U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

SANDIA NATIONAL LABORATORIES
CENTRAL CHARACTERIZATION PROGRAM

FOR

TRU WASTE CHARACTERIZATION ACTIVITIES

CARLSBAD, NEW MEXICO

AUDIT NUMBER A-21-19

June 22 – 24, 2021

Prepared by: _____ **Date:** 09-15-21

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1.0 EXECUTIVE SUMMARY

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Recertification Audit A-21-19 was performed 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). 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 against 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* (RH TRU WCPIP), and the *Waste Isolation Pilot Plant Documented Safety Analysis* (DSA), Chapter 18.

Please note, no waste characterization activities have been performed since fiscal year 2015. Objective evidence from this audit exists to demonstrate that for the existing RH SCG S5000 debris waste there was adequate flow down of upper-tier requirements, procedures were satisfactorily implemented, and documentation exists to establish effective implementation. Because there have been no recent characterization activities, CBFO will perform an on-site assessment to verify effective implementation of current procedures, processes, and data when activities resume.

Due to heightened awareness, and to decrease the potential development, spread, and impact of the acute respiratory illness, COVID-19, the audit team did not travel to the SNL site. All audit activities were conducted remotely in Carlsbad, New Mexico, June 22 – 24, 2021.

No WIPP HWFP Waste Analysis Plan (WAP)-affecting conditions adverse to quality (CAQs) were identified during the audit, and no CAQs were corrected during the audit (CDA). No WAP-affecting observations were identified. No non-WAP-affecting observations were identified during the audit, and no concerns were offered to management as recommendations (see section 6.0 for further descriptions of CAQs, observations, and recommendations).

2.0 SCOPE AND PURPOSE

2.1 Scope

The scope of the audit included evaluations for the continued adequacy, implementation, and effectiveness of the technical and quality assurance (QA) activities performed by NWP/CCP at SNL for characterization of RH SCG S5000 debris waste. Container management evaluation was included in the scope of this audit.

The following areas were evaluated:

General Activities

- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel
- Generator Site Technical Review

WAP-Related Quality Assurance Activities

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

Non-WAP-Related Quality Assurance Activities

- SNL/CCP Program Interface
- Measuring and Test Equipment (M&TE)
- Document Control
- Software Version Installation

WAP-Related Technical Activities

- Table C6-1, WAP Checklist
- Table C6-2, Acceptable Knowledge (AK) Checklist
- Project-Level Data Validation and Verification (PL/V&V)
- Table C6-4, Visual Examination (VE) Checklist
- WIPP Waste Information System (WWIS)/Waste Data System (WDS)

Non-WAP-Related Technical Activities

- Radiological Characterization (Dose-to-Curie [DTC])

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

- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document* (QAPD)
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC)
- WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*
- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (RH TRU WCPIP)

- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis* (DSA), Chapter 18

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

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan* (QAPjP)
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- CCP-PO-005, *CCP Conduct of Operations*
- CCP-PO-503, *CCP Remote-Handled Documentation*
- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*
- CCP-PO-510, *CCP/SNL Interface Document*
- Related CCP QA and technical implementing procedures

2.2 Purpose

Audit A-21-19 was conducted to evaluate the adequacy and effective implementation of program requirements for the characterization and certification of RH SCG S5000 debris waste at the SNL. The audit team also evaluated specific QA elements relating to WIPP HWFP WAP requirements.

3.0 AUDIT TEAM, MANAGEMENT REPRESENTATIVES, TECHNICAL SPECIALISTS, AND OBSERVERS

Joe Lopez	CBFO Quality Assurance Management Representative
Bob Prentiss	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Cindi Castillo	Co-ATL, CTAC (QA Program, Program Status, Interface, and GSTR)
Dick Blauvelt	Technical Specialist, CTAC (AK)
Randy Fitzgerald	Technical Specialist, CTAC (AK)
Paul Gomez	Technical Specialist, CTAC (PL V&V)
Dale Dover	Technical Specialist-in-Training, CTAC (PL V&V)
Tim Boswell	Auditor, CTAC (C6 General QA)
Paul Gilbert	Auditor in-Training, (C6 General QA)
Eric Lyles	Auditor in-Training, (C6 General QA)

OBSERVERS

Morgan Luckey CBFO, Office of the National TRU Program

4.0 AUDIT MEETING ATTENDEES AND PERSONNEL CONTACTED

The audit meeting attendees and personnel contacted during the audit process are identified in Attachment 1. A pre-audit meeting was held on June 22, 2021, via teleconference. Since no concerns were identified, daily management briefings were unnecessary throughout the course of the audit. Audit progress was communicated to auditees and observers through e-mail correspondence. A post-audit meeting was held on June 24, 2021, via teleconference. Attachment 2 lists the SNL/CCP personnel contacted during the audit by subject area.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

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

Please note, CBFO performed Audit A-21-14 on March 2 – 4, 2021, to evaluate the degree of adequacy, implementation, and effectiveness of CCP's overall QA Program for all sites including QA procedures and associated quality-affecting activities. The same CCP QA program procedures are utilized at every site where CCP characterizes waste, including at SNL. During Audit A-21-14, the audit team established a statement of adequacy and implementation of processes for the overall CCP QA program, as reported in CBFO Audit A-21-14 dated April 8, 2021. Therefore, the audit team has concluded that the SNL/CCP QA program has been adequately established.

This report refers to previous audit data as objective evidence for this audit to show CCP maintains an adequate QA program with effective implementation of processes and procedures based on the data produced at the time of characterization. CBFO's expectation is that once characterization activities restart, an audit team will perform an on-site assessment at SNL to verify effective implementation of current procedures, processes, and any new data.

The overall SNL/CCP Program was suspended in fiscal year 2015, with the last shielded container loading completed on October 1, 2018, and then shipped to the WIPP in July 2020. Desktop recertification audits have been performed annually for the program to maintain its certification status, as required by the WIPP HWFP WAP. New

data has not been made available to evaluate since there are no characterization activities being performed at this site.

Attachment 3 contains a summary table of audit results. Attachment 4 identifies the WAP-related objective evidence compiled (provided in boxes). Attachment 5 lists the audited procedures. Attachment 6 lists the processes and equipment evaluated.

The audit team concluded that, based on personnel interviews and review of associated documentation and records, the SNL/CCP TRU waste characterization program for characterizing RH SCG S5000 debris waste adequately addresses upper-tier requirements. Program procedures reviewed were determined to be satisfactorily implemented and effective in achieving the desired results.

5.2 General Activities

5.2.1 Results of Previous Audits

No CAQs were identified during the previous CBFO recertification audit of the SNL/CCP (A-20-16).

5.2.2 Changes in Programs or Operations

Shielded container loading was completed on October 1, 2018, and shipped to the WIPP in July 2020. No other changes in programs or operations at the SNL Hot Cell Facility (HCF) that affected the quality of the program have occurred since the previous recertification audit (A-20-16).

5.2.3 New Programs or Activities Being Implemented

No new programs or activities have been implemented at the SNL HCF since the previous recertification audit (A-20-16).

5.2.4 Changes in Key Personnel

No changes in key personnel have occurred since the previous recertification audit (A-20-16).

5.2.5 Generator Site Technical Review (non-WAP-related)

The Generator Site Technical Review was not necessary per memorandum CBFO:ONTP:KEP:RMS:19-1241 dated April 25, 2019.

5.3 WAP- Related 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 and reviewed implementing procedures and determined the procedures adequately address upper-tier requirements:

- CCP-PO-047, Rev. 3, *CCP Training and Qualification Program Document*
- CCP-QP-002, Rev. 47, *CCP Training and Qualification Plan*
- CCP-QP-041, Rev. 5, *CCP Job Needs Analysis and Design*
- CCP-QP-042, Rev. 3, *CCP Project Level Training and Qualification*
- CCP-QP-043, Rev. 5, *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, waste sampling, AK, site project management and waste certification were examined to verify implementation of associated requirements. The audit team verified, per the list of qualified individuals (LOQI), that personnel performing waste characterization and certification activities are appropriately qualified.

Record reviews included an evaluation of the SNL/CCP RH Program LOQI dated February 3, 2014, through May 13, 2016, since waste characterization was suspended August 2015. Other record reviews included AK expert (AKE) qualification cards and pertinent supporting qualification documentation, such as attendance sheets/briefings on waste stream SNL-HCF-S5400-RH, Rev. 8, for VE Operators (VEOs). The audit team verified that appointment letters were documented for two VE experts (VEEs) and three subject matter experts.

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 WAP-affecting or non-WAP-affecting concerns in the area of personnel qualification and training were identified.

5.3.2 Control of Nonconforming Items

The audit team reviewed implementing procedure CCP-QP-005, Rev. 27, *CCP TRU Nonconforming Item Reporting and Control,* to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements.

The audit team interviewed a CCP QA engineer and selected all of the closed SNL/CCP-specific nonconformance reports (NCRs) for review.

The following NCRs reviewed were initiated at the DGL:

Number	Revision	Number	Revision
NCR-RHSNL-0272-15	0	NCR-RHSNL-0365-16	0
NCR-RHSNL-2350-11	0	NCR-RHSNL-2353-11	0

The following NCRs reviewed were initiated at the project level (PL):

Number	Revision	Number	Revision
NCR-RHSNL-0647-18	0	NCR-RHSNL-0227-16	0
NCR-RHSNL-0344-15	0	NCR-RHSNL-0343-15	0
NCR-RHSNL-0342-15	0	NCR-RHSNL-0763-14	0
NCR-RHSNL-0763-14	1		

The audit team verified CCP personnel are familiar with the process for reporting NCRs to the Permittee via email within the time frame required by the Permit. The audit team reviewed the one NCR generated at PL within the last 12 months that did not require reporting to the Permittee.

The team concluded that nonconformances are appropriately documented and tracked through resolution. NCRs reviewed included original NCRs and all applicable supporting documentation in the records package. The NCRs examined were verified to have been entered, managed, and tracked in the NCR log/module located within the CCP Integrated Data Center (IDC).

CBFO performed Audit A-21-14 on March 2 – 4, 2021, to evaluate the degree of adequacy, implementation, and effectiveness of CCP's overall QA Program for all sites including the nonconforming item procedure and associated quality-affecting activities. CCP utilizes the same QA program procedures at every site where CCP characterizes waste, including SNL. During Audit A-21-14, the audit team established a statement of adequacy and implementation for the overall process of nonconforming items within the CCP QA program, as reported in A-21-14 dated April 8, 2021. Therefore, the audit team has concluded that the SNL/CCP QA program has been adequately established.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for nonconforming items are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results. No WAP-affecting, or non-WAP-affecting, concerns in the area of nonconforming items 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. 23, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-008, Rev. 27, *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 were verified through review of the NWP CCP RH for all sites, Records Inventory and Disposition Schedule (RIDS), dated April 6, 2021, and NWP CCP RIDS, dated April 6, 2021. RIDS are reviewed annually by the CCP Records Manager, as required.

Due to the social distancing restrictions during the audit, the audit team was unable to physically review any records packages or the records facility. The audit team selected and reviewed digitally captured records packages transmitted from the SNL/CCP Facility Records Coordinator to the CCP Records Center in Carlsbad, NM. The audit team verified that the completed transmittal forms adequately described the records being transmitted, and that the transmittal process was performed in accordance with the procedure.

It was determined through an interview with the CCP Records Manager that electronic 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 file servers where computer user access is restricted. Records personnel are familiar with requirements for restricted access files and adequately control distribution. Access to electronic files and restricted files are 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 WAP-affecting or non WAP-affecting concerns in the area of QA records were identified.

5.4 Non-WAP-Related Quality Assurance Activities

5.4.1 SNL/CCP Program Interface

The audit team evaluated the program interface established between the CCP and the SNL as documented in CCP-PO-510, Rev. 3, *CCP/SNL Interface Document*. This document describes, per CCP-PO-043, Rev. 0, *CCP Interface Document Preparation,* the interfaces, roles and responsibilities, and program requirements applicable to both organizations in support of CCP waste characterization activities at the SNL. Program interface requirements evaluated included responsibilities of the SNL Site Technical Representative, the CCP Vendor Project Manager, the CCP Site Project Manager (SPM), and the CCP QA Manager. The audit team concluded, based on the verification of objective evidence and interviews with the CCP SPM, that the SNL CCP RH QA program is adequate in flow-down of CBFO QAPD, Rev. 13, requirements, satisfactory in the implementation of those requirements, and effective in producing the desired results. No concerns were identified.

5.4.2 Measuring and Test Equipment

During Audit A-19-34, the audit team assessed and verified that DTC instruments for the processes to record, measure, and collect data for the SNL RH containers were calibrated through the implementation of CCP-QP-016, Rev. 24, *CCP Control of Measuring and Testing Equipment*, and methods to recall M&TE that has exceeded its calibration interval is tracked through the CCP IDC. The update to CCP-QP-016 (Rev. 26) since the last audit has no bearing on the data already produced. CCP-QP-001, Rev.10, *CCP Graded Approach,* was verified during CBFO Audit A-20-09; for items purchased and calibrated. Since no characterization activities have taken place since 2014, data below collected during Audit A-19-34, is being utilized to show implementation of the requirements:

- Two certificates of calibration (CoC) dated 2/26/15, and 3/19/14, were assessed for compliance with sections 2.4.6.D and 2.4.7.B of the CBFO QAPD for the XC0883 load cell. The QL1 vendor, Measurement Systems International (MSI), performed the calibration with its 7200 Dyna-Link Tension Dynamometer, which was stated as traceable to National Institute of Science and Technology (NIST). According to these CoCs, the weights have a rated accuracy within NIST HB 105-1, Class F tolerances, and MSI complies with ANSI-Z540. A 12-month calibration interval is specified for the XC0883 load cell.

- Calibration certificates for the Thermo-Fischer Scientific (TFS) FHZ612 dose rate meter probe (CCP ID: XCO677) were assessed for two calibration intervals: February 2014, and October 2016. The QL1 calibration vendor, TFS, now Thermo-Eberline, LLC, provided the calibration service with a *Certificate of Test & Calibration & Conformance*. TFS provided both as-found and as-left calibration and accuracy reports, which were traceable to national standards, and provided for a calibration interval and results.

- Calibration certificates for the Ludlum Measurement, Inc., FH 40 G-X/model FHZ 612 dose rate meter probe (CCP ID: XC0799) were assessed for two calibration intervals. The TFS certificates provided an as-left calibration certificate with new 2/6/15 and old 1/25/14 calibration results within acceptable ranges. The 2/6/15 TFS as-found certificate, new and old results (both 1/24/14), were identical. The *Certificate of Test & Calibration & Conformance* states TFS meets International Standards Organization (ISO) 9001:2008 Quality Management System, and is in compliance with ISO/International Electrotechnical Commission (IEC) 17025 1999 and American National Standards Institute/National Conference of Standard Laboratories (ANSI/NCSL) Z540 requirements.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for measuring and test equipment are adequately established for compliance with upper-tier requirements, were satisfactorily implemented, and effective in achieving the desired results for the existing waste characterization data. However, due to the lack of current calibration certificates, measuring and test equipment has been deemed indeterminate for future characterization.

CBFO will perform an on-site assessment at SNL to verify effective implementation of current procedures, processes, and any new data that would include expiration dates of any M&TE and associated standards, once field activities resume.

5.4.3 Document Control

The audit team verified the requirements of section 1.4.2 of the CBFO QAPD were being satisfactorily and effectively implemented. Procedure CCP-QP-010, Rev. 33, *CCP Document Preparation, Approval, and Control*, specifies how documents are distributed to CCP personnel via the Secure File Transport Protocol (SFTP) website. Effective dates are established and are identified on the CCP procedures by revision number. The SFTP website maintains the identification of current status or revision of CCP procedures and forms that are controlled and distributed.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for document control are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.4.4 Software Control

The audit team reviewed procedure CCP-QP-022, Rev. 19, *CCP Software Quality Assurance Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Results of the review indicate that the procedure adequately addresses upper-tier requirements. The team interviewed the CCP WDS/WWIS manager, who reported that there were no changes made to the software since the previous audit.

The procedures reviewed and objective evidence assembled provided evidence that the applicable requirements for software control are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results.

5.5 WAP-related 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.

5.5.1 Table C6-1, WAP Checklist

The C6-1 WAP Checklist addresses general program requirements from an overall management perspective. The general requirements checklist addresses both technical requirements and specific WIPP HWFP WAP-related QA programmatic requirements that, when collectively implemented, ensure effective overall management of TRU waste characterization activities. Requirements are integrated into controlled documents to ensure the waste characterization strategy, as defined in the WAP, is accomplished and documented in accordance with controlled processes and procedures.

Technical elements evaluated for waste characterization activities consisted of DGL and PL V&V, AK, VE, WWIS/WDS, and preparation of WSPFs. Objective evidence was selected and reviewed to evaluate the implementation of the associated waste characterization activities. Batch data reports (BDRs), sampling records, and personnel qualification and training documentation were included in the evaluation.

Each waste characterization process involves:

- Collecting raw data;
- Collecting QA/quality control samples or information;
- Reducing the data to a useable format, including a standard report;
- Review of the report by the data generation facility and the site project office;
- Comparing the data against program DQOs; and
- Reporting the final waste characterization information to the WIPP.

The flow of data from the point of generation to inclusion in the WSPF for each waste characterization technique was reviewed to ensure that all applicable requirements were captured in the site operating procedures. The specific procedures audited and the objective evidence reviewed is described in the following sections.

During the audit, SNL/CCP demonstrated compliance with the waste characterization requirements of the WAP through documentation.

Project-Level Data Validation and Verification (PL V&V)

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

- CCP-QP-042, Rev. 2, *CCP Project Level Training and Qualification*
- CCP-TP-001, Rev. 22, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 29, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-005, Rev. 32, *CCP Acceptable Knowledge Documentation*
- CCP-TP-500, Rev. 17, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-504, Rev. 21, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*
- CCP-TP-512, Rev. 7, *CCP Remote-Handled Waste Sampling*

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

The audit team verified that the SPMs who performed work for SNL/CCP were appropriately trained and qualified as required by CCP-QP-042, Rev. 2. The audit team verified the LOQI dated 2-3-2014, through 5-13-2016, were in effect at the time of characterization.

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

VE

- SNLRHVE14001
- SNLRHVE14002
- SNLRHVE14003
- SNLRHVE15001
- SNLRHVE15002
- SNLRHVE15003

DTC

- SNLRHDTC14001
- SNLRHDTC14002
- SNLRHDTC15001
- SNLRHDTC15002

The audit team reviewed and verified the results from NCR-RHSNL-0344-15 that affected DTC conversion record spreadsheets in BDRs SNLRHDTC 14001 and SNLRHDTC 14002.

The audit team verified the results of the characterization activities and the SPM reported that 14 containers are located at the SNL facility. The containers are identified as follows:

- SNL001501
- SNL001504
- SNL001506
- SNL001507
- SNL001508
- SNL001512
- SNL001513
- SNL001601
- SNL001603
- SNL001604
- SNL001606
- SNL001607
- SNL001608
- SNL001706

The BDRs were verified to be complete and accurate, and were found to be in compliance with all applicable procedural requirements.

The audit team verified the WSPF for waste stream SNL-HCF-S5400-RH, Rev. 1, was reported with the Characterization Information Summary (CIS) lots 1, 2, and 3.

During the audit the audit team verified the required quarterly repeat of the DGL data produced in 2015 by the project level for the following:

- 1st Quarter 2015 Requests and Results for RH VE
- 3rd Quarter 2015 Requests and Results for RH VE
- 4th Quarter 2015 Requests and Results for RH VE

The results from each quarterly package indicate there were no inconsistencies reported in the data. No concerns were identified in PL V&V activities.

The results from the quarterly package indicate there were no inconsistencies reported. The nonconformance was corrected prior to the audit. No concerns were identified in quarterly activities.

The procedures reviewed and objective evidence assembled and evaluated during the audit, provided evidence that the applicable requirements for PL V&V activities were adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results for previously characterized waste. Because there have been no recent characterization activities, CBFO will perform an on-site assessment to verify effective implementation of current procedures, processes, and data. No WAP-affecting concerns in the area of PL V&V were identified.

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 implements upper-tier requirements.

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

The audit team interviewed the CCP Waste Certification Official (WCO). The audit team determined that personnel are familiar with the process for characterization of RH waste containers, building RH waste packages, and that procedure implementation is adequate for these activities. However, since SNL/CCP has utilized Shielded Container Assemblies (SCAs) to ship RH waste as contact-handled (CH) waste, the audit team reviewed CH container data for the following CH Containers:

- CH Container (SCA) SNL001402SC
- CH Container (SCA) SNL001403SC
- CH Container (SCA) SNL001711SC

The audit team evaluated the implementation of the WWIS/WDS data entry procedures for electronic population of data, manual update of data, and electronic transfer of data from the IDC software database to the WWIS/WDS. Records reviewed included container information summaries, vent and closure dates obtained from the AK Tracking Spreadsheet, Inner-Can data for 30-gallon drums, NCR check from QA, IDC spreadsheet, radiological surveys, DTC data, VE data, and WDS Waste Container Data Report.

The SNL CH containers listed above were certified under the procedural process from CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*, which provides certification for using modules of the IDC. The audit team determined that the IDC processes for CH waste container certification were performed in accordance with procedural requirements.

The audit team interviewed the CCP Lead WCO regarding procedure work steps for performance of Unreviewed Safety Question Determinations (USQDs) and Material at Risk (MAR) evaluations. The audit team determined that WCO personnel have not received containers for certification that exceed the WIPP WAC Plutonium-Equivalent Curie (PE-Ci) limit requiring a USQD. The WCO personnel received a request from a Transportation Certification Official (TCO) for a MAR evaluation. MAR evaluation 20-028 was completed for shipment SA200002. The MAR override for assemblies in shipment SA200002 was applied in the WDS, as required by the procedure.

The procedures reviewed provided evidence that the applicable requirements for WWIS/WDS data entry are adequately established for compliance with upper-tier requirements. No WAP-affecting or non-WAP-affecting concerns in the area of WWIS/WDS were identified.

5.5.2 Table C6-2, Acceptable Knowledge Checklist

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 implement upper-tier requirements:

- CCP-PO-001, Rev. 23, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-041, Rev. 3, *CCP Job Needs Analysis and Design*
- CCP-QP-042, Rev. 3, *CCP Project Level Training and Qualification*
- CCP-QP-005, Rev. 27, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-TP-001, Rev. 22, *CCP Project Level Data Validation and Verification*
- CCP-TP-002, Rev. 29, *CCP Reconciliation of DQOs and Reporting Characterization Data*
- CCP-TP-005, Rev. 32, *CCP Acceptable Knowledge Documentation*
- CCP-TP-200, Rev. 7, *Enhanced Acceptable Knowledge Review*
- CCP-TP-500, Rev. 17, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-506, Rev. 6, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*
- WP 13-QA.03, Rev. 31, *Quality Assurance Independent Assessment Program*

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

During the audit, the CTAC AK audit team examined the AK record for the remaining population of the RH S5000 TRU debris mixed waste stream SNL-HCF-S5400-RH that was originally generated in the SNL HCF from a variety of reactor fuel experiments. That population of 22 containers from decontamination activities in the HCF, was repackaged and characterized in the Auxiliary Hot Cell Facility (AHCF) and shipped to WIPP in the 2011-2012 time period.

Subsequent to that emplacement, Fuel Examination Waste (FEW) which consists of fuel fragments and hardware associated with the above noted experiments that had previously been set aside as accountable material for potential recovery, was ultimately released for shipment to WIPP, along with Process Generated Waste (PGW) from cleanup activities in the AHCF. There were four distinct campaigns: campaigns 11, 12, 14, and 17 beginning in 2014, and ending in 2016, to characterize the FEW and PGW, and repackage waste containers to address fissile gram equivalency (FGE). These campaigns resulted in a population of 25 containers, seven of which were PGW and the

remainder FEW. From this population of 25 containers, 11 were successfully placed into shielded drum overpacks, which allowed the RH containers that are now reduced to < 200 mR/hr at the surface to be shipped and emplaced as (CH) waste. The remaining 14 containers will have to wait on the next generation of shielded overpacks to allow shipment as CH waste.

This audit was based upon the upper-tier requirements contained in the WIPP HWFP WAP as well as, in the RH TRU WCPIP, and the WIPP WAC. The audit team reviewed documentation to support all AK requirements, completing WCPIP checklists, the WAP C6-2 and C6-1 checklists, and compiling and reviewing objective evidence to demonstrate compliance. In particular, a thorough reevaluation of Enhanced AK Products was conducted to assure compliance with the WAC, Rev. 10, Appendix H.

The objective evidence reviewed and compiled included the AK Summary Report, CCP-AK-SNL-500, Rev. 11, *CCP AK Summary Report for Sandia National Laboratories RH Hot Cell Facility TRU Waste (Debris)*. This Acceptable Knowledge Summary Report (AKSR) was revised after the previous audit (A-20-09). The contents of Rev. 10 of the AKSR were included as the *Summation of Aspects* attachment in a draft copy of the WSPF and attachments that had been submitted for review and approval of the addition of applicable CH TRUCON codes. However, during the CBFO review process, an issue arose with language in the AKSR S.5.4.3.1 dealing with reactivity which ultimately led to AKSR, Rev. 11.

In addressing the WAP requirements, in addition to the AK Summary Report and other AK records cited above, the audit team reviewed, or in some cases reexamined, the most current copies of:

- Attachment 1 - AK Documentation Checklist;
- Attachment 4 - AK Source Document Information List;
- Attachment 5 - AK Hazardous Constituents List;
- Attachment 6 - AK Waste Form, Waste Material Parameters, Prohibited Items, and Packaging, along with the justification memos for waste material parameter weight estimates; and
- Attachment 8 - Waste Container List, along with the supporting waste stream container evaluation memos.

Relevant copies of the Waste Stream Characterization Checklists, as well as the accompanying Characterization Information Summaries, were re-reviewed for compliance and included as objective evidence. In addition, the auditors spent considerable time reviewing the latest copy of the AK Tracking Spreadsheet which provides specific information regarding each container associated with this waste stream and its status.

The WAP required container traceability exercise was conducted for four waste containers of FEW and PGW from the existing population of 14 containers that had not been part of a previous audit traceability activity. Original SNL container information captured in the repackaging campaign plans for these four containers was compiled along with IDC screenshots for each container and with the applicable batch data reports for VE and DTC. It was noted that for the single container of FEW with shield pots, the VE accurately covered the identification of the contents of shield pots that were within 7-gallon containers packed in 30-gallon drums and over packed in 55-gallon drums with each container uniquely numbered. In addition, consistency was demonstrated for the records in the AK Tracking Spreadsheet and container evaluation memo.

Additional supporting documentation was reexamined to address the WCPIP requirements and included the most recent draft of the Characterization Reconciliation Report for the 11 shielded containers that were shipped last year, a WCPIP AK Accuracy Report, and the CCP RH TRU Radiological Characterization Report for this waste stream, CCP-AK-SNL-501, Revision 6. Documentation from the AK record was reviewed to assure that all of the DQOs cited in the WCPIP were met. In addition, the auditors examined the AK record regarding the methods for qualification of AK information as required by the WCPIP.

Acceptable Knowledge Assessment (AKA)

The AKA01 prepared for the 25-container population of FEW and PGW was thoroughly reexamined. It was noted that the attachments 1 and 2 describing the container contents and history were especially detailed and useful. AK auditors re-reviewed container content information in the AK Source Document C2004, *Waste Stream Container Evaluation Memo.* In addition to the primary document, the auditors reviewed and compiled comments from the internal review process and a copy of the Attachment 2, SPM Acceptable Knowledge Assessment Review Checklist from CCP-TP-200, *Enhanced Acceptable Knowledge Review.*

Chemical Compatibility Evaluation (CCE)

The CCE001 document was reviewed by the AK audit team including a discussion of the justification for placing chemicals on Attachment 1, *Chemicals and Materials of Concern,* and Attachment 3, *Insignificant Trace Chemicals and Materials.* The discussion also included the justification for assigning dominant, minor, or trace to the entries in Attachment 1. Also examined were documentation from both internal and CBFO reviews and the CBFO approval letter. Additional supporting documentation examined included a copy of the Attachment 1, SPM Chemical Compatibility Evaluation Memorandum Review from CCP-TP-200, *Enhanced Acceptable Knowledge Review.*

Basis of Knowledge (BoK) (Non-WAP-Related)

With respect to the BoK Enhanced AK Product dealing with the presence of oxidizing chemicals in the waste stream, the details of specific container contents in the AK record as part of the AK Assessment and data in AK Source Document C2004, *Waste Stream Container Evaluation Memo,* was able to demonstrate that there are no oxidizing chemicals in the current population, and thus it is exempt from the BoK requirements.

AK Briefing

Although the AK Summary Report was revised which would require an AK Briefing to be prepared and administered, since all characterization activities ceased in 2015 and no more are planned for this waste stream, the AK Briefing was not developed.

The audit team reviewed training records for two AKEs and five SPMs who currently participate in characterization activities for SNL/CCP. The audit team reviewed BDRs, discrepancy resolutions (DRs), and NCRs. 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 was reviewed.

One internal surveillance was performed at SNL during the past year, *i.e.*, *CCP Operations at Sandia National Laboratory (SNL), Surveillance Report S21-34*; and one QA Audit, *i.e.*, *NWP Quality Assurance Audit I21-02,* evaluated the adequacy and effective implementation of the CCP QA Program throughout the complex. While these audits/surveillances did not specifically cover AK, they report that the SNL/CCP program is continuously monitored for quality improvements. No concerns related to the QA aspects of AK were observed during this recertification audit.

Overall, the AK Program is adequate in addressing the requirements of the WCPIP, WAC, and the WAP, is satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.5.3 Table C6-3, Radiography Checklist

This characterization process was not performed at SNL.

5.5.4 Table C6-4, Visual Examination Checklist

Please note, due to no waste characterization activities currently being performed at this site, the below information data from previously characterized waste was reviewed. Because there have been no recent characterization activities, CBFO will perform an on-site assessment to verify effective implementation of current procedures, processes, and data.

During Audit A-19-34, the audit team evaluated the adequacy, implementation, and effectiveness of the SNL/CCP VE waste characterization process for newly generated RH SCG S5000 debris waste.

- CCP-QP-002, Rev. 47, *CCP Training and Qualification Plan*
- CCP-QP-043, Rev. 4, *CCP Operations Level Training and Qualification*
- CCP-TP-500, Rev. 17, *CCP Remote-Handled Waste Visual Examination*

The results of the verification indicated that the procedures continue to adequately address upper-tier requirements.

During Audit A-19-34, the RH VE waste characterization activities at the SNL facility were not being performed. The VE process was audited to the requirements of the WIPP HWFP WAP by evaluating completed VE BDRs, verifying training requirements, and ensuring VE records were created and maintained according to procedural requirements. The audit team noted that no VE characterization activities have been performed since Audit A-15-25 conducted August 18-20, 2015; therefore, no work was performed under the two previous revisions of CCP-TP-500.

The audit team examined training records for four VE Operator/independent technical reviewers (VEO/ITRs), and confirmed the appointment of one SNL/CCP VEE. The audit team verified that VEO/ITRs and the VEE were appropriately qualified as required. During the review of training records, the audit team confirmed qualification for VE personnel by reviewing the RH Program SNL LOQI dated 2/3/14, 2/17/14, 5/12/14, 5/27/14, 1/28/15, 2/11/15, 4/28/15, 5/28/15, 6/25/15, and 5/10/16.

The audit team reviewed the following completed VE RH BDRs and determined that they were appropriately completed as required.

- SNLRHVE14001
- SNLRHVE14002
- SNLRHVE14003
- SNLRHVE15001
- SNLRHVE15002
- SNLRHVE15003

No concerns were identified. The procedures reviewed and the objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for VE activities are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results for the previously characterized waste.

5.6 Non-WAP-related Technical Activities

Each non-WAP-related 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 CBFO QAPD, WIPP WAC, RH TRU WCPIP, or WIPP DSA, as applicable, is cited briefly; and the result of the assessment is provided.

5.6.1 Radiological Characterization (Dose-to-Curie)

During Audit A-19-34, the audit team evaluated the adequacy, implementation, and effectiveness of the DTC methodology used at SNL as part of the CCP for characterization of SCG S5000 waste. The DTC methodology was previously audited by the CBFO in November 2016 during Audit A-17-10, and in July 2017 during Audit A-17-24. There have been no DTC activities since these previous audits.

The audit team verified that there have been no DTC activities, and verified that if there were any revisions to CCP DTC procedures that those changes do not affect the technical adequacy of previously obtained DTC measurements.

Also during A-19-34, the audit team conducted interviews with a DTC operator, an ITR, an expert analyst, and a radiological engineer to verify that the areas under their purview were conducted in a technically adequate manner and in accordance with requirements documents and operating procedures. The audit team reviewed the following documents and objective evidence to verify upper-tier requirements are satisfactorily implemented and effective:

- Nonconformance Reports (NCRs): NCR-RHSNL-0763-14, Rev. 1; NCR-RHSNL-0272-15, Rev. 0; NCR-RHSNL-0344-15, Rev. 0; NCR-RHSNL-0765-14, Rev. 0; and NCR-RHSNL-0764-14, Rev. 1
- Procedures: CCP-TP-504, Rev. 21, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*; CCP-TP-512, Rev. 6, *CCP Remote-Handled Waste Sampling*; CCP-TP-515, Rev. 0, *CCP Remote-Handled Radiological Characterization Technical Report*; CCP-QP-037, Rev. 5, *CCP Calculations*
- 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*

No concerns were identified during the audit in the area of DTC. The procedure reviews provided evidence 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 for previously characterized waste. Because there have been no recent

characterization activities, CBFO will perform an on-site assessment to verify effective implementation of current procedures, processes, and data.

5.6.2 Container Management

During this audit, the audit team reviewed the implementing procedures for container management (CM) activities conducted at SNL by the CCP. The audit team verified that CCP utilizes procedures CCP-TP-509, Rev. 7, *CCP Remote-Handled Transuranic Container Tracking*; CCP-TP-120, Rev. 16, *CCP Container Management*; and CCP-TP-081, Rev. 2, *CCP Shielded Container Assembly Loading.* CM activities for RH waste are performed by Host site personnel, using Host site procedures. When unacceptable containers are identified, the containers are returned to the Host site. Host site personnel are responsible for all container movement and storage.

The audit team observed that VE of the waste was performed in 2014, and the waste was loaded into Initial Containers (30-gallon drums) and container numbers were assigned. The Initial Containers were placed into Final Containers (55-gallon drums), and weighed in 2014, prior to DTC measurement. In 2018, the 55-gallon drums were loaded into shielded container assemblies (SCAs), given the designation “SC” after the container number, and remain in Technical Area V, HCF area, awaiting shipment to the WIPP.

The procedure and document reviews provided evidence that the applicable requirements for container management are adequately established for compliance with upper-tier requirements, satisfactorily implemented, and effective in achieving the desired results for previously characterized waste. Because there have been no recent characterization activities, CBFO will perform an on-site assessment to verify effective implementation of current procedures, processes, and data. No non-WAP-affecting concerns were identified.

5.6.3 Transportation

The transportation processes were not in the scope of this audit.

6.0 CARs, CDAs, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify CAQs, as defined below, and document such conditions on corrective action reports (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 Quality Assurance (QA) program.

There were no CAQ's identified during this audit.

6.1.1 WAP-Affecting Corrective Action Reports

There were no WAP-affecting CARs identified during this audit.

6.1.2 Non-WAP-Affecting Corrective Action Reports

There were no non-WAP-affecting CARs identified during this audit.

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 Management Representative (MR) 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 MR, 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 MR, 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 and the CBFO QA MR categorizes the condition as 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.

There were no CDAs identified during this audit.

6.2.1 WAP-Affecting Deficiencies Corrected During the Audit

There were no WAP-affecting CAQs identified and corrected during this audit.

6.2.2 Non-WAP-Affecting Deficiencies Corrected During the Audit

There were no non-WAP-affecting CAQs identified and corrected during this audit.

6.3 Observations

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

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

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

6.3.1 WAP-Affecting Observations

There were no WAP-affecting Observations identified during this audit.

6.3.2 Non-WAP-Affecting Observations

There were no non-WAP-affecting Observations identified during this audit.

6.4 Recommendations

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

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

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

There were no Recommendations offered to management as a result of this audit.

7.0 LIST OF ATTACHMENTS

Attachment 1: Meeting Attendees and Personnel Contacted During Audit A-21-19
Attachment 2: Personnel Contacted During the Audit by Subject Area (WAP-related)
Attachment 3 Summary Table of Audit Results
Attachment 4: WAP-Related Objective Evidence Reviewed During the Audit
Attachment 5: Table of Audited Procedures
Attachment 6: List of Processes and Equipment Evaluated

MEETING ATTENDEES AND PERSONNEL CONTACTED DURING AUDIT A-21-19				
NAME	**ORG/TITLE**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Veronica Ballew	NWP QA Programs Manager	X	X	X
David Biswell	NMED Rep.	X		X
Betty Humphrey	SNL-Weston Project Manager	X		X
Mark Bollinger	CBFO, Deputy Mgr.	X		X
Katie Gentry	NWP/CCP QA	X	X	X
David Moody	NWP/CCP SPM	X		X
Berry Pace	NWP Issues Management	X		X
John Kleckner	Tech Specs AKE	X	X	X
Sheri Saiz	NWP QA Administrative Assistant	X	X	
Morgan Luckey	CBFO ONTP	X	X	X
Creta Kirkes	NWP/CCP, WCO		X	X
Ron Reeves	NWP/CCP	X		
Jewell Yturralde	CCP Records Manager		X	X
Rich Kantrowitz	NWP/CCP SPM		X	X
Jennifer Hernandez	TFE/CCP Training		X	
Craig Simmons	NWP/CCP RH SPM		X	X

PERSONNEL CONTACTED DURING THE AUDIT BY SUBJECT AREA
(WAP-Related)

Personnel Qualification and Training	Jennifer Hernandez
Control of Nonconforming Items	Craig Simmons
Records	Jewell Yturralde
WIPP Waste Information System (WWIS Data Entry)	Creta Kirkes
Waste Certification/Project-Level Data V&V	Rich Kantrowitz Craig Simmons
Acceptable Knowledge	John Kleckner
Visual Examination	Rich Kantrowitz

Audit A-21-19
SUMMARY TABLE OF AUDIT RESULTS

QA / Technical Elements	Concern Classification				QA Evaluation		Technical Evaluation
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Acceptable Knowledge					A	S*	E*
Reconciliation of DQO's WSPFs					A	S*	E*
Project Level Data V&V					A	I*	I*
Visual Examination					A	I*	I*
Dose-to-Curie					A	I*	I*
Container Mgmt					A	S*	E*
Transportation					A	S*	E*
Flammable Gas Analysis					A	I*	I*
QA General C6-1 Training					A	S*	E*
QA General C6-1 NCRs / Records / Doc Control					A	S*	E*
QA General C6-1 WWIS / WDS					A	S*	E*
TOTALS	0	0	0	0	A	S*	E*

* Please note that the QA and Technical evaluation status of Adequacy, Implementation, and Effectiveness pertains to future waste package characterization and not to waste that was previously certified. The audit team, upon restart of waste characterization activities, will perform an on-site assessment to verify current procedures, processes, and data are satisfactorily implemented and effective.

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

WAP-Related Objective Evidence Reviewed During the Audit

The WAP-related objective evidence supporting the Audit A-21-19 is included in the shipping box(es) submitted with this final audit report. Included in the shipping box(es) is a “Content Map” describing the location (using color coding) and identity of all required objective evidence supporting the performance of the audit.

Audit A-21-19 TABLE OF AUDITED PROCEDURES			
	PROCEDURE NUMBER	**REV**	**PROCEDURE TITLE**
1.	CCP-PO-001	23	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	31	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	31	CCP Conduct of Operations
4.	CCP-PO-043	0	CCP Interface Document Preparation
5.	CCP-PO-047	3	CCP Training and Qualification Program Document
6.	CCP-PO-503	0	CCP Remote-Handled Documentation
7.	CCP-PO-505	4	CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)
8.	CCP-PO-510	3	CCP/SNL Interface Document
9.	CCP-QP-001	10	CCP Graded Approach
10.	CCP-QP-002	47	CCP Training and Qualification Plan
11.	CCP-QP-005	27	CCP TRU Nonconforming Item Reporting and Control
12.	CCP-QP-008	27	CCP Records Management
13.	CCP-QP-010	33	CCP Document Preparation, Approval, and Control
14.	CCP-QP-016	26	CCP Control of Measuring and Testing Equipment
15.	CCP-QP-022	19	CCP Software Quality Assurance Plan
16.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
17.	CCP-QP-037	5	CCP Calculations
18.	CCP-QP-041	4	CCP Job Needs Analysis and Design
19.	CCP-QP-042	2	CCP Project Level Training and Qualification
20.	CCP-QP-043	4	CCP Operations Level Training and Qualification
21.	CCP-TP-001	22	CCP Project Level Data Validation and Verification
22.	CCP-TP-002	29	CCP Reconciliation of DQOs and Reporting Characterization Data
23.	CCP-TP-005	32	CCP Acceptable Knowledge Documentation
24.	CCP-TP-068	12	CCP Standardized Container Management
25.	CCP-TP-081	2	CCP Shielded Container Assembly Loading
26.	CCP-TP-120	16	CCP Container Management
27.	CCP-TP-163	4	CCP Evaluation of Waste Packaging Records for Visual Examination of Records
28.	CCP-TP-200	7	Enhanced Acceptable Knowledge Review
29.	CCP-TP-500	17	CCP Remote-Handled Waste Visual Examination
30.	CCP-TP-504	21	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
31.	CCP-TP-506	6	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
32.	CCP-TP-507	8	CCP Shipping of Remote-Handled Transuranic Waste
33.	CCP-TP-509	7	CCP Remote-Handled Transuranic Container Tracking
34.	CCP-TP-512	7	CCP Remote-Handled Waste Sampling
35.	CCP-TP-515	0	CCP Remote-Handled Radiological Characterization Technical Report
36.	CCP-TP-530	12	CCP RH TRU Waste Certification and WWIS/WDS Data Entry
37.	WP 13-QA.03	31	Quality Assurance Independent Assessment Program

List of Processes and Equipment Evaluated

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)	Debris (S5000) – RH
20RHVE1	Visual Examination (VE) Procedures – CCP-TP-500	Debris (S5000) – RH
20DTC1	Radiological Characterization (Dose-to-Curie) Procedure - CCP-TP-504	Debris (S5000) – RH
N/A	Quality Assurance Program	Debris (S5000) – RH
NEW PROCESSES OR EQUIPMENT		
NONE		
DEACTIVATED PROCESSES OR EQUIPMENT		
NONE		