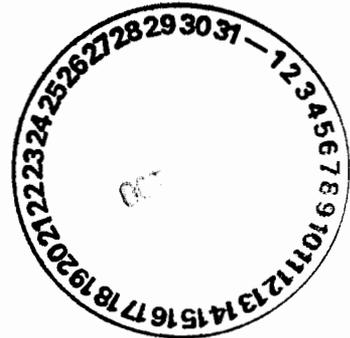




Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

OCT 26 2011

 ENTERED



Mr. John Kieling, Acting Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Revised Documents and CBFO Responses to NMED Comments on Final Report of Audit A-11-11 of the LANL/CCP

Dear Mr. Kieling:

This letter transmits the revised Final Audit Report for Audit A-11-11, Los Alamos National Laboratory/Central Characterization Project (LANL/CCP), the revised C6-4 checklist, a copy of CCP-QP-002, Revision 31, *CCP Training and Qualification Plan*, and the Carlsbad Field Office (CBFO) responses to the New Mexico Environment Department (NMED) comments received by letter dated September 23, 2011.

If you have any questions concerning these revised documents, please contact the Quality Assurance Director, Mr. Randy Unger, at (575) 234-7065.

Sincerely,


Edward Ziemianski
Interim Manager

Enclosures



Mr. John Kieling

-2-

OCT 26 2011

cc: w/Report Narrative

G. Basabilvazo, CBFO	* ED
R. Unger, CBFO	ED
J.R. Stroble, CBFO	ED
C. Fesmire, CBFO	ED
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V. Cannon, WTS/CCP	ED
A.J. Fisher, WTS/CCP	ED
M. Walker, WTS/CCP	ED
Y. Salmon, WTS/CCP	ED
J. Carter, WTS/CCP	ED
J. Hoff, WTS	ED
M. Mullins, WTS	ED
G. Rael, LASO	ED
L. Bishop, LASO	ED
T. Peake, EPA	ED
M. Eagle, EPA	ED
E. Feltcorn, EPA	ED
R. Joglekar, EPA	ED
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WWIS Database Administrators	ED
R. Chaves, RES	ED
W. Most, RES	ED
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*ED denotes electronic distribution

cc: w/Report Narrative and enclosures
WIPP Operating Record, MS: 452-09
CTAC QA File
CBFO M&RC

Appendix A
Redlined A-11-11 Final Report

Appendix B
Redlined C6-4 Checklist

Appendix C
CCP-QP-002, Revision 31, *CCP Training and Qualification Plan*

**NMED COMMENTS ON THE
LOS ALAMOS NATIONAL LABORATORY CENTRAL CHARACTERIZATION
PROJECT (LANL/CCP) FINAL AUDIT REPORT A-11-11**

NMED's review indicated that the body of the audit report and the C6 checklists generally appear to address the applicable elements. NMED provided the following comment for the Permittees consideration.

1. Questions 64, 148, 168 (parts D and E), 233, 233a, 247, 248, 249, 250, 251, 252, 262, 296, 297, 298, 298a, 300, and 314 of the C6 Checklist cite procedure CCP-QP-002. This procedure was not included in the audit report electronically or as a hard copy.

Response: CCP-QP-002, Rev. 31, CCP Training and Qualification Plan, was added to Attachment 4 and Attachment 6.

2. Question 184 of the C6 Checklist indicates the citation of CCP-TP-082, S. 4.1 and 4.2. There is no CCP-TP-082, S. 4.2.

Response: Question 184 of the C6-4 checklist was revised to remove the S. 4.2 citation.

3. Questions 189, 190, 191, 195, and 203 have the term "SUMMA7" within the question. The proper term should be "SUMMA®".

Response: Questions 189, 190, 191, 195 and 203 of the C6-4 checklist were revised to "SUMMA®." The Master C6-4 checklist was also revised to reflect "SUMMA®."

4. Section 5.4.4 Real-Time Radiography of the Final Audit Report includes a list of CH RTR BDRs that the audit team examined. The following 4 BDRs are on the list but were not included with the RTR objective evidence: LA-RTR2-10-0023, LA-RTR2-11-0001, LA-RTR2-11-0029, and LA-RTR2-11-0147. These BDRs were also omitted from the BDR list in the RTR section of the Content Map. These BDRs should be included in the Final Audit Report.

Response: LA-RTR2-10-0023, LA-RTR2-11-0001, LA-RTR2-11-0029, and LA-RTR2-11-0147 were reviewed during the audit in connection with a non-RTR issue that was unrelated to the C6-5 checklists, and were not included in the RTR objective evidence. References to these BDRs were removed from the final report.

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

LOS ALAMOS NATIONAL LABORATORY
CENTRAL CHARACTERIZATION PROJECT

LOS ALAMOS, NEW MEXICO

AUDIT NUMBER A-11-11

MAY 17 – 19, 2011

TRU WASTE CHARACTERIZATION AND CERTIFICATION



Prepared by: _____

Greg Knox
Greg Knox, CTAC
Audit Team Leader

Date: 12 Oct 2011

Approved by: _____

Randy Unger
Randy Unger, CBFO
Director, Office of Quality Assurance

Date: 21 Oct 11

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-11-11 was conducted to evaluate the adequacy, implementation, and effectiveness of Los Alamos National Laboratory (LANL) transuranic (TRU) waste characterization activities performed for LANL by the Washington TRU Solutions (WTS) Central Characterization Project (CCP) relative to the requirements detailed in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) and *CBFO Quality Assurance Program Document (QAPD)*. The audit team evaluated the characterization processes for contact-handled (CH) Summary Category Group (SCG) S3000 homogeneous solids waste and SCG S5000 debris waste. The specific elements evaluated during this audit are listed in section 2.1.

The audit was conducted at the LANL facilities in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, May 17 – 19, 2011. The audit team concluded that the LANL/CCP technical and quality assurance (QA) programs evaluated were adequately established for compliance with applicable upper-tier requirements. The audit team verified that the LANL/CCP technical and QA programs used for characterization and certification of CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste continue to be satisfactorily implemented and effective.

During the audit, the audit team identified eight concerns not related to the HWFP Waste Analysis Plan (WAP), as discussed in the Interim Audit Report issued June 11, 2011. No HWFP-related Conditions Adverse to Quality (CAQs) were identified. The audit team offered one Recommendation to CCP management.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the continued adequacy, implementation, and effectiveness of the LANL/CCP TRU waste characterization and certification activities for CH SCG S3000 homogeneous solids waste and SCG S5000 debris wastes. The following elements were evaluated.

General

- Results of previous audits
- Changes in programs or operations
- New programs or activities being implemented
- Changes in key personnel

Quality Assurance

- Personnel Qualification and Training
- Nonconformance Reporting
- Records

Technical

Project-level Data Validation and Verification (V&V)
Acceptable Knowledge (AK), including Waste Certification (e.g., Waste Stream Profile Form)
Headspace Gas (HSG) Sampling
Real-Time Radiography (RTR)
Visual Examination (VE)
WIPP Waste Information System (WWIS)/Waste Data System (WDS)

The evaluation of LANL/CCP TRU waste activities was based on current versions of the following documents:

Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant, NM4890139088-TSDF, New Mexico Environment Department

CBFO Quality Assurance Program Document, DOE/CBFO-94-1012

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

Related technical and QA implementing procedures

2.2 Purpose

Audit A-11-11 was conducted to assess sustained compliance with requirements applicable to waste characterization and certification activities for CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Dennis Miehl	Audit Team Management Representative, CBFO
Greg Knox	Audit Team Leader (ATL), CBFO Technical Assistance Contractor (CTAC)
Rick Castillo	Auditor, CTAC
Cindi Castillo	Auditor, CTAC
Priscilla Martinez	Auditor, CTAC
Norm Frank	Auditor, CTAC
Tammy Bowden	Auditor, CTAC
Porf Martinez	Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC
Mavis Lin	Technical Specialist, CTAC

OBSERVERS

Martin Navarrete	CBFO Office of Quality Assurance
Norma Castaneda	CBFO Office of the National TRU Program
Steve Holmes	New Mexico Environment Department (NMED)
Tim Hall	NMED
Ricardo Maestas	NMED
Connie Walker	NMED

4.0 AUDIT PARTICIPANTS

Attachment 1 lists the personnel contacted during the audit. A pre-audit meeting was held in the Taos Conference Room at the Best Western Hilltop Inn in Los Alamos, NM, and at the Skeen-Whitlock Building in Carlsbad, NM, on May 17, 2011. Daily briefings were held with LANL/CCP management and staff to discuss issues, potential deficiencies, and audit progress. On May 19, 2011, due to resource issues, audit activities were moved to the URS Corporate Office Building in Los Alamos, NM; the final management/post-audit meeting was held there and in the Skeen-Whitlock Building on May 19, 2011.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the capability of the LANL/CCP to characterize and certify CH S3000 homogeneous solids waste and S5000 debris waste for compliance with the requirements specified in the WAP. The characterization methods assessed were AK, HSG sampling, RTR, and VE. Other processes evaluated were project-level data V&V, data quality objective (DQO) reconciliation, preparation of WSPFs, and WWIS/WDS data entry.

The audit team concluded that LANL/CCP TRU waste characterization and certification activities, as described in the associated LANL/CCP QAPjP and implementing procedures, are adequate, satisfactorily implemented, and effective for compliance with the requirements of the HWFP.

Personnel contacted during the audit by area are listed in Attachment 2. Attachment 3 contains the objective evidence reviewed during the audit. Audit activities, including associated objective evidence reviewed, are described below and in the attached C6 checklists. The C6 checklists identify the LANL/CCP documents and procedures demonstrating compliance with the HWFP. Attachment 4 is a table of audited documents for the applicable Table C6-1 through C6-6 WAP requirements. Attachment 5 identifies the list of processes and equipment reviewed during the audit. Attachment 6 is the Procedure Revision Matrix that identifies and briefly describes revisions to the implementing procedures that have occurred since the last recertification audit (CBFO Audit A-10-14).

5.2 General

5.2.1 Results of Previous Audits

During the audit, the audit team verified that corrective actions for CAQs documented during the previous LANL/CCP recertification audit, A-10-14, were being maintained. Corrective actions for CBFO Corrective Action Reports (CARs) 10-025 (VE), 10-027 (HSG), and 10-029 (Project-level Data V&V) were found to be maintained, as addressed in the appropriate subsections.

5.2.2 Changes in Programs or Operations

Interviews with LANL/CCP management indicated that, other than a revised LANL/CCP interface document, there have been no significant changes in the program.

5.2.3 New Programs or Activities Being Implemented

Although the LANL/CCP High Energy RTR (HE-RTR) unit was included in the scope of the audit, installation had not been completed and therefore the unit could not be evaluated.

5.2.4 Changes in Key Personnel

No changes in key personnel have occurred since the previous audit.

5.3 Quality Assurance Activities

The audit team evaluated the QA elements for personnel qualification and training, quality assurance records, and control of nonconformances to applicable upper-tier requirements. The methods used to select objective evidence are discussed, the objective evidence used to assess compliance with the HWFP is cited briefly (and in detail on the checklists), and the results of the assessment are provided. The evaluation results for each area audited are described below.

5.3.1 Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 31, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records associated with VE (including the Off-site Source Recovery Project [OSRP]), RTR, HSG Sampling, AK, and Site Project Management were examined to verify implementation of associated requirements and to verify that personnel performing characterization activities are appropriately qualified. Records reviews included qualification cards and other pertinent qualification documentation. Attendance sheets/briefings on newly revised AK summaries for RTR and VE operators and training and test drum/container documentation were also evaluated.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for Personnel Qualification and Training are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.2 Nonconformance Reporting

The audit team reviewed implementing procedure CCP-QP-005, Rev. 20, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedure adequately addresses upper-tier requirements. The audit team interviewed the CCP quality assurance engineer and reviewed a random selection of nonconformance reports (NCRs) (NCR-LANL-0640-10, NCR-LANL-0653-10, NCR-LANL-0695-10, NCR-LANL-2311-11, NCR-LANL-2313-11, and NCR-LANL-2230-11) to confirm that deficiencies are appropriately documented and tracked through resolution. Two NCRs (NCR-LANL-0507-10 and NCR-LANL-0506-11) documented non-administrative deficiencies first identified at the site project management (SPM) level, which must be reported to the Permittee within seven days of identification. The audit team verified that the seven-day reporting requirement was met. All NCRs were verified as being managed and tracked in the CCP data center, in the CCP NCR 2010 and 2011 logs, and through the required reconciliation reporting mechanism.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for Nonconformance Reporting are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.3 Records

The audit team interviewed personnel 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 procedure review included CCP-QP-008, Rev. 18, *CCP Records Management*, and CCP-QP-028, Rev. 12, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Control of QA records was verified through review of the CH Records Inventory and Disposition Schedule (RIDS) dated 3/15/11.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA Records activities 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

Each technical area audited is discussed in detail in the following sections. The methods used to select objective evidence are discussed, the objective evidence used

to assess compliance with the HWFP is cited briefly (and in detail on the checklists), and the results of the assessment are provided.

5.4.1 Project-level Data Validation and Verification

The audit team assessed the project-level data V&V process for waste characterization activities. The ability of the LANL/CCP to characterize CH SCG S5000 debris waste and SCG S3000 solids waste was evaluated. Objective evidence was reviewed as part of this assessment and utilized in the completion of Table C6 WAP checklists. The objective evidence evaluated included batch data reports (BDRs) completed through CCP SPM review for RTR, VE, HSG sampling and analysis, and solids sampling and analysis characterization processes. In addition, procedures and objective evidence were reviewed to ensure that LANL/CCP adequately performs data reconciliation and preparation of Waste Stream Profile Forms (WSPFs).

Objective evidence was reviewed to determine the adequacy of the SPM V&V procedures to upper-tier requirements. The review included examination of BDRs from each of the waste characterization activities.

To ensure that all applicable requirements were captured in the site operating procedures, the auditors verified the flow of data from the point of generation to inclusion in the WSPF for each characterization technique. The material in this section is addressed in more detail in the checklists, which identify the specific procedures audited and the objective evidence reviewed.

Compliance with the characterization requirements of the WAP was confirmed through documentation and characterization activity demonstrations. The project-level data V&V process was evaluated by reviewing the following BDRs.

Radiography

LA-RTR2-10-0137	LA-RTR2-11-0001	LA-RTR2-11-0023
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VE

LAVE500427	LAVE500433	LAVE550041
LAVE4120006	LAVE4120010	LA10-OSR-VE-016
LA11-OSR-VE-001		

Headspace Gas Sampling and Analysis

LAHSGS100002	ECL10028G	ECL10028M
LAHSG1101	ECL11001G	ECL11001M
LAHSG1102	ECL11003G	ECL11003M

Solids Sampling and Analysis

SSC10-00003	ALD10006V	ALD10006S
ALD10006N	ALD10006M	

These randomly chosen BDRs were used to demonstrate confirmation of AK, to reconcile DQOs, and to prepare WSPF LA-OS-00-03 for the OSRP and WSPF LA-CIN01.001 for Mixed Cemented Homogeneous Solid Waste from TA-55.

The audit team reviewed objective evidence to ensure project-level activities were adequately performed to support waste characterization. The quarterly repeat of data generation-level re-reviews for RTR, HSG sampling, and VE were requested. LANL/CCP provided quarterly data for all quarters requested. HSG was characterized in the fourth quarter of 2010 and the first quarter of 2011; therefore, no random selection was necessary for HSG sampling from the second and third quarters of 2010 because HSG was not characterized during those quarters. As a follow-up to CBFO CAR 10-029 (no objective evidence of quarterly report data), issued during Audit A-10-14, the audit team verified that corrective actions continue to be effective.

A review was performed of the WSPF Characterization Information Summary (CIS) for the CH S3000 and S5000 waste streams. The WSPF included all correct and appropriate documentation.

The LANL/CCP RTR and VE project-level processes were evaluated to determine the effectiveness of RTR and VE as characterization methods. The audit team reviewed BDRs LA-RTR2-10-0137, LA-RTR2-11-0001, and LA-RTR2-11-0023, and VE BDRs LAVE500427, LAVE500433, LAVE550041, LAVE4120006, LAVE4120010, LA10-OSR-VE-016, and LAVE11-OSR-VE-001.

The audit team concluded that the LANL/CCP RTR and VE V&V processes are adequate, satisfactorily implemented, and effective.

The audit team verified continued corrective actions for CBFO CAR 10-27, identified during Audit A-10-14. The HSG analysis of the SUMMA[®] samples was reviewed by the team, as well as the training and qualification of V&V personnel. The analysis and reporting of the field reference standard was found to be accurately completed.

The audit team concluded that the LANL/CCP HSG sampling and analysis V&V processes are adequate, satisfactorily implemented, and effective.

The audit team determined that random selection of containers for the site's waste streams was properly completed for solids waste streams LA-MIN04-S.001 and LA-CIN03.001, and debris waste streams LA-MHD02-PTX.001, LA-MHD01.001, and LA-MHD09.001. LANL/CCP performs HSG sampling using SUMMA[®] canisters. Sampling BDRs LAHSGS100002, LAHSG1101, and LAHSG1102 for SCG S5000 debris waste were examined. Drum age criteria (DAC), sample chain-of-custody (COC), and shipment to the analytical laboratory were reviewed and determined to be compliant with project-level requirements.

Solids sampling is not performed at LANL. All drums requiring sampling are transported to the Idaho National Laboratory for processing, with the LANL/CCP performing V&V activities on the resulting BDRs.

The audit team concluded that the LANL/CCP Solids V&V processes are adequate, satisfactorily implemented, and effective.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for Project-Level Data Validation and Verification activities are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.2 Acceptable Knowledge

The audit team reviewed the AK process and examined AK documentation for two waste streams, a contaminated mixed heterogeneous debris stream from the Lovelace Respiratory Research Institute (LRRI), LA-MHD05.ITRI.001, and a mixed homogeneous inorganic solids stream from TA-55, LA-CIN01.001. The respective AK Summary Reports are CCP-AK-LANL-013, Rev. 3, and CCP-AK-LANL-006, Rev. 10.

In addition to the AK Summary Reports and approved or draft WSPFs for the two LRRI waste streams, the audit team reviewed the following attachments for each stream: the AK Documentation Checklist, attachment 1; the AK Source Document Reference List, attachment 4; the AK Hazardous Constituents List, attachment 5; the AK Waste Form, Waste Material Parameters, Prohibited Items and Packaging Form, attachment 6, including the justification for waste material parameter weight estimates; and the AK Container List, attachment 8, including memos supporting the addition of containers to the waste stream.

The audit team also examined numerous AK Source Documents and Source Document Summaries for the two streams to verify support for the information in the AK Summary Reports. The team reviewed examples of discrepancies in the AK record and examined discrepancies between the AK record and characterization activities and resultant AK reevaluations.

NCRs written addressing prohibited items identified during RTR of waste drums were reviewed, including excess liquids, sealed containers greater than four liters, and the presence of impenetrable objects. The WAP-required traceability exercise was conducted for five containers from the two streams, including containers from HSG sampling for the LRRI debris stream and solids sampling from the TA-55 cemented liquids stream.

In addition to specific BDRs for the drums selected, the audit team examined HSG and Solids Sampling Random Container Selection memos, the HSG Summary Report, the Solids Summary Report, container input forms, historical and current database records, and waste stream characterization checklists used to reconcile characterization results with the AK record for those drums placed in a shipping lot. The AK Accuracy Report for the TA-55 solids stream was also reviewed.

Finally, training records for AK Expert (AKE) and SPM personnel were examined, along with an example of a recent AK internal surveillance. All applicable elements of Table C6-1 and C6-3 checklists were reviewed during the audit to assure that sufficient and relevant objective evidence had been compiled to demonstrate compliance.

The audit team offered one Recommendation to improve the AK process (see section 6.4).

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for Acceptable Knowledge are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.3 Headspace Gas Sampling

The audit team evaluated LANL/CCP operations for HSG sampling using SUMMA[®] canisters.

Sampling BDRs LAHSGS100002, LAHSG1101, and LAHSG1102 for debris waste were examined. DAC, operational logbooks, and sample COC and transfer to the analytical laboratory were reviewed and found to be compliant. Material and testing equipment (M&TE) certifications were audited and found to be acceptable. Training and qualification of sampling individuals were confirmed to be in compliance with training requirements. Interviews were conducted with sampling personnel.

No TRU waste sampling activities were being performed during the audit. The audit team observed a demonstration of sampling on a mock container, which was found to be satisfactory.

COC documents reviewed during the audit confirmed sustained corrective actions for CBFO CAR 10-027 (unsigned COC form) identified during the previous recertification Audit A-10-14.

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for Headspace Gas Sampling are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.4 Real-Time Radiography

The audit team evaluated the adequacy, implementation and effectiveness of the ability of LANL/CCP to characterize and certify CH SCG S3000 solids waste and SCG S5000 debris waste using the RTR characterization process.

The audit team evaluated the following RTR-related CCP procedures: CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*; CCP-TP-028, Rev. 6, *CCP Radiographic Test Drum and Training Container Construction*; and CCP-TP-053, Rev. 10, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*. The review determined that the procedures adequately address upper-tier requirements.

The audit team examined the following CH RTR BDRs:

LA-RTR2-10-0152	LA-RTR2-10-0087	LA-RTR2-10-0023
LA-RTR2-10-0055	LA-RTR2-10-0136	LA-RTR2-11-0008
LA-RTR2-10-0083	LA-RTR2-10-0137	LA-RTR2-11-0019
LA-RTR2-10-0110	LA-RTR2-11-0147	
LA-RTR2-10-0115	LA-RTR2-11-0001	
LA-RTR2-11-0029	LA-RTR2-11-0003	

The audit team examined personnel qualifications including RTR Operator/Independent Technical Reviewer (ITR) qualification cards, test and training drum documentation, and the associated List of Qualified Individuals (LOQI) sheets for the dates RTR operations were performed by RTR personnel. The audit team evaluated RTR operator-required test and training drum audio/video media for two RTR operators. The audit team determined that personnel were trained and qualified to perform their assigned tasks.

The audit team witnessed the RTR characterization process for container 65669 using the RTR2 unit, which was equipped with the required hardware to effectively characterize CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste. The audit team interviewed the RTR operator and verified the use of current AK summaries and RTR operating procedures. The audit team also examined RTR operational logbook LANL-NDE-RTR2-008 and verified logbook entries were recorded correctly and reviewed by the vendor project manager (VPM) as required. Review of operational logbooks confirmed that the RTR1 unit has not been operational since previous Audit A-10-14.

Although the LANL/CCP HE-RTR unit was included in the scope of the audit, installation had not been completed and therefore the unit could not be evaluated. For this reason, adequacy, implementation, and effectiveness of the HE-RTR unit is indeterminate.

The procedure reviews, field observations, and document reviews performed by the audit team provided evidence that the applicable requirements for characterizing CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste using the RTR2 unit are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.5 Visual Examination

The audit team evaluated the continued adequacy, implementation and effectiveness of the ability of LANL/CCP to characterize and certify CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste using the VE characterization process, as well as VE in support of the OSRP.

The audit team evaluated the following BDRs:

LAVE4120001	LAVE4120006	LAVE4120010
LAVE500427	LAVE500433	LAVE550041
LA-10-OSR-VE-016	LA-10-OSR-VE-017	LA-11-OSR-VE-001

The audit team evaluated the following procedures: CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-002, *CCP Training and Qualification Plan*; CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-TP-069, *CCP Sealed Source Visual Examination and Packaging*.

The audit team conducted interviews with VE operators and reviewed training files. The audit team toured the Waste Characterization Reduction and Repackaging (WCRR) facility to observe VE activities. No VE activities were being performed at the time of the audit. LANL/CCP uses the two-operator method when performing VE characterization, i.e., two qualified operators visually examine the waste and place it into certified shipping containers

During Audit A-10-14, CBFO CAR 10-025 was identified involving the destruction of field data after transference of information to VE data sheets, therefore not allowing the ITR to verify that data had been properly transferred and reduced from the field data. Documentation reviewed during this audit indicated LANL/CCP continues to comply with the requirements for completeness and accuracy of records. Examination of the VE BDRs verified that when field records are documented, these records are retained in the BDRs. CCP is directing VE operators to include any field records generated during VE of containers to be submitted in the BDR, making the information available for review by the ITR.

The procedure and document reviews performed by the audit team provided evidence that the applicable requirements for characterizing CH SCG S3000 solids waste and 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.

5.4.7 WIPP Waste Information System/Waste Data Systems

The audit team evaluated implementation of CCP TRU waste certification and WWIS/WDS data entry procedure CCP-QP-030, Rev. 28, *CH TRU Waste Certification and WWIS/WDS Data Entry*. The evaluation included data population of the WDS spreadsheet, review of data entry by a Waste Certification Assistant (WCA), and waste certification by the Waste Certification Official (WCO). Records reviews included container information summaries, pages from BDRs showing analyses values, WWIS/WDS Container Data Reports, and submittals for WWIS review/approval.

The audit team reviewed two complete WWIS/WDS waste certification packages for CH waste (LA00000085371 and LA00000057675).

The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for WWIS/WDS Data Entry are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQ) and document such conditions on corrective action reports (CARs).

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

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

No HWFP-related CAQs were identified during Audit A-11-11.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The ATL and audit team members evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals have not completed a reading assignment.

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

No HWFP-related CDAs were identified during Audit A-11-11.

6.3 Observations

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

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

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

The audit team identified no Observations during Audit A-11-11.

6.4 Recommendations

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

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

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

The audit team made one Recommendation during Audit A-11-11, as described below.

Recommendation 1

It is recommended that freeze file changes, as applicable, should be made to the AK Summaries for the waste streams examined during this audit to address the permit modifications dealing with Acceptable Knowledge. These changes are noted on the NMED matrix and will be attached to the AK Summaries submitted with the final report, as discussed with and concurred by the audit participants. This Recommendation is based on how requirements are to be incorporated per agreements with NMED during the ORNL/CCP Audit A-11-08.

7.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: Personnel Contacted During the Audit by Area
- Attachment 3: Objective Evidence
- Attachment 4: Table of Audited Documents
- Attachment 5: List of Processes and Equipment Reviewed
- Attachment 6: Procedure Revision Matrix

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Almanza, C.	AK NDA Support/CCP		X	
Aragon, S.	FGA/CCP		X	
Baca, R.	Records/CCP	X		
Baumann, R.	NDA/CCP	X		X
Billet, M.	Training/CCP		X	
Blunn, D.	VEE/CCP	X	X	
Brothers, D.	RTR/CCP	X	X	
Cameron, W.	VPM/CCP		X	
Chandler, C.	AK/CCP		X	
Chavarria, A.	QA Engineer/CCP	X		
Davis, C.	Record Specialist/CCP		X	
Davis, V.	Doc. Services/CCP		X	
Ewing, S.	RTR/CCP	X	X	
Fisher, A.	Sr. Tech. Advisor/CCP	X	X	X
Fitzgerald, R.	AK/CCP		X	
Francis, J.	NDA/CCP	X	X	
Gomez, C.	NCR Co-Ordin./CCP	X	X	
Haar, D.	Manager Ret/Char/Trans			X
Harvill, J.	NDA Support/CCP	X		X
Hudston, J.	NDA/CCP	X	X	X
Keathley, S.	Records/CCP		X	
Kirkes, C.	WWIS Data Entry/CCP		X	
Loechell, E.	FGA/CCP	X	X	X
Lyles, E.	RTR Operator/CCP		X	
Martin, R.	Training/CCP		X	
Matzke, J.	OSRP PM/CCP		X	
Morales, J.	QA Spec./CCP		X	
Papp, M.	AKE /CCP		X	X

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Pearcy, M.	Manager Project Cert./CCP			X
Pearcy, S.	Records Manager/CCP	X	X	
Ploetz, D.	Manager , CCP			X
Porter, L.	SPM/CCP	X	X	X
Peterman, S	SPM/CCP	X	X	X
Schoen, J.	AKE /CCP		X	
Sensibaugh, M.	CCP Project Manager	X		X
Simmons, C.	PM/CCP	X		
Stanfield, S.	NDA/CCP	X		X
Stepzinski, C.	PM Manager/CCP	X		X
Thompson, J.	VEE/CCP	X	X	X
Wade, L.	QA/CCP	X		
Waldram, V.	SPM/CCP	X	X	X
Witkowski, I.	OSR - CH/CCP	X		
Zarling, J.	R&D Eng./LANL		X	
Zbryk, K.	Tech. Support/CCP	X	X	X

PERSONNEL CONTACTED DURING THE AUDIT BY AREA

Nonconformances	Gomez, C.
Training	Billett, M. Davis, V. Fisher, A. Martin, R.
Records	Keathley, S. Percy, S
Acceptable Knowledge	Almanza, C. Chandler, C. Davis, C. Fitzgerald, R. Gomez, C. Morales, J. Papp, M. Percy, S. Schoen, J. Waldram, V.
Headspace Gas Sampling	Aragon, S. Looechell, E. Peterman, S
Real-Time Radiography	Brothers, D. Cameron, W. Ewing, S. Lyles, E. Porter, L
Visual Examination	Blunn, D. Matzake, J. Peterman, S. Thompson, J. Whitworth, J. Zarling, J. Zbryk, K.
WIPP Waste Information System (WWIS Data Entry)	Kirkes, C.
Waste Certification/Project Level Validation & Verification	Waldram, V.

Objective Evidence Reviewed During the Audit

The objective evidence supporting Audit A-11-11 is included in the box(es) submitted with this report. Included in the 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.

TABLE OF AUDITED DOCUMENTS			
	Document No.	Rev.	Document Title
1.	CCP-PO-001	19	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	25	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	21	CCP Conduct of Operations
4.	CCP-PO-012	8	CCP/LANL Interface Document
5.	CCP-QP-002	31	CCP Training and Qualification Plan
5-6.	CCP-QP-005	20	CCP TRU Nonconforming Item Reporting and Control
6-7.	CCP-QP-008	18	CCP Records Management
7-8.	CCP-QP-021	7	CCP Surveillance Program
8-9.	CCP-QP-028	12	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
9-10.	CCP-TP-001	19	CCP Project Level Data Validation and Verification
10-11	CCP-TP-002	23	CCP Reconciliation of DQOs and Reporting Characterization Data
11-12	CCP-TP-003	18	CCP Data Analysis for S3000, S4000, and S5000 Characterization
12-13	CCP-TP-005	22	CCP Acceptable Knowledge Documentation
13-14	CCP-TP-028	6	CCP Radiographic Test Drum and Training Container Construction
14-15	CCP-TP-030	28	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
15-16	CCP-TP-033	18	CCP Shipping of CH TRU Waste
16-17	CCP-TP-053	10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
17-18	CCP-TP-069	5	CCP Sealed Source Visual Examination and Packaging
18-19	CCP-TP-082	8	CCP Waste Container Filter Vent Operation
19-20	CCP-TP-093	15	CCP Sampling of TRU Waste Containers
20-21	CCP-TP-106	7	CCP Headspace Gas Sampling Batch Data Report Preparation
21-22	CCP-TP-113	16	CCP Standard Contact-Handled Waste Visual Examination
22-23	CCP-TP-120	14	CCP Container Management
23-24	CCP-TP-162	1	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
24-25	CCP-TP-180	2	CCP Analytical Sample Management
25-26	WP 13-QA.03	18	Quality Assurance Independent Assessment Program

List of Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT			
N/A	Headspace Gas Sampling Procedure – CCP -TP-093 Description – Headspace Gas Sampling	Debris (S5000)	YES
11RR1	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES
11RR2	Real-Time Radiography (RTR) Procedure(s) – CCP-TP-053 and CCP-TP-028 Description – Real-Time Radiography Mobile Characterization System RTR [built by VJ Technologies] – 55-gallon drums	Solids (S3000) Debris (S5000)	YES
11VE1	CH Visual Examination Procedure – CCP-TP-113 Description – CH Characterization Performed Utilizing Visual Examination and Acceptable Knowledge	Debris (S5000)	YES
N/A	Acceptable Knowledge Procedure – CCP-TP-005 Description – Acceptable Knowledge	Solids (S3000) Debris (S5000)	YES

List of Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED
N/A	Data Verification and Validation Procedure(s) – CCP-TP-001, CCP-TP-002, CCP-TP-003, CCP-TP-103, CCP-TP-162	Solids (S3000) Debris (S5000)	YES
N/A	WWIS/WDS Procedure – CCP-TP-030 Description – CH TRU Waste Characterization and WWIS Data Entry	Solids (S3000) Debris (S5000)	YES

PROCEDURE REVISION MATRIX

No.	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
1	CCP-PO-001	CCP Transuranic Waste Characterization Quality Assurance Project Plan	17	19	R18-Revised to incorporate modifications to the Permit to change the WWIS to WDS. R19-Revised to include changes from Permit Renewal.
2	CCP-PO-002	CCP Transuranic Waste Certification Plan	22	25	R23- Revised to add Hanford NDA equipment R24- Revised to incorporate Revision 6.5 of WAC R25- Revised to incorporate Revision 7.0 WAC and minor editorial changes.
3	CCP-PO-005	CCP Conduct of Operations		21	Sec. 12, LOG KEEPING
4	CCP-PO-012	CCP/LANL Interface Document	7	8	Minor revision to update references to Permit
5	<u>CCP-QP-002</u>	<u>CCP Training and Qualification Plan</u>	<u>27</u>	<u>31</u>	<u>R28- Revised to address CAR-CCP-0012-09, to clarify AK briefings, training for solids lab, and approval process for training material. References to CCP Program/Project Manager were removed and the/responsibilities assigned to the Lead SPM and CCP Man. responsible for Training.</u> <u>R29- Revised to incorporate changes into Att. 4, CCP Test Drum Data Sheet for CH Waste, and other minor editorial changes.</u> <u>R30- Revised to bring into compliance with the revision of the Permit.</u> <u>R31- Revised based on Revision 2 of the DOE/WIPP 02-3214,RH- WCPIP</u>
65	CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control	18	20	R19- Revised to: clarify hold tag application; BFO notification requirements including responsibility, incorporate CCP-SO-054, 1 and CCP-SO-065, 0; revisions to Att. 1, CCP NCR; and other minor editorial changes. R20- Revised to incorporate relevant steps from CCP-QP-004 and other editorial changes.
76	CCP-QP-008	CCP Records Management	15	18	R16-Revised to clarify and address the submittal of historical source documents. R17- Revised to change the submittal process for AK documentation and section on historical source documents. R18- Revised to support corrective action report

PROCEDURE REVISION MATRIX

No.	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					(CAR)-LANL-0004-10.
<u>87</u>	CCP-QP-021	CCP Surveillance Program	6	7	General revision to clarify follow-up to observations and provide clarity of text.
<u>98</u>	CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning	9	12	R10- Revised to incorporate changes to Att. 2, Instructions for Filling Out the RIDS. R11- Revised to bring instructions regarding location in Att. 4, Instructions for Filling Out the RIDS, in line with current practice. R12- Revised to remove examples form and re-number remaining attachments and update Att. 2.
<u>109</u>	CCP-TP-001	CCP Project Level Data Validation and Verification	17	19	R18- Revised to address Permit modification, and other editorial and freeze file changes R19- Revised to clarify ITR Independence and to update references to the Permit.
<u>110</u>	CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data	21	23	R22- Revised for Class 2 Mod NM4890139088. R23- Revised to implement the revision of the Permit.
<u>124</u>	CCP-TP-003	CCP Data Analysis for S3000, S4000, and S5000 Characterization	17	18	Revised to implement the revision of the Permit.
<u>132</u>	CCP-TP-005	CCP Acceptable Knowledge Documentation	18	22	R19- Revised to address the WIPP Form WF09-171 from an internal CCP audit and to incorporate minor editorial changes and technical clarifications R20- Revised to allow new and updated attachments and source documents to be submitted anytime after the initial submittal. R21- Revised to implement the revision of the Permit. R22- Revised to address changes in Revision 2 of the WCPIP. Incorporated editorial changes and technical clarifications throughout procedure.
<u>143</u>	CCP-TP-028	CCP Radiographic Test and Training Drum Requirements	3	6	R4- Revised to clarify the difference between a Test Drum and a Training Drum and how they are to be constructed. R5- Revised to correct editorial errors. R6- Revised to incorporate training containers in place of training

PROCEDURE REVISION MATRIX

No.	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					drums. Also revised training container assembly procedures to meet the requirements of the revised Permit.
<u>154</u>	CCP-TP-030	CCP CH TRU Waste Characterization and WWIS Data Entry	27	28	Revised to include steps for direct load 100-Gallon drums that require characterization prior to placement in a direct load SWB a for minor editorial changes.
<u>165</u>	CCP-TP-033	CCP Shipping of CH TRU Waste	16	18	R17- Revised to align procedure with modifications made to the WDS system, and editorial corrections. R18- Minor revision to update references to the Permit.
<u>176</u>	CCP-TP-053	CCP Standard Real-Time Radiography (RTR) Inspection Procedure	7	10	R8- Revised to incorporate April 1, 2010, mod of the Permit. R9- Revised to incorporate another test image type. R10- Revised to address CBFO CAR 11-015. Deleted requirement to identify locations of dense waste material, sharp/heavy objects. Deleted requirement of identification of block and/or bracing of sharp/heavy objects and heterogeneity of the waste (e.g., DO NOT just list plastic, describe it as small plastic bottles, plastic tubing, plastic sheeting, or plastic coveralls etc.). Deleted requirement of recording of liquid amounts on attachments. All prohibited conditions will be addressed in the NCR process. Added the ability to use procedure to RTR RH waste.
<u>187</u>	CCP-TP-069	CCP Sealed Source Visual Examination and Packing	4	5	Revised to clarify the specification of dunnage used in the payload area of a Standard POC and Standard 55-gallon drum, expand the weights in Att. 2, Weights for Standardized OSRP POC Packaging Configurations, and includes other minor corrections.
<u>198</u>	CCP-TP-082	CCP Preparing and Handling Waste Containers for Headspace Gas Sampling	7	8	Removed elements no longer required or redundant to host site procedures.
<u>204</u> <u>9</u>	CCP-TP-093	CCP Sampling of TRU Waste Containers	13	15	R14- Revised to eliminate the allowance of the procedure to perform Transportation Headspace sampling. Revised the note under step 4.5.6 per CCP-PO-001. Made editorial changes. Clarified the Field Reference Standard process. Eliminated the

PROCEDURE REVISION MATRIX

No.	Procedure Number	Procedure Title	Revision During Last Annual Audit	Revision During Current Annual Audit	Brief Description of Procedure Changes
					allowance of compositing samples. Updated the Cof-CofC form. Changed the BDR numbering format. Incorporated recommendations from Audit A-10-04. Updated references to the Permit. 15- Revised to update the procedure so the field blank criteria match the permit, eliminated the VPM from the responsibilities section, and clarified the use of CofC.
<u>210</u>	CCP-TP-106	CCP Headspace Gas Sampling Batch Data Report Preparation	6	7	Revised to clarify ITR independence.
<u>221</u>	CCP-TP-113	CCP Contact-Handled Standard Waste Visual Examination	13	16	R14- Revised to incorporate mods to Permit. Revised to address CBFO CAR 10-019. Revised to address procedural steps, to accommodate the VE process for newly generated waste and to make additional editorial changes. R15- Revised to clarify ITR independence R16- Revised to remove recording location and clarify transportation packaging requirements.
<u>232</u>	CCP-TP-120	CCP Container Management	14	14	
<u>243</u>	CCP-TP-162	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis	0	1	Minor revision to update references to the Permit.
<u>254</u>	CCP-TP-180	CCP Analytical Sample Management	1	2	Minor revision to update references to the Permit.
<u>265</u>	WP 13-QA.03	Quality Assurance Independent Assessment Program	17	18	Added allowance for the Assurance Programs manager to extend the time limit for issuance of an audit report. (6.0)

**Table C6-4 Headspace Gas Checklist
LANL/CCP Recertification Audit, A-11-11, May 17-19, 2011**

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Headspace Gas Checklist

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
HEADSPACE GAS SAMPLING FREQUENCY						
182	Are procedures in place to ensure that randomly selected retrievably stored and newly generated waste containers will undergo headspace gas sampling and analysis as required to augment AK? (Section C-3a)	PL CCP-TP-162, (All)	Y	CP:11:01166 – Random Selection Memorandum for the First Lot of Containers of Heterogeneous Debris from the Pantex Plant, Waste Stream LA-MHD02-PTX.001 CP:10:01593 – Subsequent Headspace Gas Random Sample Selection Candidate Memorandum for Lot 6 of Containers of TA-55 Mixed Heterogeneous Debris, Waste Stream LA-MHD01.001, being Characterized by the Central Characterization Project at the Los Alamos National Laboratory CP:10:01689 – Headspace Gas Random Sample Selection Memorandum for the First Lot of Containers in the Los Alamos National Laboratory TA-50 Mixed Transuranic Waste, Waste Stream LA-MHD09.001, being Characterized by the Central Characterization Project at the Los Alamos National Laboratory, Revision 1 (GEN-7)	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
		HG CCP-TP-106 (All) CCP-TP-093 (All) CCP-TP-162 (All)	Y	CP: 10:01593, CP: 09:01424, CP: 10:01689, CP: 11:01252, CP: 09:01480, CP: 09:01376 (HSG-3)	Y	
183	Are procedures in place to ensure that randomly selected containers will be allowed to equilibrate to sampling room temperature for 72 hours prior to sampling (18° C or higher) and that the drum ages specified in accordance with Section C1-1a(1) are met? All information necessary to determine drum age criteria must be determined, including but not limited to: <ul style="list-style-type: none"> • Scenario Determination • Packaging Configuration • Filter Diffusivity • Liner/Lid Opening Diameter (Section C1-1a)	CCP-TP-093, S. 4.3.1 S. 4.3.2. CCP-TP-106, Att. 3	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
HEADSPACE GAS SAMPLING GENERAL REQUIREMENTS						
184	Are procedures in place to ensure all containers of waste are vented through filters to ensure that gases are adequately vented preventing over pressurization or development of conditions that would lead to the development of ignitable, corrosive, reactive, or other characteristic waste? (Section C-1c)	CCP-TP-082 S. 4.1 S. 4.2	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
186	Are procedures in place to ensure that the following gas sample container and holding time requirements are met: <ul style="list-style-type: none"> • The minimum sample volume for VOC. sample collection is 250 mL. (Note: a single 100 mL sample may be collected if the headspace is limited) • Holding temperatures shall be between 0° C and 40° C (Table C1-1)	CCP-TP-093 S. 2.3.1[A] (canister) 4.7.1 CCP-TP-106 Att. 3	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
187	Are procedures in place to ensure that all sampling is performed in an appropriate radiation containment area? (Section C1-1a)	CCP-TP-093 S. 2.4.1[A]	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
188	Are procedures in place to ensure that headspace gases is analyzed for the analytes listed in Table C3-2 of the Attachment C3? (Section C1-1a(1))	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
189	Are procedures in place to ensure that all headspace gas analyses utilize either SUMMA [®] or equivalent canisters or on-line integrated sampling/analysis systems? (Section C1-1a(1))	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
MANIFOLD SAMPLING						
190	Are procedures, processes, and equipment in place to ensure that the following sampling procedures are implemented: <ul style="list-style-type: none"> • The sampling equipment is leak checked and cleaned upon first use and as needed • The manifold and sample canisters are evacuated to 0.1 mm Hg prior to sample collection • Cleaned and evacuated sample canisters are attached to the evacuated manifold before the manifold inlet valve is opened • The manifold inlet valve is attached to a changeable filter connected to either a side port needle sampling head capable of forming an airtight seal (for penetrating a filter or rigid poly liner when necessary), a drum punch sampling head capable of forming an airtight seal (capable of punching through the metal lid of a drum while maintaining an airtight seal for sampling through the drum lid), or a sampling head with an airtight fitting for sampling through a pipe overpack container filter vent hole. Refer to Section C1-1a(4) for descriptions of these sampling heads. • Field blanks are collected using samples of room air collected in the sampling area in the immediate vicinity of the waste container. (Note: field blanks for SUMMA[®] canisters are collected directly into the canister without the use of the manifold.) • Manifold equipped with purge assembly that allows QC samples to be collected through all sampling components that affect compliance with QAOs • The manifold internal volume is calculated and documented in a field 	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	logbook <ul style="list-style-type: none"> The total volume of headspace gas collected is calculated by adding the canister volume and internal manifold volume and should be less than 10 percent of the available headspace volume when a volume estimate is available (Section C1-1a(2))					
191	Are procedures, processes, and equipment in place to ensure that the following manifold sample side conditions are met: <ul style="list-style-type: none"> The sampling head forms a leak-tight connection with the sampling manifold A flexible hose allowing movement from the purge assembly to the waste container Pressure sensors that are pneumatically connected to the manifold and must be able to measure absolute pressure from 0.05 mm Hg to 1000 mm Hg with a resolution of that must be 0.01 mm Hg at 0.05 mm of Hg. The pressure sensors shall have an operating range of 15° C to 40° C. Sufficient canister ports shall be available to allow simultaneous collection of headspace gas samples and duplicates for VOC analysis. Ports not occupied with sample canisters require a plug to prevent ambient air from entering the system Ports shall have VCR® fittings for connection to the sample canisters to prevent degradation of the fitting on the canister and manifold. Sample canisters are leak-free, stainless steel pressure vessels, with a Cr-NiO SUMMA® passivated interior surface or canisters with equivalently inert surfaces, bellows valve, and a pressure/vacuum gauge. All canisters shall have VCR ® fittings to sampling and analytical equipment The pressure/vacuum gauge must be mounted on each manifold and shall be helium-leak tested to 1.5×10^{-7} cc/s, have all stainless steel construction, and be capable of operating at temperatures to 125° C 	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.
191a	<ul style="list-style-type: none"> A dry vacuum pump capable of reducing the manifold pressure to 0.05 mm Hg. (Note: If an oil vacuum pump is used precautions such as a molecular sieve or cryogenic trap shall be used to prevent diffusion of oil vapors back into the manifold) A minimum distance between the needle and the valve that isolates the pump from the manifold in order to minimize the dead volume in the manifold. 	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<ul style="list-style-type: none"> If real time equipment blanks are not available, the manifold shall be equipped with an OVA capable of detecting all analytes listed in Table C3-2 and is capable of measuring total VOC concentrations below the lowest headspace gas PRQL (Section C1-1a(2))					
192	Are procedures, processes, and equipment in place to ensure that the following manifold standard side conditions are met: <ul style="list-style-type: none"> A cylinder of compressed zero air, helium, argon, or nitrogen that is hydrocarbon and CO₂ free air (only hydrocarbon and CO₂-free gases required for FTIRS) and certified by the manufacturer to contain less than one ppm VOCs. The gas is used to clean the manifold between samples and to provide gas for the collection of equipment and on-line blanks <i>(Note: a zero air or nitrogen generator may be used, provided a sample of air is collected and found to contain less than 1 ppm total VOCs and the air is humidified)</i> Cylinders of reference gas with known concentrations of analytes from Table C3-2 certified by the manufacturer to provide gases for evaluating the accuracy of the headspace gas sampling process All cylinders of reference gases and zero air shall be connected to flow regulating devices A humidifier filled with ASTM Type I or II water, connected, and opened to the standard side of the manifold between the compressed gas cylinders and the purge assembly shall be used, if the Fourier Transform Infrared System (FTIRS) is not used. No humidifier if the FTIRS is used <i>(Note: Compressed gas may include water vapor between 1000 and 10000 ppmv in lieu of a humidifier)</i> The humidifier is off-line during system evacuation to prevent manifold flooding 	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.
192a	<ul style="list-style-type: none"> A purge assembly that allows the sampling head to be connected to the standard side of the manifold. A flow indicating device or pressure regulator that is connected downstream of the purge assembly to monitor the flow rate or pressure of gases through the purge assembly to ensure that excess flow is available to prevent ambient air from contaminating the QC samples and allow sample of gas from the compress gas cylinders to be collected near ambient pressure. (Section C1-1a(2))	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.
193	Do procedures ensure that NIST Certified (or equivalent) ambient pressure sensors maintained in the sampling area must have a sufficient measurement range for the	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	expected ambient barometric pressures and a resolution shall be 1.0 mm Hg or less? (Section C1-1a(2))					
194	Do procedures ensure that the NIST traceable (or equivalent) temperature sensor in the sampling location shall have a sufficient measurement range for the ambient temperatures (18 to 50°C)? (Section C1-1a(2))	N/A	N/A	N/A	N/A	LANL/CCP does not perform manifold sampling.
DIRECT CANISTER SAMPLING						
195	<p>Are procedures, processes, and equipment in place to ensure that the following operating conditions are in place for direct canister sampling:</p> <ul style="list-style-type: none"> Canisters are evacuated to 0.1 mm Hg prior to use and attached to a changeable filter connected to the sampling head Sampling heads are capable of either punching through the metal lid of the drums while maintaining an airtight seal for sampling through the drum lid, penetrating a filter or the septum in the orifice of a self-tapping screw, or maintaining an airtight seal for sampling through a pipe overpack container filter vent hole. Field duplicates are collected in the same manner and at the same time and using the same type of sampling apparatus as used for headspace gas sample collection. Field blanks shall be samples of room air collected in the immediate vicinity of the waste drum sampling area prior to removal of the drum lid. Equipment blanks and field reference standards shall be collected using a purge assembly equivalent to the standard side of the manifold Less than 10 percent of the headspace is withdrawn when a headspace estimate is available <i>(Note: The total volume withdrawn is can be determined by adding the canister volume and the internal volume of the sampling head)</i> Each sample canister is shall be equipped with a pressure/vacuum gauge capable of indicating leaks and sample collection volumes. The gauge shall be helium leak tested to 1.5×10^{-7} cc/s, have all stainless steel construction and be capable of tolerating temperatures to 125° C SUMMA[®] canisters or equivalent are used to collect samples (Section C1-1a(3)) 	<p>Bullet 1: CCP-TP-093 S. 4.4.3 [A] S. 4.5.2 [B] Fig. 1 & 2; Bullet 2: CCP-TP-093 S. 4.4.1 S. 4.4.2 Bullet 3: CCP-TP-093 S. 4.5.4 Bullet 4 CCP-TP-093 S. 4.5.3 2nd NOTE; Bullet 5: N/A; Bullet 6: CCP-TP-093 S. 2.3.1[A] S. 4.3.1[A18] Bullet 7: N/A Bullet 8: CCP-TP-093 S. 2.3.1[A]</p>	Y	<p>LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)</p> <p>Bullet 5: N/A</p> <p>Bullet 7: N/A</p>	Y	<p>LANL/CCP only performs HSG sampling. Canister preparation performed at INL/CCP Lab.</p> <p>Bullet 5: LANL/CCP does not perform manifold sampling.</p> <p>Bullet 7: Canisters provided by INL/CCP and tested by them.</p>

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
SAMPLING HEADS UNDER DRUM LIDS: SAMPLING THROUGH A CARBON FILTER						
196	<p>Are procedures, process, and equipment adequate to ensure that samples collected through a filter meet the following requirements:</p> <ul style="list-style-type: none"> The lid of the drum's 90-mil rigid poly liner shall contain a hole for venting to the drum That non-vented drums are not sampled until an internal nonconformance report is prepared, submitted, and resolved in order to obtain a representative sample The filter shall be sealed to prevent outside air from entering the drum The sampling head for collecting drum headspace gas shall consist of a side-port needle, a filter to prevent particle contamination of the sample, and an adapter to connect the side-port needle to the filter The sampling head is cleaned or replaced after each use The housing of the filter shall allow insertion of the sampling needle through the filter element or a sampling port with septum that bypasses the filter element into the drum headspace The side port needle shall be used to reduce the potential for plugging The purge assembly shall be modified for compatibility with the side port needle. <p>(Section C1-1a(4)(i))</p>	<p>Bullet 1: CCP-TP-093 S. 4.2.1</p> <p>Bullet 2: CCP-TP-093 S. 4.2.1[B]</p> <p>Bullet 3: CCP-TP-093 S. 4.5.4[B]</p> <p>Bullet 4: CCP-TP-093 S. 2.3.1[B]; Fig. 1 & 2</p> <p>Bullet 5: CCP-TP-093 S. 4.5.4[M]</p> <p>Bullet 6: CCP-TP-082 S. 4.1.2 S. 4.1.3 S. 4.1.4;</p> <p>Bullet 7: CCP-TP-093 S. 2.3.1[B]; Fig. 1 & 2</p> <p>Bullet 8: N/A</p>	Y	<p>LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)</p>	Y	
SAMPLING HEADS UNDER DRUM LIDS: SAMPLING THROUGH THE DRUM LID						
197	<p>Are procedures in place to establish the criteria for sampling through the drum lid as opposed to sampling through a filter?</p> <p>(Section C1-1a(4)(ii))</p>	N/A	N/A	N/A	N/A	LANL/CCP does not sample through drum lids.
197a	<p>If sampling through a pipe overpack container filter vent hole with an airtight device is used, are procedures in place to ensure that a sampling head with an airtight seal for sampling through a pipe overpack container filter vent hole are available?</p> <p>(Section C1-1a(4)(iii))</p>	N/A	N/A	N/A	N/A	LANL/CCP does not perform HSG sampling for pipe overpack.
197b	<p>If sampling through a pipe overpack container filter vent hole is used, are the</p>	N/A	N/A	N/A	N/A	LANL/CCP does not perform HSG

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<p>following criteria met:</p> <ul style="list-style-type: none"> The seal between the pipe overpack container surface and sampling apparatus shall be designed to minimize intrusion of ambient air. The filter shall be replaced as quickly as is practicable with the airtight sampling apparatus to ensure that a representative sample can be taken. All components of the sampling system that come into contact with sample gases shall be cleaned according to requirements for direct canister sampling or manifold sampling, whichever is appropriate, prior to sample collection. Equipment blanks and field reference standards shall be collected through all the components of the sampling system that contact the headspace-gas sample. During sampling, openings in the pipe overpack container shall be sealed to prevent outside air from entering the container. A flow-indicating device shall be connected to sampling system and operated according to the direct canister or manifold sampling requirements, as appropriate. <p>(Section C1-1a(4)(iii))</p>					sampling for pipe overpack.
197c	<p>If sampling through a pipe overpack container filter vent hole is used, are the following criteria met?</p> <ul style="list-style-type: none"> The site has documentation that demonstrates that they have determined through testing the appropriate length of time for exchanging the filter with the sampling device to assure representative samples are collected. <p>(Section C1-1a(4)(iii))</p>	N/A	N/A	N/A	N/A	LANL/CCP does not perform HSG sampling for pipe overpack.
198	<p>Are procedures, process, and equipment adequate to ensure that samples collected through the drum lid by punching meet the following requirements:</p> <ul style="list-style-type: none"> The lid of the drum's 90-mil rigid poly liner shall contain a hole for venting to the drum. If the DAC for Scenario 1 is met, a sample may be collected from inside the 90-mil rigid poly liner. If headspace gas samples are collected from the drum headspace prior to venting the 90-mil rigid poly liner, the sample is not acceptable and a nonconformance report shall be prepared, submitted, and resolved. The drum lid shall be breached using a punch that forms an airtight seal between the drum lid and the manifold or canister The seal between the drum lid and the sampling head shall be designed to minimize the intrusion of ambient air 	N/A	N/A	N/A	N/A	LANL/CCP does not sample through drum lids.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<ul style="list-style-type: none"> All components of the sampling system that come in contact with sample gases shall be purged with humidified zero air, nitrogen, or helium prior to sample collection Equipment blanks and field reference standards shall be collected through all components of the punch that contact the headspace gas sample Pressure shall be applied to the punch until the drum lid has been breached Provisions shall be made to relieve excessive drum pressure increases during drum punch operations; potential pressure increases may occur during sealing of the drum punch to the drum lid The filter is sealed to prevent outside air from entering the drum (Section C1-1a(4)(ii))					
198a	<ul style="list-style-type: none"> A flow indicating device or pressure regulator to verify flow of gases shall be pneumatically connected to the drum punch and operated in the same manner as the flow indicating device Equipment are used to secure the drum punch sampling system to the drum lid If the headspace gas sample is not taken at the time of drum punching, the presence and diameter of the rigid liner vent hole is documented during the punching operation for use in determining an appropriate Scenario 2 DAC. (Section C1-1a(4)(ii))	N/A	N/A	N/A	N/A	LANL/CCP does not sample through drum lids.
QUALITY CONTROL SAMPLE COLLECTION						
199	Are procedures in place to ensure that the following QC sample requirements are met: <ul style="list-style-type: none"> Field QC samples are collected on per sample batch basis for manifold and direct canister sampling. A sampling batch is defined as up to 20 samples collected within 14 days of the first sample Field samples are collected and analyzed on a per on-line batch basis for on-line sampling/analysis systems. An on-line batch is defined as the number of headspace gas samples that are collected within a 12 hour period from the same on-line integrated analysis system For the manifold sampling method, field blanks, equipment blanks, field duplicates, and field reference samples are collected prior to sample collection on a per sampling batch basis or one per day, whichever is 	Bullet 1: CCP-TP-093 S. 2.6.4 CCP-TP-106 Att. 3 Bullet 2: N/A Bullet 3: N/A	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<p>more frequent</p> <ul style="list-style-type: none"> For the direct canister sampling method field blanks and field duplicates are collected on a per sampling batch basis prior to sample collection; while equipment blanks and field reference samples are collected after equipment purchase, cleaning, and assembly 	Bullet 4: CCP-TP-093 S. 4.4.5 (EB) S. 4.5.3 (FB) S. 4.5.4 (DUP) S. 4.5.6 (FRS)				
199a	<ul style="list-style-type: none"> For the On-line sampling method, field blanks, equipment blanks, field duplicates, and field reference samples are collected on a per on-line batch basis. <i>(Note: The on-line blank replaces the laboratory and equipment blanks, the on-line duplicate replaces the field duplicate and the laboratory duplicate, and the on-line sample control replace the field reference standard and the laboratory control sample.)</i> <p>(Section C1-1b, C1-1b(1), C1-1b(2), C1-1b(3), C1-1b(4))</p>	N/A	N/A	N/A	N/A	LANL/CCP does not use online sampling and analysis.
200	<p>Do procedures adequately assign the Site Project QA Officer with the responsibility of monitoring field QC results and initiate the nonconformance report process in the event the following acceptance criteria are not met or sample collection frequencies are not met:</p> <ul style="list-style-type: none"> Field and equipment blanks shall be less than 3 times the detection limits specified in Table C3-2 and equipment blank results determined by FTIR shall be less than the PRQL specified in Table C3-2 (Section C1-1b(1) and C1-1b(2)) Field reference standards shall have a recovery of between 70 and 130% (Table C1-3) Field Duplicates shall have an RPD of less than or equal to 25 <p>(C1-1b(4); Table C1-3)</p>	CCP-TP-001, Att. 10	Y	LAHSGS100002 ECL11003G ECL11003M LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4) CP:07:01294 – Report of Field Reference Standards Results for the Central Characterization Project – Los Alamos National Laboratory (GEN-11)	Y	LANL/CCP does not use FTIR.
201	<p>Are procedures in place to ensure that field reference standards meet the following criteria:</p> <ul style="list-style-type: none"> Field reference standards shall contain a minimum of 6 analytes listed in Table C3-2 at a range of between 10 and 100 ppmv and at concentrations greater than the MDL Field reference standards shall be traceable to a nationally recognized standard, if available 	Bullets 1–3 & 5: CCP-TP-093 S. 2.6.3 Bullet 4: CCP-TP-093, S. 2.3.1.[I] CCP-TP-106,	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1) Field Reference CP:07:01294 Scott specialty standard	Y	Field reference standards are not currently being performed at this time per CP:07:01294.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<ul style="list-style-type: none"> If commercial gases are used, they shall be accompanied by a Certificate of Analysis and all field reference standards are traceable to certificates. Commercial gases are not used past the manufacturer specified shelf life. Field reference samples are submitted blind to the laboratory at a frequency of one per sampling batch. (Note: Field reference standards may be discontinued for direct canister method if QAO accuracy objectives are met) (Section C1-1b(3))	Att. 3, #15		gases certificate (HSG-2)		
202	Are procedures in place to ensure that field duplicate samples are collected sequentially and in accordance with Table C1-1? (Section C1-1b(4))	CCP-TP-093 S. 4.5.4 (DUP)	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
SAMPLE EQUIPMENT TESTING, INSPECTION AND MAINTENANCE						
203	Are procedures in place to ensure that sample containers are cleaned in accordance with the following specifications: <ul style="list-style-type: none"> All sampling components that contact sample gases are constructed of inert materials such as stainless steel or Teflon® The sampling manifold and canisters are properly cleaned and leak checked prior to each sampling event in accordance to or equivalent with TO-14A or TO-15 methodology SUMMA® canisters or equivalent are cleaned on an equipment cleaning batch basis. An equipment cleaning batch is defined as the number of canisters that can be cleaned together at one time using the same cleaning method The cleaning system consists of an optional oven and a vacuum manifold which uses a dry vacuum pump or a cryogenic trap backed by an oil sealed pump Prior to cleaning a 24 hour leak check shall be performed (+/- 2 psig) on all canisters Canisters that shall be checked for leaks, repaired, and reprocessed One canister per equipment cleaning batch is filled with humid zero air or humid high purity nitrogen and analyzed for VOCs A batch is considered clean if VOC concentrations are less than 3 times the MDLs specified in Table C3-2 Certified leak-free canisters are evacuated to 0.1 mm Hg or less for 	N/A	N/A	N/A	N/A	LANL/CCP performs HSG sampling only. Cleaning operations are performed by INL/CCP and evaluated in a separate audit.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<p>storage</p> <ul style="list-style-type: none"> Canister cleaning certification documentation is available at the cleaning facility and the cleaning facility initiates canister tags. <p>(Section C1-1c, C1-1c(1))</p>					
204	<p>Are procedures in place to ensure that manifold pressure sensors and ambient air temperature sensors are certified prior to initial use and annually using NIST traceable standards? In addition OVAs if used shall be calibrated daily using known calibration gases and the balance of the OVA calibration is consistent with the manifold purge gas?</p> <p>(Section C1-1d)</p>	N/A	N/A	N/A	N/A	LANL/CCP performs HSG sampling only. Cleaning operations are performed by INL/CCP and evaluated in a separate audit.
205	<p>Are procedures in place to ensure that sampling equipment are cleaned and leak checked using the following specifications:</p> <ul style="list-style-type: none"> Surfaces of all sampling equipment that will come in contact with sample gases are thoroughly inspected and cleaned prior to assembly Manifolds and sampling heads shall be purged with humidified zero air, nitrogen, or helium and leak checked after assembly The cleaning shall be repeated if routine system cleaning is inadequate Manifolds and sampling heads which are reused shall be cleaned and leak checked according to procedures in the EPA's Compendium Method TO-14A or TO-15 after sample collection, field duplicate collection, field blank collection, and after the additional cleaning require for field reference samples. All manifold ports shall be capped or closed with valves (sample canisters may be attached as well) Manifolds are cleaned by heating the sample side of the manifold to 150 °C and periodically evacuated and flushed with humidified zero air, nitrogen, or helium Manifolds not in use are demonstrated as clean before storage with a positive pressure of humidified zero air, nitrogen, or helium gas in the sampling and standard sides Sampling is suspended when the analysis of an equipment blank indicated the if VOC limits have been exceeded or if a leak test fails Sampling systems are cleaned after field reference standard collection by installing a gas tight connector in place of the sampling head, between the flexible hose and purge assembly. This allows the sample and standard side to be flushed with humidified zero air, nitrogen, or helium in conjunction with heated pneumatic lines Needles, airtight fitting or seal, adapters, and filters are cleaned in 	N/A	N/A	N/A	N/A	LANL/CCP performs HSG sampling only. Cleaning operations are performed by INL/CCP and evaluated in a separate audit.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	accordance with the EPA Method TO-14A or TO-15 procedures. Sample heads shall be discarded or cleaned according to Method TO-15. In addition, the needle, the airtight fitting and seal, and the filter should be purged with zero air, nitrogen, or helium and capped for storage (Section C1-1c(2) , Section C1-1c(3), Section C1-1c(4), and Section C1-c(5))					
SAMPLE HANDLING AND CUSTODY						
207	Do formats for field logs and custody records specify documentation of the following information: <ul style="list-style-type: none"> Name of sampling facility Waste container identification number Sample identification number of each sample referenced to waste container Sample matrix Time and date of sample collection Type/number and size of sample container(s) Method of sample preservation Requested analyses Sampler(s) name through signature Signatures of custodians relinquishing and receiving custody of samples including date and time of transfer until time of final disposition Analytical laboratory Off-site shipping information (date, time, shipper, mode, air bill or lading number) (Section C1-5)	CCP-TP-093, S. 4.4.5[O] 4.5.3[K] 4.5.4[R] 4.5.5[V] 4.5.6[O] Att. 1	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
208	Are procedures are in place to ensure that samples and sampling equipment are identified with unique identification numbers? (Section C1-5)	CCP-TP-093 S. 4.5.3[J.1] S. 4.5.4[Q.1] S. 4.5.5[Q.1] S. 4.5.6[N.1] Att. 1	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	Canisters are provided by INL/CCP and audited separately.
209	Do sample tags or labels contain the following information: <ul style="list-style-type: none"> Sample Description 	CCP-TP-093 Att. 1	Y	LAHSGS100002 LAHSG1101	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<ul style="list-style-type: none"> Ambient temperature and pressure Sample identification number Analyses requested Date/Time of collection QC Designation (if applicable) Sampler's initials and organization (Section C1-5)			LAHSG1102 (HSG-1)		
210	All sampling equipment, canisters, and samples are identified with unique identification numbers that are traceable to equipment cleaning batches? (Section C1-5)	CCP-TP-093 S. 4.5.3[J] S. 4.5.4[Q] S. 4.5.5[Q] S. 4.5.6[N] Att. 1	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
211	Are procedures in place to ensure samples are sealed with intact custody seals and that one or more of the following custody conditions are met: <ul style="list-style-type: none"> It is in the possession of an authorized individual It is in the view of an authorized individual, after being in the possession of that individual It was in the possession of an authorized individual and access to the sample was controlled by locking or placement of signed custody seals that prevent undetected access It is in a designated secure area, such as a controlled access location with complete documentation of personnel access or a radiological containment area (hot cell or glove box) (Section C1-5)	CCP-TP-093 S. 4.6 NOTE; S. 4.6.1	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1) List of Qualified Individuals (HSG-4) Copies of HSG Operational Logbook (HSG-6)	Y	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
212	Are procedures in place to ensure that discrepant sample information, indications of damage, or indications of tampering are documented? (Section C1-5)	CCP-TP-093 S. 4.7 Att. 1	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
214	Are procedures in place to ensure that sample custody is maintained until the sample is released by the site project manager or expended? (Section C1-5)	PL CCP-TP-093, Att. 1	Y	LAHSGS100002 ECL11003G ECL11003M	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
		HG CCP-TP-093 Att. 1	Y	LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4) CP:10:01373 – Delegation of Authority to Release Central Characterization Project Headspace Gas Samples (GEN-12) LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	
215	Are procedures in place to ensure that SUMMA canisters are packaged to prevent damage to the pressure gauge or associated connections by packaging in metal boxes with separate compartments or cardboard boxes with foam inserts? (Section C1-6)	CCP-TP-093 S. 4.7	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	Interview with operator verified canisters provided by INL/CCP and packaged by INL/CCP. Canisters are returned in same shipping containers as received.
216	Are procedures in place to ensure that samples are packaged to prevent damage to the sample container and maintain preservation temperature? (Section C1-6)	CCP-TP-093 S. 4.7.1 S. 4.7.2	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1) M & TE List and Calibration Records (HSG-5)	Y	Interview with operator verified samples properly packaged.
217	Are procedures in place to ensure that adequate cold packs are included in the DOT approved sample shipping container to ensure that all temperature requirements are met? (Section C1-6)	CCP-TP-093 S. 4.7.1 S. 4.7.4	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1) M & TE List and Calibration Records (HSG-5)	Y	Min/max thermometers included in shipping containers to monitor sample temp.
218	Are procedures in place to ensure that sample COC forms are secured for shipment	CCP-TP-093	Y	LAHSGS100002	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	to the inside of the sealed or locked shipping container lid and that samples and shipping containers are affixed with tamper proof seals or devices? (Section C1-6)	S. 4.7.8 S. 4.7.9 S. 4.7.10		LAHSG1101 LAHSG1102 (HSG-1)		
219	Are procedures in place to ensure that an appropriate blank sample is included with each shipment container to detect any VOC cross-contamination? (Section C1-6)	N/A	N/A	N/A	N/A	This requirement is for solid waste samples. HSG samples all include a field blank which is used to monitor for contamination.
LABORATORY OPERATIONS						
220	Are procedures in place to ensure that all VOC analyses are evaluated using the following criteria: <ul style="list-style-type: none"> Precision is assessed by analyzing of laboratory duplicates, Laboratory Control Sample (LCS), and PDP blind-audit samples in comparison to Table C3-2 Accuracy is as %R shall be assessed by analyzing LCS samples and PDP blind audit samples in comparison to criteria in Table C3-3 MDLs are expressed in nanograms for VOCs and must be less than or equal to those listed in Table 3-2 Laboratory completeness shall be expressed as the number of samples analyzed with valid results as a percent of the total number of samples submitted for analysis. A composited sample is treated as one sample for the purposes of completeness, because only one sample is run through the analytical instrument Comparability shall be achieved through the use of standardized methods, traceable standards by requiring successful participation in the PDP program Representativeness will be achieved by collecting sufficient numbers of samples using clean sampling equipment that does not introduce sample bias. All method detection limits and program required detection limits shall be less than the Program Required Detection Limits listed in Table C3-2 and the detection limit study procedures shall be documented in laboratory SOPs. In addition, the laboratory shall demonstrate that they are capable of meeting the Program Required Detection Limits by analyzing at least one calibration standard below the PRQL (Section C3-5)	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
221	Are procedures in place to ensure that only laboratories that are qualified through	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	participation in the Performance Demonstration Program are eligible to analyze waste samples? (Section C-3a(3))					sampling. Analysis is performed at INL/CCP Lab.
222	Are procedures in place to ensure that Tentatively Identified Compounds shall be added to the target compound list if they are reported in 25% of the waste containers sampled from a given waste stream and if they appear in the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII list? (Section C-3a(1))	CCP-TP-003, S. 4.3	Y	LAHSGS100002 ECL11003G ECL11003M LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4) CP:10:01317 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Off- Site Source Recovery Project Sealed Sources Non-Pipe Overpack Components CP:10:01413 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Mixed Cemented Homogeneous Solid Waste from TA-55 (LA- CIN01.001) (GEN-5)	Y	
222a	Are procedures documented to ensure that the following criteria are met with regard to the recognition and reporting of TICS for GC/MS Methods for headspace gas sampling: <ul style="list-style-type: none"> Relative intensities of major ions in the reference spectrum (ions greater than 10% of the most abundant ion) should be present in the sample spectrum. The relative intensities of the major ions should agree within ± 20 percent. Molecular ions present in the reference spectrum should be present in the sample spectrum. Ions present in the sample spectrum but not in the reference spectrum 	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	<p>should be reviewed for possible background contamination or presence of coeluting compounds.</p> <ul style="list-style-type: none"> Ions present in the reference spectrum but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting peaks. The reference spectra used for identifying TICs shall include, at minimum, all of the available spectra for compounds that appear in the 20.4.1.200 NMAC (incorporating 40 CFR Part 261) Appendix VIII list. The reference spectra may be limited to VOCs when analyzing headspace gas samples. TICs for headspace gas analyses that are performed through FTIR analyses shall be identified in accordance with the specifications of SW-846 Method 8410. <p>(Section C3-1)</p>					
222b	<p>Are procedures in place to assure that TICs are reported as part of the analytical batch data reports for GC/MS Methods in accordance with the following minimum criteria:</p> <ul style="list-style-type: none"> a TIC in an individual container headspace gas or solids sample shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 10% of the area of the nearest internal standard. a TIC in a composited headspace gas sample that contains 2 to 5 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 2% of the area of the nearest internal standard. a TIC in a composited headspace gas sample that contains 6 to 10 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 1% of the area of the nearest internal standard. a TIC in a composited headspace gas sample that contains 11 to 20 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 0.5% of the area of the nearest internal standard. <p>(Section C3-1)</p>	N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
QUALITY ASSURANCE OBJECTIVES						
224	Are procedures in place to ensure that the precision of the headspace gas sampling	CCP-TP-093	Y	LAHSGS100002	Y	LANL/CCP only performs HSG

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	and analysis must be assessed by the sequential collection of field duplicates for manifold sampling operations or simultaneous collection of field duplicates for direct canister sampling operations for VOCs? (Section C3-2)	S. 4.5.4		LAHSG1101 LAHSG1102 (HSG-1)		sampling. Analysis is performed at INL/CCP Lab.
225	Are procedures in place to ensure that corrective action will be taken if the duplicate RPD exceeds 25% for any analyte found greater than the PRQL in both of the duplicate samples? (Section C3-2)	PL CCP-TP-001, S. 4.2 and Att. 10	Y	LAHSGS100002 ECL11003G ECL11003M LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4)	Y	
		HG N/A	N/A	N/A	N/A	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab. Performed at PL.
226	Are procedures in place to ensure that the accuracy of headspace gas sampling is assessed through the collection of field reference standards and at a frequency of one field response standard for every 20 containers sampled or per sampling batch and through the collection of equipment blanks at the frequency of one for every equipment cleaning batch ? (Section C3-2)	CCP-TP-093 S. 4.4.5 (EB) S. 4.5.3 (FB) S. 4.5.6 (FRS)	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1) Field Reference CP:07:01294 (HSG-2)	Y	
227	Are procedures in place to ensure that corrective actions are taken if the field reference standard is less than 70% recovery or greater than 130% and that if the blank concentration for any blank exceeds 3 times the MDL listings in Table C3-2? (Section C3-2)	PL CCP-TP-001, S. 4.2 and Att. 10	Y	LAHSGS100002 ECL11003G ECL11003M LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4) CP:07:01294 – Report of Field Reference Standards Results for the Central Characterization	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
		HG N/A	N/A	Project – Los Alamos National Laboratory (GEN-11) N/A	N/A	Performed at PL.
228	Are procedures in place to ensure that sampling completeness shall be expressed as the number of valid samples collected as a percent of the total number of samples collected for each waste stream, where a valid sample is defined as a sample collected in accordance with approved sampling methods and the drum was properly prepared for sampling? (Section C3-2)	CCP-TP-002, Att. 1 CCP-TP-106, Att. 3	Y	LAHSGS100002 ECL11003G ECL11003M LAHSG1101 ECL10028G ECL10028M LAHSG1102 ECL11001G ECL11001M (GEN-4) CP:10:01317 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources Non-Pipe Overpack Components CP:10:01413 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Mixed Cemented Homogeneous Solid Waste from TA-55 (LA-CIN01.001) (GEN-5)	Y	
229	Are procedures in place to ensure that the minimum sampling completeness percentage for any waste stream is 90 percent? (Section C3-2)	CCP-TP-002, Att. 1 CCP-TP-106, Att. 3	Y	CP:10:01317 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources Non-Pipe Overpack	Y	

	WAP Requirement ¹ LANL/CCP Recertification Audit, A-11-11 Table C6-4 Headspace Gas Checklist	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
				Components CP:10:01413 – Transmittal of Approved Waste Stream Profile Form for Los Alamos National Laboratory Mixed Cemented Homogeneous Solid Waste from TA-55 (LA- CIN01.001) (GEN-5)		
230	Are procedures in place to ensure that sample comparability is assured through the use and application of uniform procedures and equipment and application of data usability criteria, and that corrective action is taken if the uniform procedures and equipment are not used without approved and justified deviations? (Section C3-2)	CCP-TP-106 Att. 1,2 and 3	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.
231	Are procedures in place to ensure that sample representativeness is maintained? (Section C3-2)	CCP-TP-106 Att. 3	Y	LAHSGS100002 LAHSG1101 LAHSG1102 (HSG-1)	Y	LANL/CCP only performs HSG sampling. Analysis is performed at INL/CCP Lab.

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements is meant to ask whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

CCP-QP-002

Revision 31

CCP Training and Qualification Plan

EFFECTIVE DATE: 04/21/2011

Larry Porter

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
9	02/20/2002	Major rewrite to streamline and create a more concise procedure. Document reduced from 57 pages to 16 pages.
10	06/05/2002	Added References. Changes to CCP Technical Supervisor responsibilities. Added Training Evaluations to Records section. Deleted 4.2.5 Audit Personnel Qualifications. Other changes for clarification and consistency.
11	09/12/2002	Deleted Sections 3.3.2 and 3.3.3.
12	10/24/2002	Added Steps 3.8.2 and 3.8.3 in response to SRS Recertification Audit.
13	06/30/2003	Added NDE RTR Section, revised qualification letter and other minor editorial changes. Separated electronically fillable forms and updated references in procedure.
14	12/02/2003	Revision initiated to address CAR# 04-002 identified during CBFO audit A-04-03 and CAR# CCP-0009-03. Added information about RTR audio/videotapes and Capability Demonstrations. Added paragraph 4.2.3[A.5] discussing qualification card addenda. Added section 4.2.4[C] discussing FQAO appointment requirements.
15	03/10/2004	Added Capability Demonstration Instructions (Attachment 2) and CCP Capability Demonstration Data Sheet (Attachment 3 or CCP-QP-002-A1).
16	12/07/2004	Deleted the Technical Supervisor responsibilities section and incorporated them into the Vendor Project Manager responsibilities. Added partial qualification section. Removed requirement for the Site Project Manager to appoint the Facility Quality Assurance Officer by letter.
17	06/06/2005	Addressed CAR 05-029 and CAR 05-033 identified during Carlsbad Field Office (CBFO) Audits A-05-09 and A-05-12. Areas modified were qualification requirements for Nondestructive Assay (NDA) Expert Analyst and examination requirements for Central Characterization Project (CCP) Helium Leak Detection (HLD) Level III.
18	12/13/2005	Clarified roles and responsibilities in reviewing Capability Demonstration training audio/video media and modified Attachment 3 – CCP Capability Demonstration Data Sheet.
19	12/15/2005	Clarification for Level of Qualification in step 4.2.2[B.1].

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
20	05/03/2006	Addressed CAR-RHINL-0001-06. Incorporated Remote-Handled waste training and position requirements. Restructured for improved flow.
21	06/13/2006	Updated step 4.2.5 to delete the word "training" from the requirements for VE Operator/ITR/TS/FQAO.
22	11/16/2006	Revised to implement the Waste Isolation Pilot Plant Hazardous Waste Facility Permit requirements resulting from the Section 311/Remote-Handled (RH) Permit Modification Request (PMR). Addressed Carlsbad Field Office (CBFO) Document Review Record (DRR) comments.
23	02/01/2007	Revised to address CCP Quality Assurance Surveillance Number SUR-CCP-0005-06.
24	02/27/2007	Revised to address concern raised during Surveillance #S-07-18.
25	05/08/2007	Revised to address Corrective Action Report (CAR) SRS-0002-07.
26	02/07/2008	Revised to address U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 08-004.
27	09/30/2008	Revised to change nondestructive examination (NDE) to comply with Management Assessment MA-CCP-0023-08. Also revised Section 5.1.1[J] in response to Carlsbad Field Office (CBFO) Corrective Action Report (CAR) 08-036.
28	05/26/2010	Revised to address Corrective Action Report (CAR)-CCP-0012-09, to clarify Acceptable Knowledge (AK) briefings, training for solids lab, and approval process for training material. References to Central Characterization Project (CCP) Program Manager/Project Manager were removed and the responsibilities assigned to the Lead Site Project Manager and CCP Manager responsible for Training.
29	07/08/2010	Revised to incorporate changes into Attachment 4, CCP Test Drum Data Sheet for Contact-Handled Waste, and other minor editorial changes.
30	12/29/2010	Revised to bring into compliance with the revision of the <i>Waste Isolation Pilot Plant Hazardous Waste Facility Permit</i> .

RECORD OF REVISION (Continued)

Revision Number	Date Approved	Description of Revision
31	04/21/2011	Revised based on Revision 2 of the DOE/WIPP 02-3214, <i>Remote-Handled TRU Waste Characterization Program Implementation Plan.</i>

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1.0 PURPOSE

This plan describes the responsibilities of personnel involved in the Central Characterization Project (CCP) Qualification and Training Program. This plan also describes the process for identifying qualification and training requirements for all CCP personnel and technical support personnel, who perform characterization, packaging, certification, and activities.

1.1 Scope

This plan applies to all personnel who conduct quality-affecting activities under the CCP, including characterization, packaging, certification, and transportation, associated with transuranic (TRU) waste.

Personnel under this plan are qualified and trained to ensure suitable proficiency is achieved and maintained for assigned tasks. Training and qualification requirements are commensurate with the nature of the activities and level of responsibility.

Training will emphasize the correct performance of work, provide a description of why quality, safety, and TRU waste characterization and certification requirements exist, and describe the fundamentals of the work and its context.

Training will be subject to an on-going evaluation to determine instruction and training program effectiveness and will be upgraded whenever needed improvements or enhancements are identified.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- DOE/WIPP 02-3183, *CH Packaging Program Guidance*
- DOE/WIPP 02-3184, *CH Packaging Operations Manual*
- DOE/WIPP 02-3185, *CH Packaging Maintenance Manual*
- NRC Docket 71-9212, *RH-TRU 72B Safety Analysis Report*, Rev. 3, November 2002
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*

Referenced Documents

- DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- ASNT SNT-TC-1A, *Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing*, American Society for Nondestructive Testing (1980 Edition)
- ASTM C1490-01, *Standard Guide for the Selection, Training and Qualification of Nondestructive Assay (NDA) Personnel*
- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-QP-008, *CCP Records Management*
- CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel*
- CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*
- CCP-TP-510, *Remote-Handled Radiography Test and Training Drum Requirements*

3.0 RESPONSIBILITIES

NOTE

The CCP Certification Manager designates the Lead and Alternate Site Project Manager (SPM). The assigned alternate SPM performs the duty of the Lead SPM when the Lead is not available.

3.1 CCP Lead Site Project Manager (SPM)

- 3.1.1 Oversees CCP planning, characterization, and certification activities.
- 3.1.2 Ensures that CCP personnel are qualified and trained to perform their assigned job functions.
- 3.1.3 Determines initial and continuing qualification and training requirements for CCP positions in cooperation with appropriate CCP Manager responsible for Training and CCP Training to ensure job proficiency is maintained.
- 3.1.4 Notifies CCP Training of staffing changes and candidates for CCP job positions and provides supporting documentation (e.g., resumes, certificates, diplomas, training records).
- 3.1.5 Appoints Visual Examination Experts (VEE), Nondestructive Assay (NDA) Expert Analysts (EA), and the Remote-Handled (RH) Technical Staff.
- 3.1.6 Reviews and approves or disapproves CCP Qualification Cards.
- 3.1.7 Ensures project personnel who are assigned to perform project activities that affect quality:
 - [A] Are cognizant of the qualification and training requirements of this plan.
 - [B] Satisfy qualification and training requirements for the tasks associated with their assigned job classification(s).
- 3.1.8 Ensures the requirements of this plan are implemented, as follows:
 - [A] Personnel receive training and qualification, as necessary, to achieve initial proficiency, maintain proficiency, and adapt to changes in technology, methods, job responsibilities, and quality implementing procedures, prior to performing or

verifying any waste characterization, certification, or transportation activities for CCP.

- [B] Ensures a CCP Trainee has completed all indoctrination reading prior to accessing operations/equipment.

3.1.9 Appoints qualified personnel as Subject Matter Expert (SME)/On-the-Job Training (OJT) Instructors to CCP Training.

3.1.10 Ensures qualification and training documentation is complete and is submitted to CCP Training.

3.1.11 Evaluates and documents CCP personnel job performance at periodic intervals.

3.2 Vendor Project Manager (VPM)

3.2.1 May administer the annual eye examination test.

3.3 CCP Training

3.3.1 Determines initial and continuing qualification and training requirements for CCP positions in cooperation with appropriate SME/OJT Instructor, Cognizant Engineer (CE), and CCP Lead SPM using a graded approach that is commensurate with scope, complexity, and nature of the work to include:

- [A] Descriptions of the fundamentals of the work and the context in which the work is performed.

- [B] Identification of the applicable quality and safety requirements related to job performance.

- [C] Emphasis on the correct performance of work in accordance with established procedures and/or other relevant technical documents.

- [D] Inclusion of education in both principles and enhancement of skills.

3.3.2 Supports the CCP Lead SPM in evaluating training and qualification requirements of each position. This may be done by, but is not limited to, evaluating training requirements using a training analysis. The analysis will result in an approved task list from which tasks may or may not be selected for training. When

completed, the analysis will be signed by participants, and the task list reviewed and approved by the designated SME/OJT, CE, CCP Lead SPM, CCP Manager responsible for Training, and CCP Training for completeness of training requirements.

- 3.3.3 Develops, implements, and monitors training required to maintain qualification of personnel.
- 3.3.4 Ensures project-required training effectiveness is reviewed when the need for improvements or enhancements is identified, and ensures the training program is updated.
- 3.3.5 Maintains documentation of current CCP personnel training status.
- 3.3.6 Issues approved training materials and assists in the completion of qualifications and training activities.
- 3.3.7 Prepares CCP Qualification Cards.
- 3.3.8 Returns incomplete/incorrect training materials to candidate's manager, as applicable.
- 3.3.9 Ensures qualification, training records, and supporting documentation (including video and audio recorded media for test drum) are maintained, secured, and controlled in accordance with CCP-QP-008, *CCP Records Management*.
- 3.3.10 Prepares List of Qualified Individuals (LOQI). Delineating those individuals who have completed CCP Qualification Cards, and distributes to applicable site.
- 3.3.11 Reviews, develops, and approves Comprehensive Examinations for thoroughness and adequacy.
- 3.3.12 Reviews Nondestructive Examination (NDE) completed Attachment 4, CCP Test Drum Data Sheet for Contact-Handled Waste, video and audio recorded media to ensure compliance with CCP-TP-028, *CCP Radiographic Test Drum and Training Container Construction*, and CCP-TP-510, *CCP Remote-Handled Radiography Test and Training Drum Requirements*.

3.4 SME/OJT Instructor

NOTE

Before any OJT can be performed, it is necessary to initially qualify one SME/OJT Instructor for each discipline based on education and experience. The basis for SME/OJT Instructor qualification will be provided by a Lead SPM and documented in the applicable CCP Training files. The qualification is by discipline and is non-site specific. The basis for qualification will be used to complete a qualification card for the candidate as an SME/OJT Instructor. The successful candidate will be added to the appropriate LOQI(s) once the qualification card is complete.

The SME/OJT Instructor will have adequate education and/or technical knowledge in the applicable discipline, communication skills, and ability to provide trainees with hands-on experience, as determined by the Lead SPM. Technical knowledge may be based on experience with the applicable process or involvement in development of operational procedures or qualification requirements for the applicable process.

The designated Lead Transportation Certification Official (TCO) or alternate will designate SME/OJT appointments for Transportation Activities.

All SME/OJT candidates must complete the SME/OJT briefing and test.

- 3.4.1 Provides supervised hands-on training in the work environment to accomplish performance objectives of the training tasks.
- 3.4.2 Determines initial and continuing qualification and training requirements for CCP positions in cooperation with the CCP Lead SPM, CE, CCP Manager responsible for Training, and CCP Training.
- 3.4.3 Ensures trainee(s) have satisfactory knowledge of and competence in skills requirements, as defined on the CCP Qualification Card.
- 3.4.4 Signs and dates CCP Qualification Card, indicating acceptable performance levels are met.
- 3.4.5 Provides all training documentation generated to Lead SPM for review and approval.

3.5 CCP Personnel

- 3.5.1 Provides copies of their qualification documents (e.g., resumes, education and experience) to Lead SPM or CCP Training as applicable.
- 3.5.2 Completes initial training in accordance with this procedure, as stated on each individual's CCP Qualification Card.
- 3.5.3 Ensures qualification requirements are completed before performing assigned tasks without supervision.
- 3.5.4 Maintains requisite qualifications throughout the duration of work.
- 3.5.5 Attends CCP and site-specific training, as necessary.

3.6 CCP Trainee

- 3.6.1 Completes CCP Qualification Card(s) in a timely manner.
- 3.6.2 Works only under the supervision of a qualified operator or SME/OJT Instructor.

3.7 Facility Records Custodian

- 3.7.1 Receives, processes, and transmits records generated at the facility by this procedure in accordance with CCP-QP-008.

3.8 CCP Manager Responsible for Training

- 3.8.1 Reviews and approves all training material for applicability and technical quality.

3.9 Process Cognizant Engineer (CE)

- 3.9.1 The CE is designated by the CCP Manager based on their education, knowledge, and experience for the characterization process.
- 3.9.2 The CE has overall responsibility for the implementation and quality of the characterization activity.
- 3.9.3 The CE reviews all training material for applicability and technical quality.

4.0 PROCEDURE

4.1 General Training Requirements

4.1.1 Personnel selected to perform or verify CCP activities will have the education, experience, and training commensurate with job position requirements. The need for job position CCP Qualification Cards will be determined by the CCP Lead SPM, CE, and CCP Manager responsible for Training.

4.1.2 All training candidates are required to complete a CCP Qualification Card to verify that they possess the knowledge and skills necessary to competently perform specified tasks.

[A] CCP Qualification Cards technical content will be determined by the SME/OJT Instructor, CE, CCP Manager responsible for Training, and the CCP Lead SPM based on project requirements and federal and state regulations.

[B] All CCP Qualification Cards shall be issued by CCP Training. CCP Training will verify current revision, and that prerequisites are met.

[C] Upon completion of the CCP Qualification Card training, candidates are considered qualified to perform their respective duties.

[D] The CCP Qualification Cards will contain the following information:

[D.1] Name of job position.

[D.2] Revision number and effective date.

[D.3] Trainee's name and badge number, if applicable.

[D.4] Signature spaces for approvals of format, content, and use by SME/OJT, CE, CCP Lead SPM, and CCP Manager responsible for Training, as applicable.

[E] The CCP Qualification Card will be divided into the following parts, as applicable:

[E.1] Education/Experience.

[E.2] Job Specific Training (which may include):

- Indoctrination/Orientation
- Initial Reading
- Formal Training
- National Standards Certifications
- OJT
- Sign-off line and date for trainee
- Approval section for SME/OJT
- Approval Section for CCP Lead SPM

[E.3] If a CCP Qualification Card requires changes, the following is performed:

- (a) CCP Training, prepare the revised CCP Qualification Card, using the next sequential revision number.
- (b) CCP Training, route the revised Qualification Card to the following for review and approval: SME/OJT, CE, CCP Lead SPM, and CCP Manager responsible for Training.
- (c) CCP Training, upon approval, place a new effective date on the CCP Qualification Card and issue the Qualification Card.

[E.4] Other required formal training materials, such as the Waste Analysis Plan (WAP)/Quality Assurance Project Plan (QAPjP) Briefing or training determined by a training evaluation (i.e., classroom, OJT, or self-paced instruction) shall be approved for format, content, and use by, CCP Lead SPM and CCP Manager responsible for Training.

- (a) As initial and continuing qualification and training requirements change, these approved training materials shall be revised by CCP Training.
- (b) All approved training materials shall be maintained, secured, and controlled in the CCP Training area.

- [F] Operational Positions (e.g., NDE, NDA, etc.) require requalification every two (2) years. Exceptions are: Helium Leak Detection (HLD) Level III (Limited) has a three year requalification requirement. If necessary, additional training may be required by the CCP Lead SPM, or CCP Manager responsible for Training.
- [G] Requalification of Project Office positions is not required.
- [H] Unsatisfactory performance will result in disqualification by the CCP Manager responsible for Training. The candidate must successfully complete the initial CCP Qualification Card to re-establish qualification.

4.1.3 Completion of the Waste Isolation Pilot Plant (WIPP) WAP/QAPjP Briefing is a pre-requisite for all CCP personnel before they perform WIPP WAP specific tasks.

NOTE

Real-time radiography (RTR) and visual examination (VE) personnel shall be trained on newly developed and revised waste stream reports which change the waste generating processes, typical packaging configurations, and expected waste material parameters expected to be found in each Waste Matrix.

4.2 Waste Stream Summary Training

4.2.1 Lead SPM in conjunction with Acceptable Knowledge Expert (AKE), develop the training in the form of a briefing which identifies as a minimum the following:

- Specific waste generating processes
- Typical packaging configurations
- Waste material parameters for the waste matrix code

NOTE

Briefings on changes to existing waste stream reports which **DO NOT** affect specific waste generating processes, typical packaging configurations, and expected waste material parameters expected to be found in each waste matrix code are **NOT** required.

- 4.2.2 SPM, disseminate the briefing to the required RTR and VE personnel.
 - 4.2.3 SPM, notify the training department of the due date the waste stream report briefing must be completed by.
 - 4.2.4 RTR/VE personnel, acknowledge the completion of the briefing and send the acknowledgement (e.g., acknowledgement can be by an email, signed briefing sheet) of the briefing to CCP training.
 - 4.2.5 Training on the due date, update the LOQI identifying the personnel that have not completed the briefing and are not qualified to perform work on the identified waste stream.
- 4.3 Specific Qualification and Training Requirements
- 4.3.1 CCP Acceptable Knowledge (AK) Personnel
 - [A] Personnel assigned to compile, evaluate, and resolve discrepancies associated with CCP Acceptable Knowledge (AK) information, require the following:
 - [A.1] WIPP WAP Briefing.
 - [A.2] Waste Acceptance Criteria (WAC) knowledge.
 - [A.3] Training on Federal and State Resource Conservation and Recovery Act (RCRA) regulations associated with solid and hazardous waste determinations. Training requirement will be satisfied by documented completion of a formal RCRA training program, (e.g., a commercially available RCRA Seminar, or the CCP Lead SPM's documented evaluation of adequate training and/or experience).
 - [A.4] Knowledge of CCP procedures associated with:
 - (a) Waste characterization using AK.

- (b) CCP AK records development including AK discrepancy resolution.
- (c) Nonconformance Report (NCR)/Corrective Action Report (CAR) Process

[A.5] Knowledge of resolving and managing prohibited items as noted in nonconformance reporting.

[A.6] CCP AK personnel qualified in the RH waste program must also be proficient in:

- Understanding of the DOE/WIPP 02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- Training on determining radiological contents.

4.3.2 Real-time Radiography (RTR) Operator/Independent Technical Reviewer (ITR)

[A] Qualification Process

[A.1] An individual qualifying as an RTR Operator/Independent Technical Reviewer (ITR) is considered a trainee. A trainee will work only under the supervision of a qualified operator or SME/OJT Instructor.

[A.2] All RTR personnel will be trained to the guidance of American Society for Nondestructive Testing (ASNT) Recommended Practice Number SNT-TC-1A, modified to suit the CCP RTR application/method. An RTR Operator/ITR will:

- (a) Be qualified to set up and operate equipment, and to interpret and evaluate results with respect to applicable codes, standards, and specifications.
- (b) Be thoroughly familiar with the scope and limitations of RTR.
- (c) Exercise the responsibility for OJT and apprenticeship of trainees.

- (d) Be able to prepare written instructions.
 - (e) Be able to organize and report the results of RTR.
- [B] Education, Training, and Experience Requirements for Initial Qualification
- [B.1] Personnel considered for qualification in RTR must have sufficient education, training, and experience to ensure understanding of the principles and procedures.
 - [B.2] Education requirements are listed in Attachment 1, Minimum Education and Experience for other CCP Key Positions.
 - [B.3] Personnel being considered for qualification as an RTR Operator/ITR will complete organized training to become familiar with the principles and practices of the applicable RTR method.
 - [B.4] A certificate from an approved vendor stating that the individual operator is a qualified RTR operator Level II SNT-TC-1A.
 - [B.5] To be considered for qualification as an RTR Operator/ITR, the trainee must complete the following:
 - (a) Pass the required examinations in step 4.3.2[C].
 - (b) Complete OJT experience, knowledge, and practical requirements on the CCP Qualification Card.
 - [B.6] Any previous training and experience gained in a position similar to the RTR Operator/ITR position may be considered in satisfying the qualification criteria of this procedure and shall be documented in the CCP Training file (i.e., resume).

[C] Examinations

[C.1] Physical

- (a) All trainees will pass an initial eye examination to ensure natural or corrected near-distance acuity in at least one eye. The trainee must be capable of reading Jaeger Number 2 at a distance of not less than twelve (12) inches on a standard Jaeger test chart.
- (b) The eye examination will demonstrate the capability of distinguishing and differentiating contrast used in RTR.
- (c) The eye examination will be administered on an annual basis and the results maintained in the CCP Training files. The Vendor Project Managers (VPMs) at each site may administer the eye examination. Examination results are to be kept on file.

[C.2] General, Specific, and Practical Examinations

- (a) Pass a program-specific comprehensive exam with an 80 percent or better grade that addresses radiography operations, documentation, characterization, and procedural elements.

NOTE

A test drum (capability demonstration) is scanned upon initial qualification and subsequent requalification for Contact Handled Waste. Test drums are built to represent the waste matrix codes. The requirement for completing the test drum defined in the WCPIP is met by successfully completing the Training Container.

- (b) Successfully examine a test drum (capability/practical demonstration) that includes items common to the waste streams and representative of the waste matrix codes and WAC required items. Test drums are performed using Attachment 3, Test Drum Instructions for Contact-Handled Waste Drums. Documentation required for test drums is as follows:

- (b.1) CCP RTR Test Drum Inventory Sheet used to document the construction of the test drums.
- (b.2) Attachment 4, CCP Test Drum Data Sheet for Contact-Handled Waste.
- (b.3) Video and audio recorded media of the test drum.

NOTE

A Training Container with items which can be identified by RTR, items that are representative of the physical properties of the waste based on AK documentation reviewed (including internal containers of various sizes with various amounts of liquid), and prohibited items (for example, liquids in excess of one percent), will be scanned, during Qualification, Requalification and semiannually by each Contact-Handled (CH) and RH operator. The audio/video recording will then be reviewed by the CE to ensure that operator's interpretations remain consistent and accurate. Training containers are performed using Attachment 5, Training Container Instructions.

- (c) Successfully examine a Training Container and identify 100 percent of the items required to meet the Data Quality Objectives (DQO's) for radiography. Documentation required for Training Containers is as follows:
 - (c.1) CCP NDE Training Container Inventory Sheet (from CCP-TP-028) used to document the construction of the training containers.
 - (c.2) Attachment 6, Training Container Evaluation Data Sheet
 - (c.3) Video and audio recorded media of the Training Container

[D] Qualification

- [D.1] Successful qualification of the RTR Operator/ITR is documented by completing the CCP Qualification Card.
- [D.2] To maintain qualifications, the CH and RH RTR Operator/ITR must perform a Training Container

semiannually, documented on Attachment 6, Training Container Evaluation Data Sheet.

[D.3] Complete an annual eye examination.

[E] Requalification

[E.1] Requalification is based on evidence of satisfactory performance of a test drum and a training container, pass a comprehensive exam with a grade of 80 percent or better grade that addresses radiography operations, documentation, characterization, and procedural elements, once every two years. If necessary, additional training may be required by the SME/OJT, CCP Lead SPM, CE, or CCP Manager responsible for Training.

4.3.3 Transportation personnel who require qualification in HLD are trained in accordance with CCP-QP-030, *CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel* and documented on Attachment 1, CCP HLD Qualification Card of CCP-QP-030.

4.3.4 NDA EA requires the completion of a CCP EA Qualification Card.

4.3.5 Head Space Gas (HSG) Analysis personnel are those who perform functions outlined in Attachment 1 (e.g., Gas Chromatography/Mass Spectrometry and Operators).

[A] Minimum education and experience requirements are identified in Attachment 1.

[B] Competency and verification will be documented in CCP Training files, outlining analytical experience and employment history.

4.3.6 Solid Analysis personnel are those who perform functions outlined in Attachment 1.

[A] Minimum education and experience requirements are identified in Attachment 1.

[B] Competency and verification will be documented in CCP Training files, outlining analytical experience and employment history.

4.3.7 Visual Examination (VE) Operator/ITR

- [A] For the initial qualification and subsequent requalification, the Operator/ITR must:
 - [A.1] Pass comprehensive exam with an 80 percent or better grade that addresses VE operations, documentation, characterization, formal training elements, and procedural elements.
 - [A.2] VE Operators must demonstrate capability in the presence of the site VEE during OJT. However, the formal and OJT training is conducted by a qualified SME.

4.4 Appointments

NOTE

The CCP Lead SPM will appoint one or more VEE(s), NDA EA(s), and RH Technical Staff personnel in writing. The VEE will, in addition to qualification as a VE Operator/ITR, be knowledgeable of the waste stream being characterized. The NDA EA will have sufficient background experience to interpret and update assay data to meet the WAC. RH Technical Staff will meet the minimum requirements identified in Attachment 2, Other Required Minimum Training, Education, and Experience.

4.4.1 For VEE candidate(s), the CCP Lead SPM performs the following:

- [A] Review the training files for qualification/familiarity to waste stream, experience handling TRU waste, and VE Operator qualifications.
- [B] Provide written notification to CCP Training delineating the candidate's qualifications and experience.

4.4.2 For NDA EA candidate(s), the CCP Lead SPM will perform the following:

- [A] Review the training files for experience and background in nuclear spectroscopy data interpretation and reporting and NDA qualifications.
- [B] Provide written notification to CCP Training delineating the candidate's qualifications and experience.

5.0 RECORDS

5.1 Records generated during the performance of this plan are maintained as quality assurance (QA) records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Nonpermanent Records

- [A] Written Notification of Appointment
- [B] Letters to CCP Training
- [C] Correspondence
- [D] Certificates of Completion
- [E] Qualification and training records
 - [E.1] OJT records
 - [E.2] Completed exams
 - [E.3] CCP Qualification Card and addendum, if applicable
- [F] Training materials (e.g., course presentation, exam)
- [G] Training evaluations (which may include a Table-Top Job Analysis)
- [H] Attachment 4, CCP Test Drum Data Sheet for Contact-Handled Waste
 - [H.1] Audio and Video Recording media (primary and backup)
- [I] Attachment 6, Training Container Evaluation Data Sheet
 - [I.1] Audio and Video Recording media (primary and backup)
- [J] Resumes as applicable
- [K] Comprehensive Examinations
- [L] WAP Briefing

[M] Eye Examination (Medical)

- CCP-QP-030 Attachment 5 – CCP Annual Record of Eye Examination, when applicable
- Attachment 7 – CCP Annual Record of RTR Eye Examination, when applicable
- Independent Eye Examination (from medical facility), when applicable

Attachment 1 – Minimum Education and Experience for other CCP Key Positions

Personnel	Requirements
Radiography Operators	Site specific training based on waste matrix codes and waste material parameters; requalification every two years
FTIRS Technical Supervisors ^b FTIRS Operators ^c	Site-specific and on-the-job training based on the site-specific FTIRS ^a system; requalification every two years.
Gas Chromatography Technical Supervisors ^b Gas Chromatography Operators ^c	B.S. or equivalent experience and six months previous applicable experience ^a
Gas Chromatography/Mass Spectrometry Operators ^c Mass Spectrometry Operators ^c	B.S. or equivalent experience and one year independent spectral interpretation or demonstrated expertise ^a
Gas Chromatography/Mass Spectrometry Technical Supervisors ^b Mass Spectrometry Technical Supervisors ^b Atomic Absorption Spectroscopy Technical Supervisors ^b Atomic Absorption Spectroscopy Operators ^c Atomic Mass Spectrometry Operators ^c Atomic Emission Spectroscopy Operators ^c	B.S. or equivalent experience and one year applicable experience ^a
Atomic Mass Spectrometry Technical Supervisors ^b	B.S. and specialized training in Atomic Mass Spectrometry and two years applicable experience ^a
Atomic Emission Spectroscopy Technical Supervisors ^b	B.S. and specialized training in Atomic Emission Spectroscopy and two years applicable experience ^a

^a Based on requirements contained in *USEPA Contract Laboratory Program Statement of Work for Organics Analysis* (Document Number OLM 01.0) and *Statement of Work for Inorganics Analysis* (Document Number ILM 03.0).

^b Technical Supervisors are those persons responsible for the overall technical operation and development of a specific laboratory technique. QAPjPs shall include the site-specific title for this position.

^c Operators are those persons responsible for the actual operation of analytical equipment. QAPjPs shall include the site-specific title for this position.

Attachment 2 – Other Required Minimum Training, Education, and Experience

Personnel	Education/Experience
1. Nondestructive Assay (NDA)	
NDA Personnel	In accordance with ASTM C1490, <i>Standard Guide for Selection, Training, and Qualification of Nondestructive Assay (NDA) Personnel</i> ; ANSI N15.54, <i>Radiometric Calorimeters- Measurement Control Program</i>
2. Technical Staff	
RH Technical Staff	<p>B.S. Nuclear Engineering or the equivalent knowledge and experience to perform assigned tasks, including:</p> <ul style="list-style-type: none"> • Calculation of reactor neutron spectra • Generate ORIGEN format cross sections • Perform ORIGEN isotope generation and depletion calculations • Ensure that appropriate samples are collected and analyzed from waste • Perform shielding calculation of waste containers <p style="text-align: center;">OR</p> <p>B.S. degree in statistics or the equivalent knowledge and experiences to problem assigned tasks, including:</p> <ul style="list-style-type: none"> • Develop Sampling plan to obtain representative samples of waste. <p>Propagate uncertainties to determine Total Measurement Uncertainty.</p>
RH Technical Reviewer	<ul style="list-style-type: none"> • Equivalent qualifications necessary to have originally performed the task under review. <p>At least five years experience in the technical area applicable to the review task.</p>

Attachment 3 – Test Drum Instructions for Contact-Handled Waste Drums

OPERATOR

- 1.0 In the presence of the RTR SME/OJT Instructor, perform the following:
 - 1.1 Pre-start operations and video and audio recording media system setup of the RTR equipment per site approved radiography operating procedure.
 - 1.2 Load the test drum into the RTR unit.
 - 1.3 Complete Blocks 1 through 4 of Attachment 4.
 - 1.4 Perform scan of the test drum and complete Blocks 5 and 6 of Attachment 4. Provide a detailed description (including content) of all items found within the container.
 - 1.5 Forward the video and audio recording media to the RTR SME/OJT Instructor.

SME/OJT INSTRUCTOR

- 2.0 Observe the test drum and complete Attachment 4 as follows:
 - 2.1 **IF** the Operator has correctly identified the items within the test drum, **THEN** check PASS in Block 9, print name, sign, and date Block 10, **AND** forward the video and audio recording media and Attachment 4 to the Facility Records Custodian.
 - 2.2 **IF** the Operator **DOES NOT** identify all WAC required prohibited items in Block 8 on Attachment 4 correctly, **THEN** perform the following:
 - 2.2.1 Document unidentified WAC required prohibited items in Block 8 on Attachment 4.
 - 2.2.2 Check FAIL in Block 9 of Attachment 4.
 - 2.2.3 Print name, sign, and date in Block 10 of Attachment 4.
 - 2.2.4 Notify Lead SPM and CCP Training.
 - 2.2.5 Forward Attachment 4 and the video and audio recording media to the Facility Records Custodian.

Attachment 3 - Test Drum Instructions for Contact-Handled Waste Drums (Continued)

NOTE

NDE Personnel who fail the test drum will be requalified after meeting initial qualification requirements.

- 2.3 **IF** any items (other than WAC-required items) were not identified, **THEN** discuss and document the noted discrepancies with the Operator, **AND** provide documentation along with the required test drum documentation.
- 2.3.1 Document unidentified items on Attachment 4 **AND** discuss with the Operator.
- 2.3.2 Check PASS in Block 9 of Attachment 4.
- 2.3.3 Print name, sign, and date in Block 10 of Attachment 4.
- 2.3.4 Forward Attachment 4 with the video and audio recording media to the Facility Records Custodian.

FACILITY RECORDS CUSTODIAN

- 3.0 Transmit the video and audio recording media and Attachment 4 to CCP Training in accordance with CCP-QP-008.

CCP TRAINING

- 4.0 Ensure receipt of all required test drum documentation stated in step 4.3.2[C.2](b) of CCP-QP-002.
- 5.0 Review
- 5.1 Review the test video and audio recording media for clarity.
- 5.2 Compare drum inventory sheets with Test Drum Data Sheets to ensure that all WAC required items were identified by the Operator.
- 5.3 Review Attachment 4 for signature completeness.
- 5.4 **IF** the above criteria is **NOT** completed, **THEN** notify the SME/OJT Instructor and VPM.

Attachment 3 - Test Drum Instructions for Contact-Handled Waste Drums (Continued)

- 6.0 **IF** notified by the SME/OJT Instructor that a currently qualified Operator has failed the test drum,
THEN perform the following:
- 6.1 Remove the Operator from the LOQI.
 - 6.2 Notify the Lead SPM.
 - 6.3 Issue a blank CCP Qualification Card to the Operator to initiate restart of all qualification requirements.
- 7.0 **IF** Attachment 4 indicates PASS,
THEN perform the following:
- 7.1 Print name, sign, and date in Block 11 of Attachment 4, **AND** update CCP Training files and the LOQI.

Attachment 4 – CCP Test Drum Data Sheet for Contact-Handled Waste

1. Name:	
2. Test drum #:	3. Date of demonstration:
4. Video and audio recording media label:	
5. Container inventory (Provide detailed description)	
6. Operator printed name: _____	
Operator signature: _____ Date: _____	

Attachment 4 – CCP Test Drum Data Sheet for Contact-Handled Waste (Continued)

Name:		Badge #:	
8. As SME/OJT Instructor, I observed the above demonstration and discussed the below missed items with the Operator.			
WAC Required items missed by Operator (check applicable items)		Other items missed by Operator	
<input type="checkbox"/>	Aerosol can with puncture		
<input type="checkbox"/>	Horsetail bag		
<input type="checkbox"/>	Pair of coveralls		
<input type="checkbox"/>	Empty bottle		
<input type="checkbox"/>	Irregular shaped pieces of wood		
<input type="checkbox"/>	Empty one gallon paint can		
<input type="checkbox"/>	Full container		
<input type="checkbox"/>	Aerosol can with fluid		
<input type="checkbox"/>	One gallon bottle with three tablespoons of fluid		
<input type="checkbox"/>	One gallon bottle with one cup of fluid (upside down)		
<input type="checkbox"/>	Leaded glove or leaded apron		
<input type="checkbox"/>	Wrench		
9. I have assigned a grade based on the review above.			
10. SME/OJT Instructor printed name:			
SME/OJT Instructor signature:		Date:	
11. The video and audio recorded media has been reviewed for clarity, all required items were identified by the Operator, and all signatures have been verified.			
CCP Training Printed Name:			
CCP Training Signature:		Date:	

| Attachment 5 – Training Container Instructions

OPERATOR

- 1.0 Perform the following:
 - 1.1 Verify the NDE unit and video/audio system is configured to run the training container.
 - 1.2 Load the training container into the NDE unit.
 - 1.3 Perform scan of the training container, identifying training container, detailed description of contents including container sizes and volumes of liquid if prohibited.

Forward the video and audio recording media to the RTRCE.

RTRCE

- | 2.0 Complete information required in Blocks 1-5 of Attachment 6.
- | 3.0 Review the Training Container scan and document discrepancies (accuracy and consistency) in Block 6 on Attachment 6.
- | 4.0 Record in Block 7 on Attachment 6 if the operator passed or failed based on them identifying the DQOs.
- 5.0 Sign, Print, and Date Attachment 6.
- | 6.0 Forward Attachment 6 and the video and audio recording media to the CCP Training.

CCP TRAINING

- 7.0 Ensure receipt of all required documentation
 - 7.1 Update CCP Training files and the LOQI.

