

United States Government

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Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

DATE: DEC 07 2016

REPLY TO
ATTN OF: CBFO:OQA:DSM:BA:16-3520:UFC 2300.00

SUBJECT: Interim Audit Report A-17-10, SNL/CCP TRU Waste Characterization and Certification

TO: Mr. David Rast, DOE-SNL

The Carlsbad Field Office (CBFO) conducted annual Recertification Audit A-17-10, Sandia National Laboratories Central Characterization Program (SNL/CCP) Transuranic (TRU) Waste Characterization and Certification, November 15 – 17, 2016. The interim audit report is attached.

The audit team concluded that overall, the SNL/CCP programs evaluated are adequate relative to the flow-down of requirements, and the technical activities evaluated are satisfactorily implemented and effective in all areas, with one exception.

There was no evidence available to evaluate the Enhanced Acceptable Knowledge (AK) process to the requirements specified in the TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 8; therefore, implementation of the Enhanced AK process was deemed indeterminate.

One condition adverse to quality was identified by the audit team and was verified to be corrected during the audit prior to audit completion.

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



Dennis S. Miehls
Senior Quality Assurance Specialist

Attachment



Mr. David Rast

-2-

DEC 07 2016

cc: w/attachment

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CBFO M&RC	

*ED denotes electronic distribution

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

INTERIM AUDIT REPORT

OF THE

**SANDIA NATIONAL LABORATORIES
CENTRAL CHARACTERIZATION PROGRAM**

FOR


**CHARACTERIZATION AND CERTIFICATION ACTIVITIES
FOR REMOTE-HANDLED TRANSURANIC WASTE**

CARLSBAD, NEW MEXICO

AUDIT NUMBER A-17-10

November 15 – 17, 2016



Prepared by:  Date: 12/7/16
Paul C. Gomez, CTAC
Audit Team Leader

Approved by:  Date: 12/7/2016
Michael R. Brown, Director
CBFO Office of Quality Assurance

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-17-10 was conducted November 15 – 17, 2016, at the Skeen-Whitlock Building (SWB) in Carlsbad, New Mexico. The purpose of the audit was to evaluate the continued adequacy, implementation, and effectiveness of established programs for transuranic (TRU) waste characterization activities performed for Sandia National Laboratories (SNL) by the Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP). Characterization and certification activities for remote-handled (RH) Summary Category Group (SCG) S5000 debris waste were reviewed and evaluated for compliance with applicable program requirements. The audit team determined that the activities evaluated were consistent with the requirements described in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the *Remote-Handled TRU Waste Characterization Program Implementation Plan (WCPIP)*, and the *CBFO Quality Assurance Program Document (QAPD)*. The audit also evaluated the newly implemented requirements in Revision 8 of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (hereafter called the WIPP WAC).

During the audit, the team identified one condition adverse to quality (CAQ) regarding the overall adequacy and implementation of the Interface Agreement for characterization activities. The concern was corrected during the audit (CDA) and verified by the team (see section 6.2). No CAQs were reported during the audit that required issuance of a Corrective Action Report (CAR) (see section 6.1). No Observations were identified (see section 6.3), and no Recommendations were offered for management consideration (see section 6.4).

The audit team concluded that the characterization activities evaluated at SNL for compliance to the WIPP HWFP, WCPIP, and the CBFO QAPD continue to adequately address applicable upper-tier requirements and remain satisfactorily implemented and effective in achieving the desired results. The audit team was unable to completely evaluate compliance to the WIPP WAC specific to the enhanced Acceptable Knowledge (AK) processes; therefore, implementation and effectiveness of enhanced AK could not be verified and was deemed indeterminate. Also, CBFO was not provided the Basis of Knowledge Document specifying when waste with oxidizing chemicals is acceptable; therefore, no evaluation could be done during the audit.

2.0 SCOPE

The audit team evaluated the following elements of SNL/CCP programs and processes for RH TRU waste characterization and certification activities for RH SCG S5000 debris waste.

General Activities

- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel
- SNL/CCP Program Interface

Quality Assurance Activities

The following quality assurance (QA) elements were evaluated only to the extent needed to support the technical elements listed below:

- Personnel Qualification and Training
- Control of Nonconforming Items
- Records

Technical Activities

- Acceptable Knowledge (AK)
- Project Level Data Validation and Verification (PL V&V)
- Visual Examination (VE)
- Dose-to-Curie (DTC)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)

The evaluation of SNL/CCP RH TRU waste activities was based on current revisions of the following documents:

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- CBFO *Quality Assurance Program Document*, DOE/CBFO-94-1012
- *Remote-Handled TRU Waste Characterization Program Implementation Plan*, DOE/WIPP-02-3214
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, DOE/WIPP-02-3122
- *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, CCP-PO-001
- *CCP Transuranic Waste Certification Plan*, CCP-PO-002
- *CCP/SNL RH TRU Waste Interface Document*, CCP-PO-510
- Related technical and QA implementing procedures

3.0 AUDIT TEAM

Dennis Miehl	CBFO QA Management Representative
Paul Gomez	Audit Team Leader and Technical Specialist, CBFO Technical Assistance Contractor (CTAC)
Charlie Riggs	QA Auditor, CTAC
Ricardo Chavez	QA Auditor-in-Training, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rick Castillo	Technical Specialist, CTAC
Greg Knox	Technical Specialist, CTAC
Jim Vernon	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Jim Schuetz	Technical Specialist, CTAC

4.0 AUDIT PARTICIPANTS

SNL/CCP personnel contacted during the audit are listed in Attachment 1. A pre-audit meeting was held at the SWB in Carlsbad, New Mexico, on November 15, 2016. The audit concluded with a post-audit meeting held at the SWB in Carlsbad, New Mexico, on November 17, 2016.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the applicable SNL/CCP TRU waste characterization and certification programs for RH SCG S5000 debris waste are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results. The following sections identify each of the elements evaluated during the course of this audit. For each element, the audit team evaluated the associated implementing procedures to verify the adequate flow-down of upper-tier requirements, conducted interviews with responsible personnel, and reviewed randomly selected documents and records to determine compliance with the WIPP HWFP, QAPD, WCPIP, and changes in the WIPP WAC, Rev. 8, as applicable to TRU waste characterization activities being performed by CCP at the SNL for RH SCG S5000 debris wastes.

One concern was noted during the audit and is further described in section 6.2.

Attachment 1 identifies the personnel contacted during the audit. Attachment 2 is a summary of audit results. Attachment 3 is a list of procedures evaluated during the audit.

5.2 General Activities

5.2.1 Results of Previous Audits

The audit team examined the results of the previous CBFO SNL/CCP recertification audit (A-15-25). Audit A-15-25 identified one CAQ that resulted in the issuance of CAR 15-062. The CCP does not have a CBFO-approved revision of the Radiological Characterization Technical Report (RCTR) that applies to the drums included in batch data report (BDR) SNLRHDTC15001.

During the performance of this audit, the audit team did not observe any instances similar to the condition identified in Audit A-15-25, suggesting that the corrective actions taken to address the CAQ (issuance of procedures CCP-PO-503 and CCP-TP-515) were adequate to preclude recurrence.

5.2.2 Changes in Programs or Operations

The audit team determined through interviews with the CCP RH Operations Manager that there were no significant changes in SNL/CCP programs or operations since the previous recertification audit. There are no ongoing CCP operations at SNL.

5.2.3 New Programs or Activities Being Implemented

The audit team determined through interviews with the CCP RH Operations Manager that there were no new SNL/CCP programs or activities implemented since the previous recertification audit.

5.2.4 Changes in Key Personnel

The audit team determined through interviews with the SNL/CCP management team that one significant change in CCP key personnel had occurred since CBFO Recertification Audit A-15-25. The DOE Site Waste Manager position previously held by Michael Spoerner is now held by Dave Rast.

5.2.5 SNL/CCP Program Interface

The audit team reviewed the current revisions of CCP-PO-510, *CCP/SNL Interface Document*; CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP)*; and CCP-PO-002, *CCP Transuranic Waste Certification Plan*, to verify the documents address the requirements in the HWFP Waste Analysis Plan (WAP) and DOE/WIPP 02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*. The audit team also verified that CCP-PO-510 adequately addresses the flow-down of requirements from CCP-PO-043, *CCP Interface Document Preparation*. The results of the reviews indicate that the documents adequately address the associated requirements.

The audit team interviewed the CCP RH Project Manager and the Site Technical Representative (STR) responsible for SNL/CCP waste characterization activities. The audit team reviewed objective evidence to confirm requirements were met as specified in CCP-PO-510, *CCP/SNL Interface Document*, Rev. 2, dated September 29, 2015, for site characterization activities and addresses the flow-down requirements of CCP-PO-043, Rev.0, *CCP Interface Document Preparation*. The team examined requirements for and implementation of:

- Training and Qualification
- Container Management
- Deficiencies and Nonconformances
- Visual Examination
- Radiological characterization (includes dose-to-curie methodology)
- Source Control
- Acceptable Knowledge
- Data Validation and Reconciliation
- Measuring and Test Equipment (M&TE)
- Work Standards
- Quality Assurance (QA)
- Project Control
- Procedures
- Document Transmittals
- Procurements
- Waste Certification and WWIS/WDS Data Entry
- Transportation
- Authorization Safety Basis and Configuration Management

Elements of the new AK enhancements were evaluated during the audit. The audit team verified that an IWMDL was developed for waste stream SNL-HCF-S5400-RH. The team reviewed the IWMDL, dated 10/14/15. The audit team was not able to verify implementation of the AK Assessment, as it has not yet been completed.

One concern related to the interface document was identified. CCP-PO-510, *CCP/SNL Interface Document*, section 4.7.12 states: "At a minimum of once per calendar quarter, SMR will review the current IWMDL and provide written assurance to the CCP SPM that the list is up to date OR provide necessary documentation to revise the list". This language is not consistent with CCP-PO-002, *CCP Transuranic Waste Certification Plan*, and further, there was no documented evidence that a quarterly review of the IWMDL had occurred. In discussions with CCP personnel, they agreed with the concern and revised CCP-PO-510 as follows: "At a minimum of once per calendar quarter, SMR will review the current IWMDL and provide written assurance to the CCP SPM that the list is up to date OR provide necessary documentation to revise the list 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.” This language was found to be acceptable and in concurrence with CCP-PO-002. This concern was presented to CBFO as corrected during the audit (see section 6.2, CDA-1).

Although the audit team identified one concern in the area of the interface agreement, the requirements specified in the interface document were determined to be adequate, satisfactorily implemented, and effective in achieving the desired results.

5.3 Quality Assurance Activities

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 41, *CCP Training and Qualification Plan*, to determine the procedure’s degree of adequacy in addressing upper-tier requirements. The team concluded that the procedure is satisfactory in addressing requirements.

Personnel training records associated with project management, AK, VE, and PL V&V activities were examined to verify compliance with associated requirements and to confirm that personnel are appropriately trained and qualified. Record reviews included qualification of VE operators/Independent Technical Reviewers (ITRs); VE Expert (VEE) appointment documentation; AK Expert qualifications; and Site Project Manager (SPM) qualification cards. The audit team also reviewed the SNL RH Program LOQI dated October 31, 2016.

No deficiencies were identified. 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.

5.3.2 Control of Nonconforming Items

The audit team conducted interviews with responsible personnel and 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 is satisfactory in addressing upper-tier requirements.

The audit team interviewed the CCP project office QA engineer, reviewed the RH VE Nonconformance Report Log, and reviewed the following nonconformance reports (NCRs).

NCR-RHSNL-0272-15
NCR-RHSNL-0343-15
NCR-RHSNL-0227-16-0

NCR-RHSNL-0342-15
NCR-RHSNL-0344-15
NCR-RHSNL-0365-16

The team concluded that deficiencies are appropriately documented and tracked through resolution as required. All the NCRs examined were verified to have been properly entered, managed, and tracked in both the CCP Integrated Data Center (IDC) and on the CCP NCR Logs.

No deficiencies regarding NCRs were identified. The procedures reviewed and objective evidence assembled provided evidence to confirm that the applicable requirements for Control of Nonconforming Items are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.3.3 Records

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The audit team reviewed procedures CCP-PO-001, Rev. 22, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-008, Rev. 26, *CCP Records Management*; and CCP-QP-028, Rev. 16, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Results of the review indicate that the procedures are satisfactory in addressing upper-tier requirements.

Control of records was verified through review of the RH Records Inventory and Disposition Schedule dated June 15, 2016, and through interviews with responsible personnel.

No deficiencies regarding Records were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA records are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4 Technical Activities

5.4.1 Acceptable Knowledge

The audit team examined the AK record for RH SCG S5000 TRU debris mixed waste stream SNL-HCF-S5400-RH, predominately generated in the SNL Hot Cell Facility (HCF). A primary document in the review process was the AK Summary Report, CCP-AK-SNL-500, Rev. 8, *CCP AK Summary Report for Sandia National Laboratories RH Hot Cell Facility TRU Waste (Debris)*. The portion of the waste stream examined included fuel fragments that had been previously stored as accountable material but were released for shipment to WIPP, and a population of containers representing cleanup activities in the Auxiliary Hot Cell Facility (AHCF) where all of the repackaging of the waste drums has taken place. These containers are designated as process generated waste (PGW) containers.

This audit was based on the upper-tier requirements contained in the WIPP HWFP and described in the WAP, as well as the requirements of the RH TRU WCPIP and the WIPP WAC. The audit team therefore reviewed documentation to support all AK requirements, completing WCPIP checklists, completing the WAP C6-1 and C6-2 checklists, and compiling and reviewing objective evidence to demonstrate compliance. In addition, a specific examination was conducted of the status of compliance with the enhanced AK requirements of the WAC Rev. 8, Appendix H.

It was noted that funding for AK activities with regard to this waste stream ceased at the end of calendar year 2015. The packaging campaign for fuel examination waste (FEW) and PGW was completed in the 4th quarter of 2015 and subsequent characterization activities were focused on repackaging of waste containers that exceeded the WAC allowed radiological properties. The audit team therefore examined or reexamined elements of the AK record that addressed the requirements of upper-tier documents as noted above, including a freeze file revision of the AK Summary (AKS) that contained recommended changes to the document cited during the previous year's audit. Objective evidence compiled to demonstrate compliance may include documentation from that previous audit and will be clearly identified in the applicable checklist.

The objective evidence reviewed and compiled included the AKS mentioned above, relevant AK source documents, the draft WSPF and attachments and BDRs for VE and dose-to-curie (DTC) characterization activities. Review of relevant AK source documents was carried out to demonstrate compliance with WAP programmatic and waste-stream specific requirements, including justification of hazardous waste numbers, information regarding physical characteristics of the waste, waste stream volumes and examples of the resolution of discrepancies in the AK record.

In addressing the WAP requirements, in addition to the AKS and other AK records cited above, the audit team reviewed or in some cases reexamined the most current copies of the AK Documentation Checklist, attachment 1; the AK Source Document Information List, attachment 4; the AK Hazardous Constituents List, attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Pkg. attachment 6, along with the applicable justification memo for waste material parameter weight estimates; and the AK Container List, attachment 8, with supporting add-container memos.

The WAP-required container traceability exercise was conducted for four waste containers including containers of FEW, containers of FEW with PGW included, and a container of only PGW. Original SNL container disposal request forms or historic database information for these four containers was compiled as available, along with IDC screenshots for each container and the applicable BDRs for VE and DTC. The audit team noted that the documentation accurately covered the identification of the contents of shield pots that were within 7-gallon containers packed in 30-gallon drums and overpacked in 55-gallon drums, with each container uniquely numbered. In addition, consistency was demonstrated for the records in the AK Tracking Spreadsheet and add-container memos.

The audit team reexamined additional supporting documentation to address WCPIP requirements, including the most recent draft Characterization Reconciliation Report for shipping lot 3, a WCPIP AK Accuracy Report, and CCP-AK-SNL-501, Rev. 6, *CCP RH TRU Radiological Characterization Report*. The team reviewed documentation from the AK record to assure that all of the data quality objectives (DQOs) cited in the WCPIP were met. In addition, the team examined the AK record regarding the methods for qualification of AK information as required by the WCPIP.

The audit team also examined available Enhanced AK documentation as described in CCP-TP-005 and the WAC Rev. 8, Appendix H. There is no AK Assessment or Chemical Compatibility Evaluation for this waste stream. The priority for completing these often complex documents has focused on waste streams in the WIPP Waste Handling Building and waste stored at the Waste Control Specialists (WCS) facility. However, before this waste stream can be shipped to WIPP, these documents will have to be completed and approved. The AKE did develop an Interface Waste Management Documents List that identified SNL procedures related to the campaigning of the FEW and PGW waste materials. As noted above, that activity was completed in 2015, and there were no updates to the list in 2016. The contents of the list were reviewed and found to be in compliance with the requirements documents, including a verification of the procedure "walk-down" in each AK Source Document Summary for the SNL documents.

For AK applicable to the QA portion of the audit, the audit team examined training records for three AKEs and an SPM, and reviewed BDRs and discrepancy reports. In addition, the handling of AK records was examined for compliance with preparation, legibility, accuracy, review, approval, and maintenance requirements. The distribution, control and use of appropriate AK procedures were also discussed. The team also examined the most recent audit report relevant to AK, I15-14, completed October 8, 2015, and surveillance SUR-RHSNL-01-1, performed May 24, 2014, which specifically addressed SNL/CCP activities.

Overall, the Acceptable Knowledge program activities evaluated were determined to be adequate in addressing the applicable requirements of the WCPIP and WAP, satisfactory in the implementation of these requirements and effective in achieving the desired results. Compliance to WAC, Rev. 8 requirements was deemed indeterminate.

5.4.2 Project-Level Data Validation and Verification

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-001, Rev. 21, *CCP Project Level Data Validation and Verification*, and CCP-TP-002, Rev. 26, *CCP Reconciliation of DQOs and Reporting Characterization Data*. Results of the review indicate that the procedures adequately address the applicable requirements of the HWFP and CCP upper-tier documents.

The audit team evaluated the following BDRs in support of RH waste characterization activities completed at SNL to verify that PL V&V activities are performed in compliance with applicable requirements.

VE:

SNLRHVE14003 SNLRHVE15001 SNLRHVE15002 SNLRHVE15003

DTC:

SNLRHDTTC14001 SNLRHDTTC14002 SNLRHDTTC15001 SNLRHDTTC15002

The team found the BDRs to adequately address applicable upper-tier requirements for PL V&V. The team reviewed the WSPFs for waste stream SNL-HCF-S5400-RH, and AKS CCP-AK-SNL-500 for waste stream SNL-HCF-S5400-RH. The documents were reviewed for three quarterly repeat requests and evaluation of the results for VE characterization as required by the HWFP.

The procedure and document reviews provided sufficient evidence that the applicable requirements for Project-Level Data Validation and Verification 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 evaluated the SNL/CCP VE characterization process for newly generated RH SCG S5000 debris waste. No RH VE waste characterization activities were performed at SNL during the audit. The scope of the audit included evaluation of supporting documentation of VE waste characterization activities performed since the previous audit. VE process compliance with WAP requirements was evaluated through review of completed VE BDRs, verification of training requirements, operational logbook compliance (CCP-SN-RH-VE-004), and verification that VE records are created and maintained in accordance with procedures.

The audit team reviewed procedures CCP-TP-500, Rev. 15, *CCP Remote-Handled Waste Visual Examination*, and CCP-QP-002, Rev. 41, *CCP Training and Qualification Plan*, to determine the degree to which procedures adequately address upper-tier requirements. The results of the review indicate that the procedures are satisfactory with regard to WAP requirements.

The audit team examined training records for four VE operators/ITRs, and confirmed the appointment of the VEE. The audit team verified that VE operators, ITRs, and the VEE were appropriately qualified. The team confirmed that current VE personnel were listed on the LOQI dated 9/29/16.

The audit team reviewed completed BDRs SNLRHVE15002 and SNLRHVE15003. No concerns were identified.

Although no field activities were observed during the audit, objective evidence reviewed indicated that Visual Examination operations for newly generated RH SCG S5000 debris waste using CCP-TP-500, *CCP Remote-Handled Waste Visual Examination*, are adequate in meeting upper-tier requirements, and procedures are satisfactorily implemented and effective in achieving the desired results.

5.4.4 Dose-to-Curie

The audit team assessed the adequacy, implementation, and effectiveness of the DTC methodology used at SNL/CCP to characterize SCG S5000 waste. This portion of the audit was performed by remote teleconferencing November 15 – 17, 2016. The DTC methodology was previously evaluated during Audit A-15-25.

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

- System stability as determined by the implementation and effectiveness of quality control measurements, and the use of calibrated equipment as documented in the BDRs
- Applicability of each detector's calibration and operational range to the matrix, geometry and radionuclide content of the drums measured
- Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Personnel qualification and training

The audit team interviewed DTC and site project management personnel and other cognizant personnel. The team examined electronic and paper copies of reports and records and reviewed the following BDRs:

SNLRHDTC14001 (3 waste containers)
SNLRHDTC14002 (4 waste containers)
SNLRHDTC15001 (16 waste containers)
SNLRHDTC15002 (11 waste containers)

The audit team conducted interviews with a DTC operator, an ITR, an Expert Analyst (EA), and a Radiological Engineer to verify that the activities conducted under their purview were technically adequate and compliant with requirements documents and operating procedures and checklists. The team reviewed the following documents and objective evidence to verify upper-tier requirements are satisfactorily implemented and effective:

- NCRs: NCR-RHSNL-0763-14, Rev. 1; NCR-RHSNL-0272-14; NCR-RHSNL-0344-15; NCR-RHSNL-0765-14; and NCR-RHSNL-0764-14, Rev. 1
- Procedures: CCP-TP-504, Rev. 18, *Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*, and CCP-TP-512, Rev. 6, *CCP Remote-Handled Waste Sampling*

- **Technical Report: CCP-AK-SNL-501, Rev. 5, *Central Characterization Program Remote-Handled Transuranic Radiological Characterization Technical Report For Sandia National Laboratory/New Mexico Hot Cell Facility Remote-Handled Transuranic Debris Waste-WASTE STREAM: SNL-HCF-S5400-RH***

During previous recertification Audit A-15-25, the audit team identified a single issue with DTC documentation, resulting in issuance of CAR 15-062. The team verified that CAR closure activities related to CAR 15-062 were successfully implemented and continue to be effective.

No concerns were identified regarding Dose-to-Curie methodology.

Although no field activities were observed during the audit, objective evidence reviewed indicated that the applicable requirements for DTC radiological characterization are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.4.5 WIPP Waste Information System/Waste Data System

Procedure CCP-TP-530, Rev. 12, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*, was evaluated with respect to requirements of the CBFO QAPD, Rev. 12, section 2.1, Work Processes. The audit team determined that requirements are adequately addressed and that the procedure contains adequate flow-down of QAPD requirements related to waste data management and container certification using the WIPP WWIS/WDS.

The audit team interviews with CCP Waste Certification Officials (WCOs) and review of CCP training records determined that the WCOs are qualified to perform certification activities for RH waste from SNL and all other CCP host site locations. Waste Certification Assistants (WCAs) were also verified to be qualified to perform data management activities and WWIS/WDS data entry activities for RH waste from SNL and all other CCP host site locations.

The audit team interviewed CCP WCOs and reviewed documentation for certification of new WSPFs, waste data entry, and waste container certification performed for the SNL host site location. All WSPFs have been reviewed and approved for waste streams at the SNL host site location and are available in WWIS/WDS.

Generation and approval activities for characterization information summary (CIS) reports are performed by SPMs within the IDC software database application. BDRs and completed and approved CIS reports identifying waste containers that are ready for application of waste certification activities are available to WCO personnel in the IDC.

Certification activities for RH waste containers and canisters at the SNL host site are currently suspended. Copies of RH Waste Characterization case files are not included as objective evidence in C6 checklists because the information is in draft form only and

has not been reviewed by WCOs or submitted to CCP as records. Draft RH Waste Characterization case files were reviewed during previous SNL/CCP recertification Audit A-15-25, and the results of that evaluation are provided in the A-15-25 final audit report.

The audit team determined that CCP personnel are familiar with the waste container certification process for completion of waste certification activities using the WWIS/WDS and will be able to implement procedures when characterization activities resume.

The audit team evaluated WDS Master Template.xls spreadsheet and IDC software applications used for data entry, electronic verification of data, and transfer of data to the WWIS/WDS. Application of software QA and control of these software items were deemed to be adequate with regard to management and approval of data and submittal of data to the WWIS/WDS.

The audit team identified no issues related to WIPP Waste Information System/Waste Data System data entry and waste certification. The team found that CBFO QAPD upper-tier requirements adequately flow down into CCP procedures. The team concluded that future implementation of procedures regarding waste container certification for the SNL/CCP host site location should be satisfactory when using approved WSPFs, BDRs, and CIS reports and based on CCP personnel familiarity with and past satisfactory performance of the process. The program is anticipated to be effective regarding waste certification, with a determination of effectiveness possible once all waste information is approved and the data entry and certification processes for SNL/CCP RH waste can be fully implemented.

6.0 CORRECTIVE ACTION REPORTS, DEFICIENCIES CORRECTED DURING THE AUDIT, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs), according to the descriptions below, and document such conditions on CARs.

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

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

No CAQs necessitating the generation of a CAR were identified as a result of this audit.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action, and therefore can be corrected during the audit (CDA).

Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit. Examples of CDAs include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals that have not completed a reading assignment (isolated).

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

One condition adverse to quality was identified and corrected during the audit, as described below.

CDA-1

CCP-PO-510, *CCP/SNL Interface Document*, section 4.7.12, states: "At a minimum of once per calendar quarter, SMR will review the current IWMDL and provide written assurance to the CCP SPM that the list is up to date OR provide necessary documentation to revise the list." The audit team determined this language is not consistent with CCP-PO-002, *CCP Transuranic Waste Certification Plan*, and further, there was no documented evidence that a quarterly review of the IWMDL had occurred.

In discussions, CCP cognizant personnel agreed with the concern and revised CCP-PO-510 to state: "At a minimum of once per calendar quarter, SMR will review the current IWMDL and provide written assurance to the CCP SPM that the list is up to date OR provide necessary documentation to revise the list 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."

The audit team determined this language was acceptable and in compliance with the requirements of CCP-PO-002. The concern was therefore dispositioned as CDA.

6.3 Observations

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

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

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

No Observations were identified as a result of Audit A-17-10.

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.

No Recommendations were identified as a result of Audit A-17-10.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During Audit A-17-10**
- Attachment 2: Summary Table of Audit Results**
- Attachment 3: SNL/CCP Procedures Evaluated**

PERSONNEL CONTACTED DURING AUDIT A-17-10				
Name	Title/Organization	Pre-Audit Meeting	Contacted During the Audit	Post-Audit Meeting
Cheryl Armijo	NWP/CCP TFE Training		X	
Pat Beallis	WMO CCP/DTC Operator		X	
Michelle Billet	NWP/CCP TFE Training Coordinator		X	
Jo Cooney	ANL/ESQ CHPT		X	
A.J. Fisher	NWP Support Services Mgr.		X	
Ed Gulbransen	NWP Program Manager		X	
Monty Harris	CCP WMO DTC Operator		X	
Scott Hawke	ANL/PMA Assessor		X	
Betty Humphery	SNL Technical Lead	X	X	X
Irene Joo	NWP/CCP RH Program Mgr.	X	X	X
Rich Kantrowitz	NWP/CCP SPM	X	X	X
Creta Kirkes	NWP/CCP WCO		X	
John Kleckner	NWP/CCP Tech Specs AKE	X	X	X
Chris Luoma	NWP/CCP SPM		X	
Ricardo Maestas	NMED Observer			X
Dennis Miehlis	CBFO Senior QA Specialist	X		
Berry Pace	NWP/CCP Programs Support	X	X	X
Spencer Pattee	NWP Operations ITR/SME	X	X	X
Sheila Pearcy	NWP/CCP TFE Records Mgr.	X	X	X
Willis Ray	NWM WMO PIC		X	
Wes Root	CCP/NWR VPM/VEE/DTC		X	
Steve Shaffer	NWP/CCP Tech Specs AKE	X	X	X
Farok Sharif	NWP NTP Project Mgr.		X	

Summary Table of Audit Results

PROGRAM ELEMENTS	CAR	CDA	OBSERVATION	RECOMMENDATION	ADEQUACY	IMPLEMENTATION	EFFECTIVENESS
Program Status		1			Adequate	Satisfactory	Effective
Acceptable Knowledge					Adequate	Indeterminate	Indeterminate
Project Level Data V & V					Adequate	Satisfactory	Effective
Visual Examination					Adequate	Satisfactory	Effective
Dose-to-Curie					Adequate	Satisfactory	Effective
WWIS / WDS					Adequate	Satisfactory	Effective
Personnel Qualifications and Training					Adequate	Satisfactory	Effective
Nonconformance Reporting					Adequate	Satisfactory	Effective
Records					Adequate	Satisfactory	Effective
SUMMARY	0	1	0	0	Adequate	Satisfactory	Effective

Definitions: CAR = Corrective Action Report A = Adequate E = Effective
 CDA = Corrected During Audit NA = Not Adequate NE = Not Effective
 Obs – Observation S = Satisfactory M = Marginal
 Rec = Recommendation U = Unsatisfactory I = Indeterminate

NOTE: Portions of the enhanced AK process were not complete at the time of the audit; therefore, implementation and effectiveness are Indeterminate.

SNL/CCP Procedures Evaluated			
No.	Procedure No.	Rev.	Procedure Description
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-043	0	CCP Interface Document Preparation
4.	CCP-PO-045	1	CCP Waste Management Field Observation
5.	CCP-PO-503	0	CCP Remote-Handled Documentation
6.	CCP-PO-510	2	CCP/SNL Interface Document
7.	CCP-QP-002	41	CCP Training and Qualification Plan
8.	CCP-QP-005	25	CCP TRU Nonconforming Item Reporting and Control
9.	CCP-QP-008	26	CCP Records Management
10.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
11.	CCP-TP-002	26	CCP Reconciliation of DQOs and Reporting Characterization Data
12.	CCP-TP-005	28	CCP Acceptable Knowledge Documentation
13.	CCP-TP-200	0	SPM Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review
14.	CCP-TP-500	15	CCP Remote-Handled Waste Visual Examination
15.	CCP-TP-504	18	Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
16.	CCP-TP-506	5	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
17.	CCP-TP-509	6	CCP Remote-Handled Transuranic Container Tracking
18.	CCP-TP-512	6	CCP Remote-Handled Waste
19.	CCP-TP-515	0	CCP Remote-Handled Radiological Characterization Technical Report
20.	CCP-TP-530	12	CCP RH TRU Waste Certification and WWIS/WDS Data Entry
21.	WP 13-1	36	NWP QAPD