&V and DG processes at ANL/CCP must be deemed indeterminate. The WIPP Waste Information System (WWIS)/Waste Data System (WDS) process was also deemed indeterminate due to inactivity for the RH waste SCG. Further, the implementation and effectiveness of the enhanced Acceptable Knowledge (AK) products must be deemed indeterminate until all AK requirements can be demonstrated.

The CBFO has not provided the Basis of Knowledge (BOK) document, as required by the WIPP Waste Acceptance Criteria, specifying when waste with oxidizing chemicals is acceptable; therefore, the document was not available for evaluation during the audit.

The audit team identified four concerns during the audit. One concern related to improper performance of a procedural step in the process of completion of a DG calculation package, and another concern related to the lack of objective evidence provided to demonstrate completion of a quarterly review of the Interface Waste Management Documents List (IWMDL). The first concern resulted in the issuance of CBFO Corrective Action Report (CAR) 17-048 (see section 6.1), and the second concern was corrected during the audit (CDA) (see section 6.2). One concern was identified in the area of program status and resulted in an Observation (see section 6.3), and one concern identified in the area of AK was offered to management as a Recommendation (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 QA activities performed by NWP/CCP at ANL for characterization of RH SCG S5000 debris waste. Transportation evaluations were limited to the area of container management, since that was the only transportation-related activity being performed. The audit team was unable to verify implementation of DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*, requirements because a technical review of the generator site's processes at ANL has not been performed to date. 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)
- Project-Level Data Validation and Verification (PL/V&V)
- Visual Examination (VE)
- Radiological Characterization (Dose-to-Curie [DTC])
- Dimensional Measurement (DG)
- 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 (WCPIP)*, 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
- *CCP Interface Document Preparation*, CCP-PO-043
- Related CCP QA and technical implementing procedures

2.2 Purpose

Audit A-17-25 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
Katie Gentry	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Cindi Castillo	Auditor, CTAC
Rick Castillo	Auditor, CTAC
Ricardo Chavez	Auditor, CTAC
John Fernandez	Auditor, CTAC
Matt Leroch	Auditor, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Randy Fitzgerald	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Jim Vernon	Technical Specialist, CTAC
Dustin Stegman	Technical Specialist-in-Training, 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 August 15, 2017, 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 17, 2017, 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 PLV&V, WWIS/WDS data entry, data quality objective (DQO) reconciliation, container management, and the preparation of Waste Stream Profile Forms (WSPFs).

The audit team concluded that, based on personnel interviews, observations of operations, and review of associated documentation and records, the ANL/CCP TRU waste characterization program and activities for characterizing RH SCG S5000 debris waste are adequately established, and in most cases, satisfactorily implemented, and effective in achieving the desired results.

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-17-08), wherein no conditions adverse to quality (CAQs) were identified. Two concerns (one Recommendation and one Observation) were identified during the previous audit. The audit team observed/noted that more than four years had passed since a CCP QA surveillance had been conducted at ANL. Section 4.14.2 of CCP-PO-500 instructs CCP to conduct periodic QA surveillances to assess compliance with applicable WIPP requirements. At that time, the last QA surveillance conducted by CCP at ANL was in August 2012 (Ref. SU-RHANL-0001-12). During this year's audit, the audit team re-evaluated the condition and was provided documented evidence that a CCP QA

surveillance (S17-35) of the CCP RH TRU waste characterization process at ANL was performed May 24, 2017 through June 6, 2017.

During previous Audit A-17-08, it was determined the ANL/CCP RH Technical Lead was qualified to the RH Waste Radiological Characterization Technical Staff Qualification Card (RH-TS-01, Rev. 1). This is a one-time qualification that did not include indoctrination training on the WAC or CCP's implementing procedure CCP-PO-002, *CCP Transuranic Waste Certification Plan*. During the audit, objective evidence (a read and sign form) was provided to demonstrate that the RH Technical Lead completed required reading of CCP-PO-002 on July 28, 2016. The CBFO intended to include the WCPIP requirements in the next revision of the WAC and then the WCPIP would be obsoleted. The audit team recommended that once that occurs, CCP should revise the RH Waste Radiological Characterization Technical Staff Qualification Card to include indoctrination training on the WIPP WAC and CCP-PO-002. The audit team re-evaluated the condition during this year's audit, and through an interview with the CCP RH Site Project Manager (SPM) learned that the WCPIP remains active, but it is in the process of being included in the WIPP WAC.

5.2.2 Changes in Programs or Operations

The audit team determined through interviews with the CCP RH SPM that there were no significant changes in ANL/CCP programs or operations since the previous recertification audit. During the audit, DTC and VE field activities/operations were verified.

5.2.3 New Programs or Activities Being Implemented

In response to the breached drum event at the WIPP in February 2014, the DOE and NWP are strengthening their programs to provide more oversight of TRU waste generator site processing/treatment activities being applied to active waste streams prior to waste being transferred to CCP for characterization, certification, and shipment. A Generator Site Technical Review of ANL has not been performed by CBFO since the last recertification audit; see section 5.2.5 for additional details.

5.2.4 Changes in Key Personnel

The audit team determined through interviews with the CCP SPM that there has been a change of CCP RH SPM at ANL since the previous recertification audit.

5.2.5 Generator Site Technical Review

The audit team was unable to verify implementation of DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*, requirements because a technical review of the generator site's processes at ANL has not been performed to date.

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)*

The audit team also verified that CCP-PO-500 addresses flow-down requirements of CCP-PO-043, Rev. 0, *CCP Interface Document Preparation*. The results of the reviews indicate the documents adequately address the associated requirements and are effectively implemented.

The audit team interviewed the 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, *CCP/ANL RH-TRU Waste Interface Document*, Rev. 7, for RH TRU waste characterization activities.

The audit team evaluated the management assessment (MA) report for MA-CCP-0008-17 conducted on February 23, 2017. The purpose of the MA was to evaluate the degree of compliance with requirements established in CCP-QP-008, *Records Management*, as applicable to work performed by CCP Facility Record Custodians at ANL.

The audit team also verified the level of oversight by the Host site of the CCP program and that the Host site QA conducts periodic surveillances to ensure CCP work is conducted in accordance with CCP procedures, as required by CCP-PO-500, Section 6.0, *Oversight*. The audit team evaluated the Host site's fiscal year 2017 assessment schedule which provided evidence that the Host site conducted periodic assessments on the waste certification program. The audit team evaluated a report for an assessment (NWM-FY16-MA-07) dated January 15-21, 2016. The purpose of the assessment was to evaluate ANL TRU waste management processes to ensure that the necessary program elements exist and are in place, and ensure that all TRU waste containers generated by ANL are compliant with the WIPP WAC and implementing procedures. The referenced report found ANL to be compliant with requirements, and no findings were identified.

Elements of the new AK enhancements were evaluated during the audit. The audit team verified that an IWMDL was developed for waste stream AERHDM. The team reviewed the IWMDL dated August 11, 2016, to verify it included the facility processes, plans, and procedures that control the waste management activities, as required. The audit team also received evidence of the SMR's quarterly review of the IWMDL for the second quarter for 2017 (dated July 7, 2017), but did not receive documented evidence

of a quarterly review for the first quarter of 2017 (see CDA 1 in section 6.2), see section 5.4.1 of this report for additional details.

The audit team was able to verify implementation of the AK Assessment (AKA) process during the audit. 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.

There was one concern identified in regard to the interface agreement procedure. During the adequacy review of CCP-PO-500, Rev. 7, *CCP/ANL RH-TRU Waste Interface Document*, the audit team identified inconsistencies/changes that need to be made to the procedure:

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. Sections 4.1.1 and 4.17.8 reference an obsolete procedure (CCP-QP-040). CCP-QP-042 and CCP-QP-043 need to be added.
4. Nondestructive examination (NDE) is referenced throughout the procedure instead of VE only. Real-time radiography (RTR) is not applicable at ANL/CCP (Example: Sections 4.18.2 and 4.93).
5. Section 4.11.6(C) references "radiography units." There are no RTR units at ANL/CCP.
6. Section 4.13.5 references only shipping of RH TRU 72B casks. Add references to shipments of Shielded Container Assemblies (SCAs).
7. Section 4.18.2(Q) states that documents called out in section 4.16 are to be provided to the Host site by CCP; yet there are no documents listed in section 4.16 (see Observation 1 in section 6.3).

Although there was one concern identified in the interface agreement process, 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 the control and administration of QA

records to determine the degree to which the procedures adequately address upper-tier requirements:

- CCP-PO-047, Rev. 1, *CCP Training and Qualification Program Document*
- CCP-QP-002, Rev. 43, *CCP Training and Qualification Plan*
- CCP-QP-041, Rev. 1, *CCP Job Needs Analysis and Design*
- 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, and SPM 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 on newly-revised AK summaries for VE operators, 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.

There were no nonconformance reports (NCRs) related to RH waste characterization activities for ANL written since the previous recertification audit, A-17-08.

The audit team verified CCP personnel are familiar with the process for reporting NCRs to the Permittee via email to CBFO within the time frame required by the Permit. NCRs will be documented and tracked through resolution through use of the CCP Integrated Data Center (IDC) as well as through the required reconciliation reporting mechanism per CCP-QP-005. The audit team also verified the QA Engineer will perform an evaluation of all NCRs for reportable trends. The audit team determined that CCP personnel are familiar with the overall process associated with NCRs.

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.

The level of control for QA records was verified through review of the RH Records Inventory and Disposition Schedule (RIDS) dated July 11, 2017. The RIDS is reviewed annually, as required. The audit team reviewed a sample of EA15RM3002-1-0, *WIPP Records Inventory Work Sheet*, forms related to changes proposed for the RH RIDS. Changes on the worksheet forms are adequately collected and detailed for inclusion on the next RIDS revision. 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. Files that require control of access, such as those determined to be Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO), Internal Use Only (IUO), and No Foreign National (NFORN) documents are maintained on separate electronic servers where computer user access is restricted. Paper copies of these restricted access documents are stored separate from other documents. Records personnel are familiar with requirements for restricted access files and adequately control distribution. 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 also verified that the load cell (ID-XC0407, Serial Number 60679/47040) was appropriately calibrated, and that the current procedure revision was being utilized.

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-QP-002, Rev. 43, *CCP Training and Qualification Plan*
- CCP-QP-042, Rev. 1, *CCP Project Level Training and Qualification*
- CCP-TP-001, Rev. 21, *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-506, Rev. 5, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
- WP 13-QA.03, Rev. 26, *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. A significant portion of the audit addressed the status of enhanced AK products for the waste streams examined with the upper-tier requirements identified in the WIPP WAC, Appendices H and I.

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: 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 audit team reviewed training records for four AK Experts (AKEs) and six SPMs who have participated or could potentially participate in waste characterization activities at ANL/CCP. There were no NCRs or discrepancy resolutions generated since the last recertification audit. 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 I17-01, completed December 20, 2016, at Oak Ridge National Laboratory. Although this audit report was not specific to ANL, the activities evaluated are relevant to all of CCP's sites.

The WAP-required container traceability exercise was conducted by the AK audit team for a total of three 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 AK Summary Report CCP-AK-ANLE-500, Rev. 13, 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 significant part of the AK portion of this recertification audit was dedicated to the review of enhanced AK products for the waste streams audited. Those enhanced AK products include the IWMDL, AKA, Chemical Compatibility Evaluation (CCE), BOK, and AK Briefings.

IWMDL

Since the previous recertification audit, there have been no revisions, additions, or deletions to the list of ANL procedures/processes. Documentation of a quarterly review by the ANL SMR to confirm the current status of the IWMDL was collected and examined.

One concern was identified in the area of AK regarding the documentation of the required SMR quarterly review of the IWMDL for changes during the first quarter of 2017. This review had been done, but not documented in an email between the SMR, the CCP AKE, and the CCP SPM. Appropriate documentation was provided during the audit (see CDA 1 in section 6.2).

The AK audit team also examined two CCP field observations conducted in support of the walk-down of procedures/processes on the IWMDL. The audit team documented a concern regarding this process. The field observations conducted in accordance with CCP-PO-045, Rev. 3, *CCP Waste Management Field Observation*, are intended to provide support to the AKE in the walk-down requirements of the IWMDL. It is

recommended that there be increased coordination and communication between the SPM and the AKE during this process (see Recommendation 1 in section 6.4).

AKA

An AKA (AKA001) was completed on December 16, 2016. The audit team reviewed the contents of that assessment in detail.

CCE

A draft CCE memorandum (CCEM), AK Source Document C6004, dated July 11, 2016, has been submitted to CBFO for approval. The audit team examined the draft CCEM, review comments, and supporting AK source documentation.

AK Briefings

When an AK summary report is revised, current CCP and WAC guidance requires that a presentation be prepared and provided to requisite CCP waste characterization staff. In addition, if the waste stream covered by the AK summary has an IWMDL, the points-of-contact and Subject Matter Expert, along with the generator site SMR, are required to attend the briefing. The AK summary report has not been revised since the previous audit; therefore, there was no AK briefing completed.

Basis of Knowledge

CBFO recently issued the BOK procedure applicable to waste at the generator site, DOE/WIPP-17-3589, Rev. 0, *Basis of Knowledge for Evaluating Oxidizing Chemicals in TRU Waste*. While CCP has adequate processes in CCP-TP-005, Rev. 29, *CCP Acceptable Knowledge Documentation*, to develop a BOK strategy, there is no documentation available for review at this time.

With the exception of the concerns identified, the AK auditors concluded that the CCP processes applied to the waste stream examined are adequate with respect to procedural compliance with requirements of upper-tier documents. However, evidence of all completed requisite enhanced AK products was not provided for review and the audit team concluded that until all enhanced AK requirements are implemented, the AK process implementation and effectiveness must be deemed indeterminate.

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. 21, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 27, *CCP Reconciliation of DQOs and Reporting Characterization Data*

- CCP-TP-200, Rev. 2, *Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review*
- CCP-TP-201, Rev. 0, *Verification of Shipping Criteria and Emplacement Criteria*
- CCP-TP-500, Rev. 15, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-504, Rev. 19, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*
- CCP-TP-513, Rev. 3, *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 DG calculation packages in support of RH waste characterization activities completed at the ANL to verify that PL/V&V activities are performed in compliance with applicable procedural requirements:

Radiological Characterization (DG)

ANLE-RH-50-92

ANLE-RH-50-94_R1

ANLE-RH-50-93

There have been no VE or DTC BDRs completed since the previous ANL/CCP recertification audit, A-17-08.

The audit team reviewed WSPF for waste stream AERHDM, Rev. 1, and the accompanying Characterization Information Summary (CIS) for lot 47. The WSPF and CIS were generated in accordance with CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data*, and met all of the applicable requirements of CCP-TP-005, *CCP Acceptable Knowledge Documentation*.

There have been no quarterly repeats of the Data Generation Level data completed by Project Level (PL) since the previous recertification audit, A-17-08.

At the time of the audit, there had been no activity performed by CCP in accordance with CCP-TP-200, *Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review*, or CCP-TP-201, *Verification of Shipping Criteria and Emplacement Criteria*.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for PL/V&V activities are adequately established for compliance with upper-tier requirements. However, because objective evidence was not provided for review during the audit, PL V&V process implementation and effectiveness must be deemed indeterminate. No concerns were identified.

5.4.3 Visual Examination

The audit team conducted interviews with responsible personnel and reviewed the following implementing procedures relative to 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*
- CCP-QP-002, Rev. 43, *CCP Training and Qualification Plan*
- CCP-QP-043, Rev. 1, *CCP Operations Level Training and Qualification*

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

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 VE operational logbook (RH-ANL-VE-01) and verified logbook entries were logged correctly and reviewed by the VPM as required. During the audit, the VE audit team toured the Alpha Gamma Hot Cell Facility (AGHCF) in Building 212 and observed VE being performed on RH container 1451.

There were no VE BDRs completed since the previous recertification audit, A-17-08.

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 Measurement

The audit team assessed the continued adequacy, implementation, and effectiveness of the DTC method and dimensional/gravimetric (DG) measurement used at ANL by the CCP to characterize waste stream AERHDM. The audit team evaluated 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.

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-17-08
- Results of applying the DTC methodology/DG measurements to characterize waste or confirm AK information about fuel segments since Audit A-17-08
- Determination of the number of containers examined, completed BDRs, and BDRs that had been through project-level review that were generated since Audit A-17-08
- 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-17-08

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

- CCP-TP-504, Rev. 19, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*

- CCP-TP-513, Rev. 3, *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-17-08. 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.

The DG measurement equipment (ruler or scale) remained in service in Building 212 (AGHCF) since Audit A-17-08. 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 set-up and calibration of the measurement equipment for performing DG and reviewed calibration certification documentation as well as operations logbooks

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

Since Audit A-17-08, no DTC BDRs have been completed through PL review. The audit team reviewed the three DG Calculation Packages that were completed through PL review:

- ANLE-RH-50-92 with a single container identified (1287) containing 5 fuel segments;
- ANLE-RH-50-93 with a single container identified (1330) containing 15 fuel segments;
- ANLE-RH-50-94 with a single container identified (1332) containing 14 fuel segments.

The audit team observed the DTC measurement of container 1404 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.

Because no DTC BDRs have been completed through PL review, the audit team was not able to verify the implementation of WAC Appendix A, Section 5 requirements.

The audit team identified one concern as a result of reviewing calculation package ANLE-RH-50-92. During the review of VE BDR RHANLVE14002 and DG BDR RHANLDG14001 against calculation package ANLE-RH-50-92, it was identified that the RH waste technical staff did not receive the complete VE BDR as required by CCP-TP-513, step 4.2.1, prior to completing the calculation package. Therefore, the data in the calculation package was incomplete (see CBFO CAR 17-048 in section 6.1).

The procedures reviewed provided evidence to confirm that the applicable requirements for RH waste characterization utilizing DTC are adequately established for compliance

with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

With the exception of the concern identified, the procedures reviewed provided evidence to confirm that the applicable requirements for RH waste characterization utilizing DG are adequately established for compliance with upper-tier requirements. However, because objective evidence was not provided for review during the audit, DG process implementation and effectiveness must be deemed indeterminate.

5.4.5 Transportation

Transportation was not evaluated during this audit.

5.4.6 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-17-08. 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 packages, and so there were no shipping packages 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 audit team was unable to verify procedure work steps for performance of Unreviewed Safety Question Determinations and Material at Risk evaluations during the audit as WIPP DSA activities had not been implemented at ANL at the time of the audit (see correspondence CBFO:NCD:JRS:PG:17-0689:UFC 5900.00 for additional information).

The procedures reviewed provided evidence to confirm that the applicable requirements for WWIS/WDS are adequately established for compliance with upper-tier requirements. However, because objective evidence was not provided for review during the audit, WWIS/WDS process implementation and effectiveness must be deemed indeterminate. No concerns were identified.

6.0 CARs, CDAs, 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 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 17-048

Condition:

During the review of VE BDR RHANLVE14002 and DG BDR RHANLDG14001 against calculation package ANL-RH-50-92, it was identified that the RH waste technical staff did not receive the complete VE BDR as required by CCP-TP-513, step 4.2.1, prior to completing the calculation package. Therefore, the data in the calculation package was incomplete.

Requirements:

CCP-TP-513, Rev. 3, *CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste*, step 4.2.1 states: "RH Waste Technical Staff: Obtain the Dimensional/Gravimetric Measurement BDR and VE BDR for containers to develop calculation package." Additional requirements are CCP-TP-513, Rev. 3, Attachment 5, Remote-Handled Waste Technical Staff ITR Checklist, item "The calculation package is complete," and Attachment 6, SPM Checklist, item "The Radiological Documentation Package is complete for this point of generation."

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:

CDAs – 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.

CDA 1

Condition:

There was no objective evidence provided to demonstrate that a quarterly review of the IWMDL for waste stream AERHDM had been completed for the first quarter of 2017.

Requirement:

CCP-TP-005, Rev. 29, *CCP Acceptable Knowledge Documentation*, section 3.1.6 states: "SPM: Transmits Site Management Representative (SMR) quarterly notifications to the AKE that the Interface Waste Management Documents List are current." Section 4.2.19 states: "Submit Interface Waste Management Documents List and associated Quarterly SMR Notifications to the SPM AND CCP Records." The Note above the section states: "As specified in the site Interface Document, it is the responsibility of the SMR to only submit Quarterly SMR Notifications for waste streams expected to generate additional containers of TRU waste or if containers in the waste stream will be repackaged or remediated. Revision to the Interface Waste Management Documents List can serve to meet the Quarterly SMR Notification requirement."

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 CCP-PO-500, Rev. 7, *CCP/ANL RH-TRU Waste Interface Document*, the audit team identified the following inconsistencies in the procedure:

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. Sections 4.1.1 and 4.17.8 reference an obsolete procedure (CCP-QP-040). CCP-QP-042 and CCP-QP-043 need to be added.
4. NDE is referenced throughout the procedure instead of VE only. RTR is not applicable at ANL/CCP (Example: Sections 4.18.2 and 4.93).
5. Section 4.11.6(C) references "radiography units." There are no RTR units at ANL/CCP.
6. Section 4.13.5 references only shipping of RH TRU 72B casks. Add references to shipments of Shielded Container Assemblies (SCAs).
7. Section 4.18.2(Q) states that documents called out in section 4.16 are to be provided to the Host site by CCP; yet there are no documents listed in section 4.16.

6.4 Recommendations

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

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

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

Recommendation 1

The field observations conducted in accordance with CCP-PO-045, Rev. 3, *CCP Waste Management Field Observation*, are intended to provide support to the AKE in the walk-down requirements of the IWMDL. It is recommended that there be increased coordination and communication between the SPM and the AKE during this process.

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-17-25

NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Rick Aker	Deputy Manager/ASO	X		
Veronica Ballew	QA/NWP		X	X
Pat Beallis	VE Operator/CCP/WMO		X	
Tim Benoit	QA/NWM	X	X	X
Michele Billett	CCP Training Coordinator/CCP/TFE	X		X
Eric Bond	VE/NWM		X	
Norma Castaneda	Characterization Manager/DOE/CBFO			X
Jo Cooney	Chief Health Physics Tech/ANL	X		
Eric Dallmann	ESHD Director/ASO	X		
Dan Dilday	WM Manager/NWM	X		X
A.J. Fisher	Support Manager/CCP/NWP			X
Jason Habbe	DTC/DG		X	
Karen Hellman	Division Director/PMO	X		
Bryan Hill	Interim Ops Manager/NWM	X		X
John Daniel Hlotke	AGHCF Facility Manager/NWM	X		X
Rich Kantrowitz	SPM CCP/NWP	X	X	X
Creta Kirkes	WCA/WCO CCP/NWP		X	
Kevin Klosowski	DTC/DG		X	
Bob Leppink	Interim Division Director/NWM	X		X
Jessica Madrid	CCP Document Services/NWP		X	
Shelly Martinez	CE NDE/CCP/NWP	X		X
Dan Misch	Federal Project Director DOE Argonne Site Office	X		X
Martin Navarrete	Senior QA Specialist/DOE/CBFO			X
Derek Ott	Radiological Engineer/NWP		X	
Berry Pace	Programs Support/NTP			X
Mike Paka	Lead Independent Assessor/AQO			X
Dan Pancake	ANL STR-PM FMS-Deactivation Projects Manager	X	X	X
Spencer Pattee	VPM-VEE CCP/NWP	X	X	X
Sheila Percy	CCP Records CCP/TFE	X		X
Kevin Peters	AKE CCP/NWP	X	X	
Denise Price	Director/AQO	X		
Sheri Punchios	QA/NWP			X

PERSONNEL CONTACTED DURING AUDIT A-17-25				
NAME	ORG/TITLE	PRE-AUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Brandy Pyeatt	QA/NWP	X		
Mat Racz	AGHCF Tech/NWM		X	
Willis Ray	Project Specialist/NWM	X	X	
Johnny Reed	DTC/DG		X	
Ryan Riordan	CCP AKE		X	
Cindy Rock	Program Manager FMS	X	X	
Wesley Root	VPM CCP/NWP	X	X	X
Steve Schafer	AKE CCP/NWP	X	X	
Craig Simmons	RH Operations Manager CCP/NWP	X	X	X
Carolina Soaterna	SPM/NWP		X	
Mark Sreniawski	Health Physicist/ANL	X		
Tony Stojomov	DTC/DG		X	

SUMMARY TABLE OF AUDIT RESULTS

QA / Technical Elements	Concern Classification				QA Evaluation		Technical Evaluation
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Program Status			1		A	S	E
Acceptable Knowledge		1		1	A	I	I
Reconciliation of DQO's WSPFs					A	S	E
Project Level Data V & V					A	I	I
Visual Examination					A	S	E
Dose-to-Curie (DTC)					A	S	E
Dimensional Measurement (DG)	1				A	I	I
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	1			

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-045	3	CCP Waste Management Field Observation
4.	CCP-PO-047	1	CCP Training and Qualification Program Document
5.	CCP-PO-500	7	CCP/ANL RH-TRU Waste Interface Document
6.	CCP-QP-002	43	CCP Training and Qualification Plan
7.	CCP-QP-005	25	CCP TRU Nonconforming Item Reporting and Control
8.	CCP-QP-008	26	CCP Records Management
9.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
10.	CCP-QP-041	1	CCP Job Needs Analysis and Design
11.	CCP-QP-042	1	CCP Project Level Training and Qualification
12.	CCP-QP-043	1	CCP Operations Level Training and Qualification
13.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
14.	CCP-TP-002	27	CCP Reconciliation of DQOs and Reporting Characterization Data
15.	CCP-TP-005	29	CCP Acceptable Knowledge Documentation
16.	CCP-TP-163	4	CCP Evaluation of Waste Packaging Records for VE of Records
17.	CCP-TP-200	2	Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review
18.	CCP-TP-201	0	Verification of Shipping Criteria and Emplacement Criteria
19.	CCP-TP-500	15	CCP Remote-Handled Waste Visual Examination
20.	CCP-TP-504	19	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
21.	CCP-TP-506	5	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
22.	CCP-TP-509	6	CCP Remote-Handled Transuranic Container Tracking
23.	CCP-TP-513	3	CCP Procedure for Dimensional or Gravimetric Measurements for Radiological Characterization of Remote-Handled Transuranic Waste
24.	CCP-TP-530	12	CCP RH TRU Waste Certification and WWIS/WDS Data Entry
25.	WP 13-QA.03	26	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		