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 Carlsbad Field Office  
 Carlsbad, New Mexico 88221


DATE: MAY - 3 2011

REPLY TO  
ATTN OF: CBFO:OQA:MPN:MAG:11-0530:UFC 2300.00

SUBJECT: Interim Audit Report for Recertification Audit A-11-10 of the Hanford Site Central Characterization Project

TO: Mr. Larry Romine , DOE-RL

The Carlsbad Field Office (CBFO) conducted Recertification Audit A-11-10 of the Hanford Site (HNF) Central Characterization Project (CCP) on April 5-7, 2011. The CBFO Interim Audit Report is attached.

The audit team concluded that the HNF/CCP implementing procedures are adequate relative to the flow-down of requirements. The audit team determined that the HNF/CCP quality assurance and technical requirements are satisfactorily implemented and are effective in all areas evaluated.

As a result of the audit, two CBFO Corrective Action Reports (CARs) were issued. Two conditions adverse to quality, isolated in nature, were corrected during the audit. The audit team offered four recommendations to HNF/CCP management for consideration.

If you have any questions or comments, please contact me at (575) 234-7483.

Martin P. Navarrete  
 Acting Director, Office of Quality Assurance

## Attachment

cc: w/attachment

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Y. Salmon, WTS/CCP	ED	E. Bradford, CTAC	ED
J. Hoff, WTS	ED	K. D. Martin, CTAC	ED
M. A. Mullins, WTS	ED	WIPP Operating Record	
T. Peake, EPA	ED	CBFO QA File	
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**U.S. DEPARTMENT OF ENERGY  
CARLSBAD FIELD OFFICE  
INTERIM AUDIT REPORT  
OF THE  
HANFORD SITE CENTRAL CHARACTERIZATION PROJECT  
RICHLAND, WASHINGTON  
AND CARLSBAD, NEW MEXICO**

**AUDIT NUMBER A-11-10**

**April 5 – 7, 2011**

**TRU WASTE CHARACTERIZATION AND CERTIFICATION ACTIVITIES**



Prepared by: *A. Earl Bradford*  
A. Earl Bradford, CTAC  
Audit Team Leader

Date: 5/3/11

Approved by: *Martin P. Navarrete*  
Martin P. Navarrete, CBFO  
Acting Quality Assurance Director

Date: 5-3-11

## 1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Recertification Audit A-11-10 was conducted to evaluate the adequacy, implementation, and effectiveness of Hanford (HNF) Site transuranic (TRU) waste characterization activities performed for HNF by the Washington TRU Solutions (WTS) Central Characterization Project (CCP), relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the *CBFO Quality Assurance Program Document (QAPD)*, the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*, and the *CCP Contact-Handled Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*.

The audit team evaluated contact-handled (CH) Summary Category Groups (SCGs) S3000 homogeneous solids waste and S5000 debris waste, in addition to other technical elements, quality assurance (QA) elements, and transportation activities. The specific items audited are listed in section 2.1.

The audit was conducted at the Hanford Site facilities near Richland, WA, and the WTS/CCP facilities in Carlsbad, NM, April 5 – 7, 2011. The audit team concluded that overall, the HNF-CCP technical and QA programs, as applicable to audited activities, were adequately established for compliance with the applicable upper-tier requirements. The audit team verified that the HNF-CCP program for characterization and certification activities related to S5000 debris waste continues to be adequate, satisfactorily implemented, and effective. The audit team also verified that characterization and certification activities related to CH SCG S3000 homogeneous solids waste, were adequate, satisfactorily implemented, and effective. Initial operations related to the High Energy Real-Time Radiography (HERTR) nondestructive examination (NDE) system to characterize standard waste boxes (SWBs) were determined to be adequate, satisfactorily implemented, and effective. Initial operations related to the Super High Energy Neutron Counter (Super-HENC) to characterize SWBs were also determined to be adequate, satisfactorily implemented, and effective. The audit team determined that the HNF-CCP QA and technical requirements are being satisfactorily implemented and are effective in all areas evaluated.

The audit team identified two conditions adverse to quality (CAQs), resulting in the issuance of CBFO Corrective Action Reports (CARs) 11-028 and 11-029. The CARs were identified during the evaluation of the project-level data validation and verification process and the evaluation of the HERTR system and are discussed in detail in sections 5.4.2, 5.4.5, and 6.1.

Two deficiencies, isolated in nature and requiring only remedial corrective actions, were identified and corrected during the audit (CDA). The corrections were verified by the audit team prior to the end of the audit (see section 6.2). No Observations resulted from the audit. Four Recommendations were offered for management consideration and are described in section 6.4.

## 2.0 SCOPE AND PURPOSE

### 2.1 Scope

The audit team evaluated the continued adequacy, implementation, and effectiveness of the HNF-CCP TRU waste characterization and certification activities for CH SCG S5000 debris waste. In addition, the audit team evaluated the adequacy, implementation, and effectiveness of the HNF-CCP TRU waste characterization and certification activities for CH SCG S3000 homogeneous solids waste, as well as CH transportation activities. The audit team evaluated the addition of two new processes, a HERTR NDE unit and a new Super-HENC nondestructive assay (NDA) system, both with the capability for evaluating SWBs.

The following general requirements of the HWFP Attachment C6, Section C6-3, were considered during the audit:

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

The following program elements were evaluated:

#### Quality Assurance

- Personnel Qualification and Training
- Nonconformance Reporting
- Records

#### Technical

- Acceptable Knowledge (AK)
- Data Validation and Verification (V&V) (Project and Generation Level)
- Headspace Gas Sampling (HSG)
- Solids/Soils Sampling and Analysis
- Real-Time Radiography (RTR)
- Visual Examination (VE)
- Nondestructive Assay (NDA)
- Performance Demonstration Program (PDP)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)
- Waste Certification (e.g., Waste Stream Profile Forms (WSPFs))
- Flammable Gas Analysis
- Container Management

#### TRUPACT-II Operations/Waste Certification/Transportation

- Packaging Operations
- Payload Assembly
- Leak Testing
- Shipping

The evaluation of HNF-CCP TRU waste characterization and transportation activities and documents was based on current revisions of the following documents:

Hazardous Waste Facility Permit, Waste Isolation Pilot Plant EPA No. NM4890139088-TSDF, the New Mexico Environment Department (HWFP)  
*CBFO Quality Assurance Program Document (QAPD)*, DOE/CBFO-94-1012  
*Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant Project (WAC)*, DOE/WIPP-02-3122  
*CCP Transuranic Waste Characterization Quality Assurance Project Plan (QAPjP)*, CCP-PO-001  
*CCP Transuranic Waste Certification Plan*, CCP-PO-002  
*CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*, CCP-PO-003  
 Related technical and quality assurance implementing procedures

## 2.2 Purpose

The audit team evaluated the adequacy, implementation, and effectiveness of HNF-CCP TRU waste activities as they relate to the WIPP HWFP for CH SCGs S3000 homogeneous solids and S5000 debris waste. The audit team also evaluated the CH waste transportation activities and the capabilities of the HERTR unit and the Super-HENC NDA system for characterization of 55/85-gallon drums and SWBs.

## 3.0 AUDIT TEAM AND OBSERVERS

### AUDITORS/TECHNICAL SPECIALISTS

Earl Bradford	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Charlie Riggs	Auditor, CTAC
Prissy Martinez	Auditor, CTAC
Rick Castillo	Auditor, CTAC
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## **OBSERVERS**

Howard Budweg	CBFO Office of the National TRU Program (NTP)
Steve Holmes	New Mexico Environment Department (NMED)
Timothy Hall	NMED
Ricardo Maestas	NMED

## **4.0 AUDIT PARTICIPANTS**

HNF-CCP personnel contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at the Hanford Site Area 200 West in building 2740WA, and at the Skeen-Whitlock Building, in Carlsbad, NM, on April 5, 2011. Daily briefings were held with HNF-CCP management and staff to discuss issues and potential deficiencies. The audit was concluded with a post-audit meeting held at the Hanford Site Area 200 West, in building 2740WA, and via teleconference with personnel at the Skeen-Whitlock Building, on April 7, 2011.

## **5.0 SUMMARY OF AUDIT RESULTS**

### **5.1 Program Adequacy, Implementation, and Effectiveness**

This audit was performed to assess the ability of the HNF-CCP to characterize CH SCG S3000 homogeneous solids and S5000 debris waste to the requirements specified in the CBFO QAPD, the HWFP *Waste Analysis Plan* (WAP), and the WAC. The related characterization methods assessed were AK, HSG Sampling and Analysis, Solids Sampling and Analysis, RTR, VE, and NDA. Other areas evaluated were project-level data V&V, data quality objective (DQO) reconciliation, the preparation of WSPFs, WWIS/WDS data entry, the PDP, CH waste transportation and selected elements of the HNF-CCP QA program.

The audit team concluded that the applicable HNF-CCP TRU waste characterization activities, as described in the associated HNF-CCP implementing procedures, are satisfactory in meeting upper-tier requirements. Attachment 2 contains a Summary Table of Audit Results. Attachment 3 contains a table of documents evaluated during the audit. Attachment 4 is a list of the processes and equipment evaluated during the audit. Details of audit activities are described below.

### **5.2 General Program Evaluation**

#### **5.2.1 Results of Previous Audits**

The results of the initial CBFO certification Audit A-10-07 of HNF-CCP were examined and the audit team determined that the concerns identified in the initial audit had been addressed.

## **5.2.2 Changes in Program or Operations**

The HNF-CCP program elected to expand their characterization and certification activities to allow characterization, certification and transportation of SCG S3000, homogeneous solid waste.

## **5.2.3 New Programs or Activities Being Implemented**

The addition of a new HERTR NDE system and a Super-HENC NDA system has been implemented so the HNF-CCP will have the capability to characterize and certify SWBs.

## **5.2.4 Changes in Key Personnel**

No changes in key personnel have been made since the performance of Audit A-10-07.

## **5.3 Quality Assurance Activities**

### Personnel Qualification and Training

The audit team verified that HNF-CCP met the requirements of QAPD Section 1.2, Personnel Qualification and Training. The audit team conducted interviews with responsible personnel and reviewed implementing Procedure CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*. The audit team confirmed the procedure adequately addresses upper-tier requirements. Personnel training records associated with VE, RTR, NDA, DTC, HSG Sampling, Transportation and Packaging Operations, AK, and Site Project Management were examined to verify implementation of associated requirements and personnel performing characterization activities are appropriately qualified. The audit team reviewed training qualification cards and other pertinent training qualification documentation, including attendance sheets/briefings on newly revised AK summaries for RTR and VE operators, test drums, training container documentation, and eye exams.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for personnel qualification and training are adequate, satisfactorily implemented, and effective.

### Nonconformance Reporting

The audit team verified that the HNF-CCP met the requirements of QAPD Section 1.3, Quality Improvement. Implementing Procedure CCP-QP-005, Rev. 19, *CCP TRU Nonconforming Item Reporting and Control*, was reviewed to determine the degree to which the procedure adequately addressed upper-tier requirements. The audit team interviewed the resident QA engineer, and randomly selected the following NCRs for evaluation: NCR-RL-0619-10, NCR-RL-0626-10, NCR-RL-0637-10, NCR-RL-0100-11, NCR-RL-0608-11, NCR-RL-2127-11, and NCR-RL-2130-11.

The audit team confirmed that the deficiencies are being appropriately documented and tracked through resolution as required. Four NCRs (NCR-RL-0505-10, NCR-RL-0513-10, NCR-RL-0501-11, NCR-RL-0502-11) documented non-administrative deficiencies first identified at the site project manager (SPM) level, and were confirmed to be reported to the Permittee within the 7-day requirement. All NCRs were verified as being managed and tracked in the CCP Integrated Data Center (IDC), and on the CCP NCR Logs.

While reviewing NCRs, the audit team discovered an obvious typographical error on several NCR forms. The audit team determined that the obvious error had been identified and corrected by the HNF-CCP. Although the process had been corrected to prevent recurrence, the audit team recommended that the record copies of the NCRs be corrected (see Recommendation 2).

Overall, nonconformance reporting activities were determined to be adequate, satisfactorily implemented, and effective.

### Records

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The procedure review included CCP-PO-001, Rev. 18, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-008, Rev. 17, *CCP Records Management*; and CCP-QP-028, Rev. 12, *CCP Records Filing, Inventory, Scheduling, and Dispositioning*. Control of QA records was verified through review of the CH Records Inventory and Disposition Schedule (RIDS) dated 3/15/11. No concerns were identified.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for QA records are adequate, satisfactorily implemented, and effective.

## **5.4 Technical Activities**

Evaluations of applicable HNF-CCP technical activities are summarized in the following subsections.

### **5.4.1 Acceptable Knowledge**

The audit team reviewed the AK documentation for a CH SCG S5000 TRU debris waste stream in conjunction with a recertification audit of the HNF-CCP. In addition, the AK record for an CH S3000 TRU mixed waste stream was examined in an effort to certify HNF-CCP for the characterization and certification of S3000 solids. The specific waste streams examined included RLM325D.001, a TRU mixed waste debris stream from Building 325, and waste stream RLCCPPUNIT, a TRU solidified plutonium nitrate stream from the Plutonium Finishing Plant (PFP). The AK Summaries reviewed were CCP-AK-RL-102, Rev. 1, and CCP-AK-RL-116, Rev. 0 respectively.



The objective evidence reviewed included the AK Summary Reports listed above, numerous AK source documents, an approved WSPF for RLM325D.001, a draft WSPF for RLCCPPUNIT and batch data reports (BDRs) for HSG sampling and analysis, solids sampling and analysis, RTR, and NDA.

Random container selection memos for HSG lots 1 and 2 were reviewed, along with corresponding HSG Summary Reports. In addition, the random container selection memo for solids sampling and sample analysis (SS&SA), prepared by Hanford for the corresponding waste stream to RLM325D.001 was examined. HNF-CCP incorporated the SS&SA results developed by Hanford after project-level review by HNF-CCP staff.

The audit team reviewed 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, along with the justification for waste material parameter weight estimates (attachment 6); the Radionuclides List (attachment 7) with a copy of the AK/NDA memo; and the AK Container List (attachment 8) for each waste stream. The audit team reviewed the add container memos for the RLM325D.001 debris stream.

Documentation of the resolution of AK discrepancies was reviewed. NCRs dealing with prohibited items and the most recent internal surveillance related to AK were also reviewed along with screenshots from the IDC and Solid Waste Information Tracking System (SWITS) databases and copies of the AK tracking spreadsheets.

Training records were reviewed for AK experts (AKEs) and SPMs. The WAP-required container traceability exercise was conducted for a total of six waste containers, two from the HSG lot, one from the SS&SA lot, and three other containers selected from those that had completed the certification process. AK characterization checklists and data reconciling characterization testing were also reviewed.

The audit team identified and documented three concerns. The first concern consisted of a list of recommended changes to the AK Summaries that dealt with clarifications to the text and addressing sections of the NMED WAP revision matrix (see Recommendation 1). The second concern dealt with the need to provide a projected volume for waste stream RLM325D.001. The third concern identified an inconsistency in the waste material parameter weight estimates between the AK Summary and AK attachment 6 for waste stream RLCCPPUNIT. The second and third concerns were corrected during the audit and closure documentation was verified by the audit team prior to the audit exit meeting (see CDA 1 and CDA 2).

Overall, the AK Program was determined to be adequate in addressing the requirements of the WAP and WAC, satisfactory in the implementation of the requirements, and effective in achieving the desired results.

#### 5.4.2 Project-Level Validation and Verification

The audit team verified that project-level reviews were performed to assess of the data collected as a result of the on-going waste characterization implementing procedures. The audit team evaluated the ability of the HNF-CCP to characterize SCG S5000 debris waste and SCG S3000 solids waste. The objective evidence reviewed included BDRs completed through SPM review for NDE, VE, HSG sampling and analysis, and SS&SA. The audit team reviewed procedures and objective evidence to ensure the HNF-CCP adequately performed data reconciliation activities and properly prepared WSPFs.

Objective evidence was reviewed to determine the adequacy of the SPM V&V procedures. Evidence included BDRs from each of the waste characterization activities.

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

Compliance with the characterization requirements of the WAP was demonstrated through documentation and demonstration of characterization activities. The project-level data V&V process was evaluated by reviewing the following BDRs:

##### NDE

RLRTRA0073  
RLRTRA0114  
RLRTRA0163  
RLRTRA0174  
RLRTRB0156

##### VE

RLVEPF0023  
RLVEPF0029  
RLVEPF0031

##### Headspace Gas Sampling and Analysis

RLHSGS100002	RLHSGS100004	RLHSGS100006
ECL10016G	ECL10020G	ECL10030G
ECL10016M	ECL10020M	ECL10030M

##### Solids Sampling and Analysis

SSC08-00002  
ALD08020V  
ALD08020S  
ALD08043M  
ALD08012N

The BDRs cited above were used to demonstrate confirmation of AK, to reconcile DQOs, and to prepare WSPFs MPFPDD, RLM325D.001, and RLCCPPUNIT. Objective evidence was reviewed to ensure project-level activities were adequately performed to support waste characterization.

The quarterly repeat reviews of data generation-level BDRs and characterization requirements for NDE, HSG, Solids, and VE were not available. HNF-CCP had not completed quarterly data reviews since the initial certification audit was performed. This resulted in the issuance of CBFO CAR 11-028.

A review was performed of the WSPF Characterization Information Summary (WSPF/CIS) for S5000 and S3000 waste streams. The randomly selected containers evaluated for these waste streams had properly completed WSPF/CISs. HNF-CCP provided evidence of proper compliance and review for the random selection of the S3000 solids transfer from the Hanford Site to CCP. This review included the CCP SPM checklists for the BDRs and evaluation by the project engineer for the proper evaluation of the random selection of the containers reported.

HNF-CCP performs HSG sampling using SUMMA<sup>®</sup> canisters. Sampling BDRs RLHSGS100002, RLHSGS100004, and RLHSGS100006 for 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. The HSG analysis of the SUMMA<sup>®</sup> samples, as well as the training and qualification of V&V personnel, were reviewed by the audit team. The analysis and reporting of the Field Reference Standard (FRS) was accurately completed. Notice of HSG sample disposition was properly reported. No concerns were identified.

The audit team concluded that the HNF-CCP HSG sampling and analysis V&V processes were adequate, satisfactorily implemented, and effective.

The HNF-CCP NDE and VE project-level processes were evaluated to determine the effectiveness of NDE and VE as characterization methods. BDRs RLRTRA0073, RLRTRA0114, RLRTRA0163, RLRTRA0174, and RLRTRB0156 were reviewed. VE BDRs RLVEPF0023, RLVEPF0029, and RLVEPF0031 were also evaluated by the audit team. No concerns were identified.

The audit team concluded that the HNF-CCP NDE and VE processes were adequate, satisfactorily implemented, and effective.

Project -level data V&V for NDA was evaluated by the audit team using characterization reports RLGEAA0006, RLGEAA0139, RLGEAB0099, RLGEA0139, RLGEAB0143, RLNDAB11001, and RLNDAB11003. These BDRs and supporting documentation were found to be satisfactory, and the V&V effective. No concerns were identified.

Overall, project-level activities were determined to be adequate, satisfactorily implemented, and effective.

### **5.4.3 Headspace Gas Sampling and Analysis**

The audit team conducted interviews and examined related records in the area of HNF-CCP HSG sampling activities. HNF-CCP performs HSG sampling using SUMMA<sup>®</sup> canisters for sample collection. Samples are then shipped to the Idaho National Laboratory (INL) for analysis.

The audit team reviewed sampling BDRs RLHSGS100005 and RLHSGS100006. Documentation for the FRS was verified to be compliant. Random selection of drums to be sampled was verified. The audit team conducted an examination of the sampling area and sampling equipment and found them acceptable. The audit team confirmed that training and qualification of sampling personnel were acceptable and in accordance with requirements. The audit team verified that measuring and test equipment (M&TE) was properly calibrated and acceptable. No concerns were identified.

Overall, the HSG sampling activities were determined to be adequate, satisfactorily implemented, and effective.

### **5.4.4 Solids Sampling and Analysis**

Solids sampling and analysis and associated data generation-level V&V are performed at INL under a separate certified programs. However, the audit team did evaluate the random selection requirements for solids sampling, along with the associated BDRs. Additionally, the audit team evaluated the results of the analysis developed by the prior Hanford TRU Program and utilized by the HNF-CCP as part of the project-level data V&V evaluations. No concerns were identified.

Overall, the audit team determined that the requirements for solids sampling and analysis were adequate, satisfactorily implemented, and effective.

### **5.4.5 Real-Time-Radiography**

The audit team evaluated the adequacy, implementation, and effectiveness of HNF-CCP RTR process for characterizing CH SCG S3000 solids waste and S5000 CH debris waste.

The audit team reviewed Procedures CCP-TP-028, Rev. 6, *CCP Radiographic Test and Training Drum Requirements*; CCP-TP-053, Rev. 10, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*; CCP-TP-068, Rev. 8, *CCP Standardized Container Management*; CCP-TP-198, Rev. 2, *CCP HE-RTR Operating Procedure*; and CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*, and determined that the procedures adequately addressed upper-tier requirements.

The audit team examined training records, including the training and test container audio/visual recordings associated with four RTR operators, and concluded the records were adequate and the operators' qualifications were acceptable and current.

The audit team toured building 2366W to observe operation of the RTR A and RTR B units. The audit team witnessed the scan of container RL0071852 on the RTR A unit. The audit team toured building MO654 and evaluated the HERTR system. The audit team witnessed the scan of SWB RL0037537 performed on the HERTR system.

The audit team examined the following CH RTR BDRs to verify implementation and compliance with the requirements for documenting RTR activities, as stipulated in CCP-TP-053. The listed BDRs were generated by RTR activities from each of the three RTR units that were reviewed during the audit:

RTR A Unit

RLRTRA0073  
RLRTRA0080  
RLRTRA0105  
RLRTRA0163  
RLRTRA0174  
RLRTRA0175  
RLRTRA0176

RTR B Unit

RLRTRB0050  
RLRTRB0112  
RLRTRB0153  
RLRTRB0156  
RLRTRB0161

HERTR Unit

RLRTR010001  
RLRTR010002  
RLRTR010003  
RLRTR010004

Three concerns were identified during evaluation of the RTR processes. Packaging materials were being called out as "Rad Pads" and had been improperly categorized and recorded as waste in Section 3, of the Container Inventory and Comments, Attachment 2, for containers RL0006943, RL0005912, and RL0005923 in BDR RLRTRA0174. The RTR operator verbally identified the "Rad Pads" during the RTR Scan of the referenced containers. The "Rad Pads" were located between the liner and the bottom of the drum. Therefore, they should have been identified as packaging material and the estimated weights recorded in Section 4.

The AK Summary Report CCP-AK-RL-116, Rev. 0, identified the packaging material as universal polypropylene (UPP) absorbent pads. Section 5.5, of the summary report states, "There is a number of UPP absorbent pads (typically about 18), placed between the liner and the bottom of the drum." In addition, the CCP Standing Order, CCP-SO-RL-01, Rev. 3, used as an aid by the operators, did not address the identification or weights of the packaging material (UPP) (CAR 11-029).

The audit team identified a concern while reviewing the audio/video records generated while using the HERTR Unit. The RTR operator was not using the cursor for its intended purpose of making adjustments to the image contrast. The audit team observed the RTR operator identifying container contents using the cursor. This practice could influence the person performing independent observations. The audit team recommended that the cursor not be used to identify container contents (see Recommendation 3).

The audit team noticed that section 2 of the radiography data sheet was primarily intended for 55-gallon drums, and did not provide for identification of SWB bag liners. The audit team recommended that the data sheet be revised to allow the identification of SWB bag liners (Attachment 2 –CCP Radiography Data Sheet, Section 2, Waste Container Data, from CCP-TP-053) (see Recommendation 4).

Overall, RTR activities were determined to be adequate in addressing upper-tier requirements, satisfactory in implementation of these requirements, and effective in achieving the desired results.

#### **5.4.6 Visual Examination**

The audit team evaluated the adequacy, implementation, and effectiveness of the HNF-CCP VE process for characterizing SCG S5000 CH debris waste.

Procedures CCP-TP-113, Rev 15, *CCP Standard Contact-Handled Waste Visual Examination*, and CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*, were reviewed to determine their adequacy in addressing upper-tier requirements. The audit team determined that the procedures are adequate in addressing requirements.

VE operations in the PFP were not being conducted at the time of the audit. The VE process at the PFP has been evaluated during previous audits. The audit team interviewed VE personnel and verified continued corrective action implementation of CBFO CAR 10-019, issued during CBFO certification Audit A-10-07.

HNF-CCP uses the two-operator method when performing VE characterization, i.e., two qualified operators visually examined the waste and placed it into SWBs and 55-gallon drums.

The audit team examined training records for five VE operators and concluded the required training was adequate and qualifications were current. The audit team verified that briefings to revisions of AK Summaries have been documented and included in the training packages. The audit team also confirmed the appointment of the HNF-CCP VE Expert (VEE) as required.

The audit team examined the following CH VE BDRs to verify implementation and compliance with the requirements for documenting VE activities, as stipulated in CCP-TP-113:

RLVEPF0022  
RLVEPF0023  
RLVEPF0025  
RLVEPF0026  
RLVEPF0027  
RLVEPF0029  
RLVEPF0031

Overall, VE activities were determined to be adequate in addressing upper-tier requirements, satisfactory in implementation of these requirements, and effective in achieving the desired results.

#### **5.4.7 Nondestructive Assay**

The audit team evaluated the adequacy, implementation, and effectiveness of the NDA systems at the HNF-CCP Waste Receiving and Processing (WRAP) facility and the MO-610 pad next to the 2404 Warehouse C, which are to characterize waste from SCGs S3000 and S5000. Systems at the WRAP facility include two Gamma Energy Assay (GEA) units (GEA-A and GEA-B) and a Super-HENC.

Based on a review of the current revisions of HNF-CCP procedures, calibration reports, and other support and technical documents provided prior to and during the audit, checklists were prepared and used to evaluate each system for:

- System stability as evidenced by the implementation and effectiveness of daily and weekly measurement controls, calibration verifications, and weekly interfering matrix checks
- Applicability of each system's calibration and operational range to the matrix, geometry and radionuclide content of samples assayed
- Determination of the number of containers assayed, completed NDA BDRs and BDRs that had been through project-level review
- Participation in the most recent CBFO-sponsored NDA PDP cycle
- Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Personnel qualification and training

The audit team interviewed HNF-CCP NDA personnel and their support contractors, observed equipment and practices, and examined electronic and paper copies of records.

HNF-CCP personnel performed calibration confirmations and calibration verifications on the Super-HENC. These activities are documented in BII-5169-C&VR-001, Rev. 3, and CCP-SHENCA-10-002, Rev. 0.

The operating range for the two GEA units is defined as greater than .01g and less than 325g weapons grade plutonium. The lower limit is established by the system's lower limit of detection (LLD) and the upper limit is set administratively because of the transportation limit of 325g in a TRUPACT-II. For high-density waste matrices with radionuclides identified by low energy gamma rays (gamma energy < 200 keV and density > .657g/cc) expert analysis review and approval of the results is required.

The Super-HENC is a passive neutron assay system that operates in both standard neutron coincidence mode and neutron multiplicity mode. In coincidence mode, the calibration limits of the system are defined in terms of the  $\text{Pu}^{240}_{\text{eff}}$  mass. The calibration ranges from the LLD to 30.1g  $\text{Pu}^{240}_{\text{eff}}$ . The Super-HENC uses an add-a-source (AAS) measurement with a Cf-252 source used to correct for matrix effects.

The Super-HENC is operated by a version of the Los Alamos National Laboratory (LANL) Neutron Coincidence Counting (NCC) software. The software (SUPRHENC.exe Version 2.0) controls the data acquisition and analyses and the AAS movement, and contains all the calibration and exception handling functions.

A single High-Purity Germanium (HPGe) detector is used to acquire isotopic distribution information. Gamma data are acquired using Ortec's MAESTRO software (MCA32.exe Version 6.03). Gamma and neutron data integration is performed with the software Neutron-Gamma Integration (NGI.exe Version 2.0).

Overall, the audit team concluded the three NDA systems and related procedures were adequate, satisfactorily implemented, and effective.

#### **5.4.8 Performance Demonstration Program**

HNF-CCP does not participate in the PDP for HSG since the analyses are performed at INL under a separately approved program. The solids sampling and analyses are also performed at INL under a separately approved program. HNF-CCP did participate in the NDA PDP program for performing SWB measurements. Supplemental PDP Box Cycle B10B data were reported on March 1, 2011, for sample boxes that contained combustibles and mixed metals matrices.

At the close of Audit A-11-10, no final results were available to serve as objective evidence that the Super-HENC had successfully participated in the PDP. Subsequent to the audit, CBFO issued an approval letter acknowledging the Super-HENC's successful participation in the PDP.

#### **5.4.9 WIPP Waste Information System/Waste Data System**

The audit team evaluated implementation of the CCP TRU Waste Certification and WWIS/WDS data entry procedure for use with the WWIS/WDS data entry spreadsheet. The evaluation included data population of the 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 HNF-CCP WWIS/WDS waste certification packages for CH waste. The first waste certification package reviewed was RL0058382 for waste stream RLM325D.001. The second waste certification package reviewed was RL0070203 and RL0070204 for waste stream RLMPFPDD. No concerns were identified.

Overall, the WWIS/WDS activities were determined to be adequate, satisfactorily implemented, and effective.

#### **5.4.10 Container Management**

Container management activities were evaluated by a walk-through of HNF-CCP container storage areas, examination of shipping documents, an interview with the CCP Container Management Specialist (CMS), and observation of the inspection and weighing of several drums. HNF-CCP personnel are trained in accordance with Procedure CCP-TP-068, *Standardized Container Management*. The CCP CMS verifies the movement and storage of containers. The CMS tracks containers by obtaining and verifying container numbers in the CCP database.

Waste manifests for CH outgoing shipments were verified compliant by the audit team. Storage of containers ready for shipment was verified to be satisfactory in precluding ineligible containers from being shipped to WIPP. The audit team verified that containers with NCRs are segregated from other containers through the use of reverse segregation. A controlled area has been established for containers that have been fully certified for shipment.

Overall, the container management activities were determined to be adequate, satisfactorily implemented, and effective.

#### **5.4.11 Flammable Gas Analysis**

The audit team evaluated flammable gas sampling and analysis operations at HNF-CCP by examining sampling and analysis equipment, observing sampling and analysis operations, conducting personnel interviews, and reviewing selected BDRs.

Three BDRs, RL11FG10010, RL11FG10015, and RL11FG10039, were reviewed against DOE/WIPP-06-3345, Rev. 3.2, and were found to be satisfactory. Initial and continuing calibrations (ICAL), determination of minimum detection limit (MDL), records management, container analysis via WIPP TRAMPAC Evaluation Software (WTES) in the WDS, and personnel qualifications were verified. Laboratory notebooks, standard certification and M&TE certification were found to be compliant.

Overall, flammable gas sampling and analysis activities were determined to be adequate, satisfactorily implemented, and effective.

## **5.5 TRUPACT-II Operations/Waste Certification/Transportation**

The audit team evaluated transportation activities performed for the HNF-CCP by the CCP transportation team. The evaluation included observation of receipt of empty TRUPACT-II for units 200, 135 and 178, TRUPACT-II maintenance, container integrity, payload preparation operations. Loading and leak testing were evaluated for shipment RL110028. The audit team observed the loading of CH payloads for TRUPACT-II units 200, 135, and 178.

The audit team interviewed personnel and observed receipt and maintenance of empty transport vessels, payload preparation and container integrity examinations, and loading of TRUPACT-IIs. The audit team examined shipping documentation, verified M&TE calibration, examined personnel training and qualification documentation, and observed WCO and Transportation Certification Official (TCO) activities.

Overall, transportation activities were determined to be adequate, satisfactorily implemented, and effective.

## **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.

Two CAQs necessitating the generation of two CARs resulted from this audit, one in the area of project-level data V&V and one related to documentation of items identified while performing RTR. Both CARs were transmitted to HNF/CCP management.

#### **CAR 11-028**

Quarterly repeat reviews of the generation-level BDRs have not been performed by the cognizant SPM since the start of the CCP characterization processes at the Hanford Site. The required quarterly reviews were not addressed in the third or fourth quarter of 2010 or the first quarter of 2011.

## **CAR 11-029**

Packaging materials were being called out as "Rad Pads" and had been improperly categorized and recorded as waste in Section 3, of the Container Inventory and Comments, Attachment 2, for containers RL0006943, RL0005912, and RL0005923 in BDR RLRTRA0174. The RTR operator verbally identified the "Rad Pads" during the RTR Scan of the referenced containers. The "Rad Pads" were located between the liner and the bottom of the drum. Therefore, they should have been identified as packaging material and the estimated weights recorded in Section 4.

NOTE: The AK Summary Report CCP-AK-RL-116, Rev. 0, identified the packaging material as universal polypropylene (UPP) absorbent pads. Section 5.5, of the summary report states, "There is a number of UPP absorbent pads (typically about 18), placed between the liner and the bottom of the drum."

In addition, the CCP Standing Order, CCP-SO-RL-01, Rev. 3, used by the operators as an aid, did not address the identification or weights of the packaging material (UPP).

### **6.2 Deficiencies Corrected During the Audit**

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant.

Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit. 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 according to the definition below.

CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. Correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), and one or two individuals that have not completed a reading assignment.

Two CDAs were identified during the audit.

#### **CDA 1**

The future projected volume of waste stream RLM325D.001 did not appear in the AK Summary, the WSPF, or the Aspects of AK Summary attachment to the WSPF. The projected volume was listed on AK attachment 8, but there was no reference to support the numbers. These data were added as required and verified by the audit team prior to audit closeout.

## **CDA 2**

The waste material parameter weight estimates in table 2 for waste stream RLCCPPUNIT were incorrect. The numbers were calculated as volume percents in error. The numbers reported in attachment 6 and supported by the waste material parameter weight estimates memo were correct. The corrected data were added and verified by the audit team prior to audit closeout.

### **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.

There were no Observations identified during the audit.

### **6.4 Recommendations**

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

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

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

The audit team presented four Recommendations to HNF-CCP for management consideration.

#### **Recommendation 1**

The audit team recommended that changes be made to the two AK Summary Reports for waste streams RLM325D.001 and RLCCPPUNIT to provide clarity and consistency and to address a few items in the AK WAP requirements matrix developed during the Oak Ridge National Laboratory (ORNL) audit. CCP had already developed freeze files for these two documents and credit was given for self-identification with some additions made to each file. The recommended changes were provided to the HNF-CCP AK personnel prior to close of the audit.

**Recommendation 2**

While reviewing NCRs, the audit team discovered an obvious typographical error on several NCR forms. Section 19, item (b) had been filled in with "Return to hoist site," while the entry should have been "Return to host site." The audit team determined that the obvious error had been identified and corrected by the HNF-CCP. Although the process had been corrected to prevent recurrence, the audit team recommended that the record copies of the NCRs be corrected.

**Recommendation 3**

The audit team identified a concern while reviewing the audio/video records generated while using the HERTR unit. The RTR operator was not using the cursor for its intended purpose, which is to make adjustments to the image contrast. The audit team observed the RTR operator identifying container contents using the cursor. This practice could influence the person performing independent observations. The audit team recommended that the cursor not be used to identify container contents.

**Recommendation 4**

The audit team noticed that section 2 of the radiography data sheet was primarily intended for 55-gallon drums and did not provide for identification of SWB bag liners. The audit team recommended that the data sheet be revised to allow the identification of SWB bag liners (Attachment 2 –CCP Radiography Data Sheet, section 2, Waste Container Data, from CCP-TP-053).

**7.0 LIST OF ATTACHMENTS**

Attachment 1: Personnel Contacted During the Audit

Attachment 2: Summary Table of Audit Results

Attachment 3: Table of Documents Audited

Attachment 4: Processes and Equipment Reviewed During Audit A-11-10

**PERSONNEL CONTACTED DURING THE AUDIT**

<b>PERSONNEL CONTACTED DURING AUDIT A-11-10</b>				
<b>NAME</b>	<b>TITLE/ORG</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST AUDIT MEETING</b>
Almanza, Chrishan	NDA/CCP	X	X	
Ankron, James	Line Manager/CHPRC		X	
Atwood, Alyca	RTR ITR/CCP		X	
Bannister, Rolan	Manager TRU Repackaging/CHPRC			X
Billett, Michele	Training/CCP		X	
Branaman, James	Operator/MLU/CCP		X	
Buck, Jason	Records/CCP	X		
Cannon, Val	CCP QA Manager; WTS/CCP			X
Clark, Lawrence	TCO/MLU/CCP		X	X
Derosa, David	TRU Project/CHPRC	X		X
Doherty, Mark	CCP AKE/Tech. Specs.		X	
Fesmire, Court	CBFO NTP	X		
Fisher, A J	CCP Senior Technical Advisor;CCP	X	X	X
Gillespie, Bruce	MCS NDA/Canberra	X	X	
Gomez, Chris	QA/CCP	X	X	
Greager, Eric	STR/CHPRC	X		
Groover, Terri Anne	VPM/CCP	X	X	
Houdashelt, Robert	WMC/MLU/CCP		X	X
Harvill, Joe	NDA Lead/CCP	X	X	
Heath, Jeremy	NDA Operator/CCP	X	X	X
Lee, Ronnie	SQS PM/CCP			X
Lyles, Eric	RTR Operator/MCS		X	
Martin, Ryan	Training/CCP		X	

PERSONNEL CONTACTED DURING AUDIT A-11-10				
NAME	TITLE/ORG	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
McCarthy, Ed	Director of TRU Programs/CHPRC			X
McElhaney, Sam	NDA EA	X	X	
Morales, Bart	NDA/MCS EA/Canberra	X	X	
Nance, Sheri	CCP AKE/Tech. Specs.		X	
Navarrete, Martin	Senior QA Representative/CBFO	X		
Pearcy, Mark	SPM/CCP	X	X	X
Pearcy, Sheila	Records Manager/CCP	X	X	
Pennala, Eric	MCS/GM	X		
Ploetz, DK	Manager/CCP			X
Porter, Larry	RTR Lead/CCP	X	X	X
Pyeatt, Brandy	WCO/RCT/CCP			
Pyles, Gary	TRU Project/DOE-RL			X
Ramirez, Mike	WCO/CCP	X	X	
Reed, Charles	Container Management/CCP		X	X
Reeves, Ron	PM/CCP	X	X	X
Schaffer, Steve	CCP AKE/Tech. Specs.		X	
Sensibaugh, Michael	SRS/CCP Project Manager; WTS/CCP	X		X
Simpson, Kenneth	RTR/CCP	X	X	X
Smith, Travis	CCP AKE/Tech. Specs.		X	
Templeton, Bret	NDA/MCS	X	X	X
Vesely, Jeremy	RTR/MCS		X	
Wachter, Joseph	MCS/Tech Dir/MCS	X	X	
Waldram, Veronica	SPM/CCP	X	X	X
Walker, Mak	QA CAR Coordinator/CCP	X		

<b>PERSONNEL CONTACTED DURING AUDIT A-11-10</b>				
<b>NAME</b>	<b>TITLE/ORG</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST AUDIT MEETING</b>
Walters, Eddy	HSG/CCP	X	X	X
Watts, Heather	FGA/NFT	X		
Weaver, Mark	QAE/CCP	X		X
Zentner, Deborah	VEE SME/CCP	X	X	X



**Summary Table of Audit Results**

Documents	Concern Classification				Program Status		
	CARs	CDAs	OBSs	RECs	Adequacy	Implementation	Effectiveness
<b>Activity</b>							
Training					A	S	E
Nonconformance Reporting				1	A	S	E
Records					A	S	E
Project Level V&V	1				A	S	E
Acceptable Knowledge		2		1	A	S	E
Headspace Gas Sampling/Solids Sampling					A	S	E
Real-Time-Radiography	1			2	A	S	E
Visual Examination					A	S	E
Nondestructive Assay					A	S	E*
WWISWDS					A	S	E
Flammable Gas Analysis					A	S	E
Transportation					A	S	E
<b>TOTALS</b>	<b>2</b>	<b>2</b>		<b>4</b>	<b>A</b>	<b>S</b>	<b>E</b>

**Definitions**

E = Effective  
S = Satisfactory  
I = Indeterminate  
M=Marginal

CAR = Corrective Action Report  
CDA = Corrected During Audit  
NE = Not Effective  
Obs = Observation

Rec = Recommendation  
A = Adequate  
NA = Not Adequate

\*The Super-HENC NDA system was evaluated during the audit and found to be adequate with the exception that the CBFO PDP report had not been issued. The PDP report was issued subsequent to the audit and verified to be satisfactory.

<b>TABLE OF DOCUMENTS AUDITED</b>			
Item	Procedure No.	Rev. No.	Document Title
1.	CCP-PO-001	R19	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	R25	CCP Transuranic Waste Certification Plan
3.	CCP-PO-003	R12	CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)
4.	CCP-QP-002	R30	CCP Training and Qualification Plan
5.	CCP-QP-005	R19	CCP TRU Nonconforming Item Reporting and Control
6.	CCP-QP-008	R17	CCP Records Management
7.	CCP-QP-011	R10	CCP Laboratory Logbooks
8.	CCP-QP-016	R12	CCP Control of Measuring and Testing Equipment
9.	CCP-QP-023	R3	CCP Handling, Storage, and Shipping
10.	CCP-QP-028	R12	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
11.	CCP-QP-030	R8	CCP Written Practice for the Qualification of CCP Helium Leak Detection Personnel
12.	CCP-TP-001	R19	CCP Project Level Data Validation and Verification
13.	CCP-TP-002	R23	CCP Reconciliation of DQOs and Reporting Characterization Data
14.	CCP-TP-003	R18	CCP Data Analysis for S3000, S4000, and S5000 Characterization
15.	CCP-TP-005	R21	CCP Acceptable Knowledge Documentation
16.	CCP-TP-028	R6	CCP Radiographic Test and Training Drum Requirements
17.	CCP-TP-030	R28	CCP TRU Waste Certification and WWIS/WDS Data Entry
18.	CCP-TP-033	R18	CCP Shipping of CH TRU Waste
19.	CCP-TP-053	R10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
20.	CCP-TP-055	R4	CCP Varian Porta-Test Leak Detector Operations
21.	CCP-TP-058	R3	CCP NDA Performance Demonstration Program
22.	CCP-TP-068	R8	CCP Standardized Container Management
23.	CCP-TP-086	R15	CCP CH Packaging Payload Assembly
24.	CCP-TP-070	R0	CCP Gamma Energy Assay (GEA) Calibration, Confirmation and Verification Procedure
25.	CCP-TP-071	R1	CCP Gamma Energy Assay (GEA) Operating Procedure
26.	CCP-TP-072	R1	CCP Gamma Energy Assay (GEA) Data Review, Validation and Reporting Procedure
27.	CCP-TP-082	R8	CCP Preparing and Handling Waste Containers for HSG Sampling
28.	CCP-TP-093	R15	CCP Sampling of TRU Waste Containers
29.	CCP-TP-106	R7	CCP Headspace Gas Sampling Batch Data Report Preparation
30.	CCP-TP-113	R15	CCP Standard Contact-Handled Waste Visual Examination
31.	CCP-TP-137	R1	CCP Operation of the Hanford Super-HENC Assay System
32.	CCP-TP-144	R0	CCP Hanford Super-HENC Calibration Procedure
33.	CCP-TP-148	R6	CCP Super-HENC Data Reviewing, Validating, and Reporting Procedure
34.	CCP-TP-162	R1	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
35.	CCP-TP-180	R2	CCP Analytical Sample Management
36.	CCP-TP-198	R2	CCP HE-Real-Time Radiography Operating Procedure
37.	DOE/WIPP-06-3345	R3.2	Waste Isolation Pilot Plant Flammable Gas Analysis

**Processes and Equipment Reviewed During Audit A-11-10**

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
<b>NEW EQUIPMENT</b>				
18HERTR	High-Energy Real-Time Radiography System – 55/85-gallon drums and SWBs Procedure – CCP-TP-198	Debris (S5000) Solids (S3000)	NO	NO
18SHENC	Super High Efficiency Neutron Counter "A" Platform (SuperHENC) Procedure – CCP-TP-0137	Debris (S5000) Solids (S3000)	N/A	NO
<b>NEW PROCESSES</b>				
<b>CONTACT-HANDLED (CH) S3000 SOLIDS WASTE</b>				
N/A	Acceptable Knowledge Procedure – CCP-TP-002 and CCP-TP-005	Solids (S3000)	NO	NO
N/A	Data Generation and Project Level Validation & Verification (V&V) Procedure – CCP-TP-001	Solids (S3000)	NO	NO
N/A	Solids Sampling and Analysis <sup>1</sup>	Solids (S3000)	NO	NO
18GEAA	Hanford Gamma Energy Assay System Unit A – 55-gallon drums Procedure – CCP-TP-071	Solids (S3000)	N/A	NO
18GEAB	Hanford Gamma Energy Assay System Unit B – 55-gallon drums Procedure – CCP-TP-071	Solids (S3000)	N/A	NO

**Processes and Equipment Reviewed During Audit A-11-10**

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
18HERTR	High-Energy Real-Time Radiography System – 55/85-gallon drums and SWBs Procedure – CCP-TP-053	Solids (S3000)	NO	NO
18RTRA	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Solids (S3000)	NO	NO
18RTRB	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Solids (S3000)	NO	NO
N/A	WIPP Waste Information System (WWIS)/Waste Data System (WDS) Procedure – CCP-TP-030	Solids (S3000)	YES	YES
<b>PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT</b>				
N/A	Acceptable Knowledge Procedure – CCP-TP-002 and CCP-TP-005	Debris (S5000)	YES	YES
18RTRA	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000)	YES	YES
18RTRB	Real-Time Radiography System – 55-gallon drums Procedure – CCP-TP-053	Debris (S5000)	YES	YES

**Processes and Equipment Reviewed During Audit A-11-10**

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	Headspace Gas Sampling 2 Procedure – CCP-TP-093	Debris (S5000)	YES	YES
N/A	Data Generation and Project Level Validation & Verification (V&V) Procedure – CCP-TP-001	Debris (S5000)	YES	YES
N/A	WIPP Waste Information System (WWIS)/Waste Data System (WDS) Procedure – CCP-TP-030	Debris (S5000)	YES	YES
18GEAA	Hanford Gamma Energy Assay System Unit A – 55-gallon drums Procedure –CCP-TP-071	Debris (S5000)	N/A	YES
18GEAB	Hanford Gamma Energy Assay System Unit B – 55-gallon drums Procedure –CCP-TP-071	Debris (S5000)	N/A	YES
18RLVE	Visual Examination Process – SWB and 55-gallon drums Procedure –CCP-TP-113	Debris (S5000)	YES	YES
N/A	Quality Assurance	Debris (S5000)	N/A	YES

<sup>1</sup> Solids Sampling and Analysis - Coring is performed by AMWTP; core samples are analyzed by INL/CCP Labs

<sup>2</sup> Headspace Gas Sample Analysis is performed by INL/CCP Labs