



**Allen, Pam, NMENV**

---

**From:** Maestas, Ricardo, NMENV  
**Sent:** Tuesday, March 17, 2015 1:18 PM  
**To:** Allen, Pam, NMENV  
**Subject:** FW: SRS Interim Audit Report  
**Attachments:** Interim Audit Report for Recertification Audit A-15-02 of the Savannah River Site Central Characterization Program; 14-2910 Memo.docx; A-15-02 Interim Report.pdf

Hi Pam,

This email and attachments are for the record.

This explains why NMED did not receive the SRS Interim Audit Report that was sent out on December 4, 2014. NMED is cc'd on these reports for information purposes only.

Thanks Pam.

Ricardo Maestas  
Acting NMED WIPP Staff Manager  
Hazardous Waste Bureau  
2905 Rodeo Park Dr., Bldg 1  
Santa Fe, New Mexico 87505  
[Ricardo.Maestas@state.nm.us](mailto:Ricardo.Maestas@state.nm.us)  
505-476-6050

---

**From:** Maestas, Ricardo, NMENV  
**Sent:** Tuesday, March 17, 2015 1:13 PM  
**To:** Dennis Miehls  
**Cc:** Mike Brown; Martin Navarrete; Maestas, Ricardo, NMENV  
**Subject:** RE: SRS Interim Audit Report

Thanks Denis.

Yes, this will help for our record purposes.

Thank you.

Ricardo Maestas  
Acting NMED WIPP Staff Manager  
Hazardous Waste Bureau  
2905 Rodeo Park Dr., Bldg 1  
Santa Fe, New Mexico 87505  
[Ricardo.Maestas@state.nm.us](mailto:Ricardo.Maestas@state.nm.us)  
505-476-6050

---

**From:** Dennis Miehls [<mailto:dennis.miehls@cbfo.doe.gov>]  
**Sent:** Tuesday, March 17, 2015 1:05 PM  
**To:** Maestas, Ricardo, NMENV  
**Cc:** Mike Brown; Martin Navarrete  
**Subject:** RE: SRS Interim Audit Report

Hi Ricardo,

Here's the additional information we discussed during our phone call this morning, that you wanted to pass along to your NMED Librarian. The first attachment has the original email submittal with the SRS/CCP Interim Audit Report. The



second attachment shows page 2 of the memorandum that includes the rest of the distribution list that was inadvertently excluded from the original submittal. Hope this helps. Please contact me if you have any questions.

Thanks---Dennis

---

**From:** Dennis Miehl  
**Sent:** Tuesday, March 17, 2015 9:28 AM  
**To:** 'Maestas, Ricardo, NMENV'; Mike Brown; Martin Navarrete  
**Subject:** RE: SRS Interim Audit Report

Will do.

---

**From:** Maestas, Ricardo, NMENV [<mailto:Ricardo.Maestas@state.nm.us>]  
**Sent:** Tuesday, March 17, 2015 8:33 AM  
**To:** Mike Brown; Dennis Miehl; Martin Navarrete  
**Subject:** SRS Interim Audit Report

Good morning all,

We could not find the SRS Interim Audit Report either in our emails or in our correspondence files. Would you please send us a copy of the report, through email would be fine. If you could forward the original submittal email that would be better.

Please let me know if you have any questions.

Thank you.

Ricardo Maestas  
Acting NMED WIPP Staff Manager  
Hazardous Waste Bureau  
2905 Rodeo Park Dr., Bldg 1  
Santa Fe, New Mexico 87505  
[Ricardo.Maestas@state.nm.us](mailto:Ricardo.Maestas@state.nm.us)  
505-476-6050

## Allen, Pam, NMENV

---

**From:** Regina Sides - ATA <Regina.Sides@cbfo.doe.gov>  
**Sent:** Thursday, December 04, 2014 2:35 PM  
**To:** 'herbert.crapse@srs.gov'  
**Cc:** Jose Franco; Dana Bryson; Mike Brown; J.R. Stroble - WIPPNet; Martin Navarrete - WIPPNet; Marcus Pinzel; Norma Castaneda; David C. Moody - SRS; 'bob.mcquinn@urs.com'; Blankenhorn, Jim - NWP; Harris, Jennifer - NWP  
**Subject:** Interim Audit Report for Recertification Audit A-15-02 of the Savannah River Site Central Characterization Program  
**Attachments:** 14-2910 Attachment (Audit Report A-15-02).pdf; 14-2910 Memo.pdf

Please see attached correspondence. If you have any questions, please contact Mr. Martin P. Navarrete, CBFO Senior Quality Assurance Specialist, CBFO Quality Assurance Division, at (575) 234-7483.

*Thank you,  
Regina Sides  
Secretary  
Carlsbad Field Office  
Quality Assurance Division  
ATA Services  
Contractor to the Department of Energy  
Phone: (575) 234-7336  
[Regina.Sides@cbfo.doe.gov](mailto:Regina.Sides@cbfo.doe.gov)*

# memorandum

Carlsbad Field Office  
Carlsbad, New Mexico 88221

DATE:

REPLY TO  
ATTN OF:

CBFO:QAD:DSM:RMS:14-2910:UFC 2300.00

SUBJECT:

Interim Audit Report for Recertification Audit A-15-02 of the Savannah River Site Central Characterization Program

TO: Herbert Crapse, Jr., DOE-SR

The Carlsbad Field Office (CBFO) conducted Recertification Audit A-15-02 of the Savannah River Site Central Characterization Program (SRS/CCP) November 4-6, 2014. The CBFO Interim Audit Report is attached.

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

The audit team identified five concerns classified as follows: one condition adverse to quality documented on a corrective action report; one observation; and three recommendations.

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

Dennis S. Miehl  
Senior Quality Assurance Specialist

## Attachment

cc: w/attachment	
J. Franco, CBFO	*ED
D. Bryson, CBFO	ED
M. Brown, CBFO	ED
J.R. Stroble, CBFO	ED
M. Navarrete, CBFO	ED
M. Pinzel, CBFO	ED
N. Castaneda, CBFO	ED
D. Moody, DOE-SR	ED
R. McQuinn, NWP	ED
J. Blankenhorn, NWP	ED
J. Harris, NWP	ED

Herbert Crapse

-2-

F. Sharif, NWP	ED
D. E. Gulbransen, NWP/CCP	ED
V. Cannon, NWP/CCP	ED
A. J. Fisher, NWP/CCP	ED
I. Joo, NWP/CCP	ED
M. Walker, NWP/CCP	ED
W. Ledford, NWP/CCP	ED
J. Carter, NWP/CCP	ED
J. Hoff, NWP/QA	ED
B. Allen, NWP/QA	ED
S. Punchios, NWP/QA	ED
S. Escareno-Soto, NWP/QA	ED
T. Peake, EPA	ED
L. Bender, EPA	ED
E. Feltcorn, EPA	ED
R. Joglekar, EPA	ED
S. Ghose, EPA	ED
R. Lee, EPA	ED
J. Kieling, NMED	ED
S. Holmes, NMED	ED
R. Maestas, NMED	ED
C. Smith, NMED	ED
D. Winters, DNFSB	ED
V. Daub, CTAC	ED
R. Allen, CTAC	ED
P. Martinez, CTAC	ED
B. Pace, CTAC	ED
P. Y. Martinez, CTAC	ED
D. Harvill, CTAC	ED
G. White, CTAC	ED
Site Documents	ED
WWIS Database Administrators	ED
CBFO QA File	
CBFO M&RC	

\*ED denotes electronic distribution

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

**INTERIM AUDIT REPORT**

**OF THE**

**SAVANNAH RIVER SITE CENTRAL CHARACTERIZATION PROGRAM**

**TRU WASTE CHARACTERIZATION AND CERTIFICATION ACTIVITIES**

**CARLSBAD, NEW MEXICO**

**AUDIT NUMBER A-15-02**

**November 4 - 6, 2014**



Prepared by: Priscilla Y. Martinez  
Priscilla Y. Martinez, CTAC  
Audit Team Leader

Date: 12-2-14

Approved by: Michael R. Brown  
Michael R. Brown, Director  
CBFO Quality Assurance Division

Date: 12-3-14

## **1.0 EXECUTIVE SUMMARY**

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Recertification Audit A-15-02 was conducted to evaluate the adequacy, implementation, and effectiveness of Savannah River Site (SRS) transuranic (TRU) waste characterization and certification activities performed by the Nuclear Waste Partnership (NWP) Central Characterization Program (CCP). Activities were evaluated relative to the requirements in 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 *Remote-Handled TRU Waste Characterization Program Implementation Plan (WCPIP)*.

The audit team evaluated characterization and certification activities for contact-handled (CH) Summary Category Groups (SCGs) S3000 homogeneous solids waste, S4000 soils/gravel waste, and S5000 debris waste, and remote-handled (RH) SCG S5000 debris waste. The specific programs and activities audited are listed in section 2.1.

The audit was performed at the Skeen-Whitlock Building (SWB) in Carlsbad, New Mexico, November 4 through 6, 2014. The audit team concluded that overall, the SRS/CCP technical and quality assurance (QA) programs, as applicable to audited activities, were adequately established for compliance with upper-tier requirements. The audit team verified that the SRS/CCP program for characterization and certification activities related to CH SCGs S3000 homogeneous solids waste, S4000 soils/gravel waste, and S5000 debris waste, and RH SCG S5000 debris waste continues to be adequate, satisfactorily implemented, and effective. The audit team also determined that the SRS/CCP QA program requirements are satisfactorily implemented and effective.

The audit team identified five concerns during the audit. One concern was classified as a condition adverse to quality (CAQ). This CAQ resulted in the issuance of CBFO Corrective Action Report (CAR) 15-011 and is discussed in detail in section 6.1 of this report. One Observation was identified during the audit and three Recommendations were offered for SRS/CCP management's consideration, as described in sections 6.3 and 6.4.

## **2.0 SCOPE AND PURPOSE**

### **2.1 Scope**

The audit team evaluated the adequacy, implementation, and effectiveness of the SRS/CCP TRU waste characterization and certification activities for CH SCGs S3000 homogeneous solids waste, S4000 soils/gravel waste, and S5000 debris waste, and RH SCG S5000 debris waste.

The following general areas were audited, as required by Attachment C6, Section C6-3 of the HWFP:

- Results of Previous Audits

- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel

The following CBFO QA elements were audited:

- Personnel Qualification and Training
- Nonconformances
- Records

The following technical elements were audited:

- Project-Level Validation and Verification (V&V)
- Acceptable Knowledge (AK) including waste certification (i.e., waste stream profile forms)
- Real-time Radiography (RTR)
- Visual Examination (VE)
- Dose-to-Curie (DTC)
- Nondestructive Assay (NDA)
- Flammable Gas Analysis (FGA)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)
- Container Management

Evaluation of SRS/CCP TRU waste 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

DOE/CBFO-94-1012, *CBFO Quality Assurance Program Document (QAPD)*

DOEWIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*

DOEWIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan (WCPIP)*

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

CCP-PO-002, *CCP Transuranic Waste Certification Plan*

Related technical and quality assurance implementing procedures

## **2.2 Purpose**

Audit A-15-02 was conducted to assess SRS/CCP's waste characterization activities related to the certification of CH SCGs S3000 homogeneous solids waste, S4000 soils/gravel waste, S5000 debris waste and RH SCG S5000 debris waste for compliance to the HWFP WAP and the WAC requirements. The audit team also

evaluated the SRS/CCP QA program with regard to the requirements of the CBFO QAPD.

### **3.0 AUDIT TEAM AND OBSERVERS**

#### **AUDITORS/TECHNICAL SPECIALISTS**

Dennis Miehls	Management Representative, CBFO Quality Assurance Division
Priscilla Y. Martinez	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Tammy Ackman	Auditor, CTAC
Rick Castillo	Auditor, CTAC
Katie Martin	Auditor, CTAC
Berry Pace	Auditor, CTAC
Judith Stewart	Auditor-in-training, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Porf Martinez	Technical Specialist, CTAC
Jim Schuetz	Technical Specialist, CTAC
Greg Knox	Technical Specialist in training, CTAC

#### **OBSERVERS**

Kenneth Lickliter	CBFO TRU Sites and Transportation Division (TSTD)
Steve Holmes	New Mexico Environment Department (NMED)

### **4.0 AUDIT PARTICIPANTS**

The individuals contacted during the SRS/CCP audit are identified in Attachment 1. A pre-audit meeting was held in the SWB conference room T224, in Carlsbad, NM, November 4, 2014. Daily briefings were held with SRS/CCP management and staff to discuss issues and potential deficiencies. The audit was concluded with a post-audit meeting held in SWB conference room T224 in Carlsbad, NM, on November 6, 2014.

Attachment 2 is a Summary Table of Audit Results. Attachment 3 is a List of Audited Documents. Attachment 4 is a List of the Processes and Equipment Reviewed During the Audit.

### **5.0 SUMMARY OF AUDIT RESULTS**

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

This audit was performed to assess the ability of SRS/CCP to characterize CH SCGs S3000 homogeneous solids waste, S4000 soils/gravel waste, S5000 debris waste, and RH SCG S5000 debris waste for compliance with the requirements specified in the CBFO QAPD, the HWFP WAP, the WAC, and the WCPIP.

The related characterization methods assessed were AK, RTR, VE, DTC, and NDA. Other areas evaluated were project-level data V&V, data quality objective (DQO) reconciliation, the preparation of waste stream profile forms (WSPFs), WWIS/WDS data entry, container management, and the referenced SRS/CCP QA program elements.

The audit team concluded that the applicable SRS/CCP TRU waste characterization activities as described in the associated SRS/CCP implementing procedures are satisfactory in meeting upper-tier requirements. Audit activities are described in detail in the following sections.

## **5.2 General**

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

CBFO Recertification Audit A-14-04 identified one CAQ resulting in a CAR (14-006) dealing with the lack of evidence to verify the appointment of a visual examination expert, and one deficiency corrected during the audit (CDA) dealing with an AK summary report that was lacking a "Figure." The results of this audit confirmed that the actions taken to address and correct these CAQs were successful in precluding recurrence.

### **5.2.2 Changes in Programs or Operations**

No significant changes in the program were observed. However, CCP-PO-004, *CCP/SRS Interface Document*, was revised since Audit A-14-04 to allow for the optional use of CCP-TP-035, *CCP Container Management*, or CCP-TP-068, *CCP Standardized Container Management*, for managing containers, as well as, to replace reference to CCP-QP-029, *CCP Corrective Action Management*, with WP 15-GM1002, *Issues Management Processing of WIPP Forms*. It should also be noted that at the request of the host site, CCP is disbanding and suspending operations at SRS until such time that TRU waste inventory becomes available. RTR Unit #4 and both FGA units will be shipped off-site and likely used elsewhere in the complex, and host site owned equipment, such as the NDA Box Neutron Assay System (BNAS) and the Large Container Non-Destructive Examination (LCNDE) unit will be placed in a safe configuration.

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

No significant new programs or activities were observed being implemented. However, SRS/CCP recently conducted assays on RH containers using the BNAS, but the assays were performed utilizing existing assay procedures.

### **5.2.4 Changes in Key Personnel**

One change was observed in key personnel. Mr. Jake Knox was recently appointed as the CH Site Project Manager for SRS.

### **5.3 Quality Assurance Activities**

Each QA element 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 CBFO QAPD is cited briefly, and the results of the assessment are provided.

#### **5.3.1 Personnel Qualification and Training**

The audit team verified that the SRS/CCP complies with the requirements of CBFO QAPD Section 1.2, Personnel Qualification and Training. The audit team conducted interviews with responsible personnel and reviewed implementing procedure CCP-QP-002, Rev. 38, *CCP Training and Qualification Plan*. The results of the review indicate that the referenced procedure adequately addresses upper-tier requirements.

Personnel qualification and training records for the following positions were reviewed: CH waste and RH waste Acceptable Knowledge Expert (AKE), Site Project Manager (SPM), Nondestructive Assay (NDA) Operator/Independent Technical Reviewer (ITR), NDA Expert Analyst (EA), Dose-to-Curie (DTC) Survey Operator/ITR, Visual Examination Operator/ITR, Visual Examination Expert (VEE)/ITR, and Nondestructive Examination (NDE) Real-Time Radiography (RTR) Operator/ITR.

Records reviewed included the SRS CH Program List of Qualified Individuals (LOQI) dated 10/31/2014; the RH Program LOQI dated 10/31/2014; Remote-Handled (RH) VEE appointment email dated 10/30/2013; test drum (capability demonstrations) and training container documentation; annual eye examination forms for NDE RTR operators; and respective qualification packages. The results of the review indicate that the referenced personnel are adequately trained to accomplish their respective tasks.

No personnel qualification and training concerns were identified. The procedures reviewed and objective evidence assembled and evaluated during the audit indicate 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 verified that the SRS/CCP met the requirements of CBFO QAPD Section 1.3, Quality Improvement. The audit team conducted interviews with the resident QA Engineer and reviewed implementing procedure CCP-QP-005, Rev. 24, *CCP TRU Nonconforming Item Reporting and Control*, to determine the degree to which the procedure adequately addresses upper-tier requirements. The results of the review indicate that the referenced procedure adequately addresses upper-tier requirements.

The team interviewed the project office QA Engineer and randomly selected the following nonconformance reports (NCRs) for review:

NCR-SRS-0624-13, R0

NCR-SRS-0747-13, R0

NCR-SRS-0748-13, R0

NCR-SRS-0165-14, R1	NCR-SRS-0177-14, R0	NCR-SRS-0180-14, R0
NCR-SRS-0183-14, R0	NCR-SRS-0291-14, R0	NCR-SRS-0376-14, R0
NCR-SRS-0377-14, R0	NCR-SRS-0380-14, R0	NCR-SRS-0382-14, R0
NCR-RHSRS-0603-13, R0	NCR-RHSRS-0605-13, R0	NCR-RHSRS-0314-14, R1
NCR-RHSRS-0385-14, R0	NCR-RHSRS-0386-14, R0	NCR-RHSRS-0425-14, R1
NCR-RHSRS-0427-14, R0	NCR-RHSRS-0429-14, R0	

The team concluded that deficiencies are being appropriately documented and tracked through resolution, as required. Two of the NCRs selected (NCR-SRS-0376-14, R0 and NCR-SRS-0377-14, R0) documented non-administrative deficiencies first identified at the SPM level. These NCRs were verified as having been reported to the Permittee within seven days, as required by the Permit. All of the NCRs examined were verified to have been entered, managed, and tracked in the CCP Integrated Data Center (IDC)/Nonconformance Report Log.

No nonconformance concerns were identified. The procedures reviewed and objective evidence assembled and evaluated during the audit indicate 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 conducted interviews with responsible personnel and reviewed implementing procedures CCP-QP-008, Rev. 23, *CCP Records Management* and CCP-QP-028, Rev. 15, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*, regarding control and administration of QA records.

The audit team verified that the SRS/CCP complies with the requirements of CBFO QAPD Section 1.5, 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 procedures adequately address upper-tier requirements.

The audit team verified that the records evaluated were retrievable, legible, accurate, and properly completed and maintained. Record changes were made with a single line-out, entering the change, and initialing and dating each change. Records are maintained in Fire King fire-rated filing cabinets and electronically on designated CCP servers. Control of QA records was verified through review of the CH Records Inventory and Disposition Schedule (RIDS) dated 07/01/2014, and the RH RIDS dated 06/18/2014.

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

## **5.4 Technical Activities**

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 the results of the assessment are provided. Although the technical area of DTC and NDA are not required by the HWFP, they were audited and objective evidence reviewed during the audit is described in sections 5.4.1, 5.4.2, 5.4.5, and 5.4.6. DTC and NDA information will not be included in the final audit report.

### **5.4.1 Acceptable Knowledge**

The audit team evaluated the AK process for characterizing CH TRU mixed waste for SCGs S3000 homogeneous solids, S4000 soils/gravel, and S5000 debris, and RH TRU mixed waste for SCG S5000 debris. AK audit staff specifically addressed the WAP requirements listed on the C6-2 checklist along with portions of the C6-1 checklist. Objective evidence was reviewed and compiled to demonstrate compliance with each of the applicable requirements on these checklists. The team also reviewed the AK record with respect to relevant requirements of the CH and RH WAC, and for the RH stream specifically, requirements of the RH TRU WCIIP, Rev 3.

The AK auditors reviewed the latest revision to the AK Summary Reports for four waste streams representing the four respective SCGs. The AK Summary Reports and respective waste stream designations are as follows: CCP-AK-SRS-22 for waste stream SR-221H-EUOX; CCP-AK-SRS-4 for waste stream SR-W027-221H-HOM; CCP-AK-SRS-8 for waste stream SR-MD-SOIL; and CCP-AK-SRS-640 for waste stream SR-RH-SWD.01. In addition, WSPFs and attachments were examined. Numerous AK source documents were reviewed to establish support for the waste stream descriptions and parameters noted in the AK summaries, particularly with respect to the assignment of hazardous waste numbers (HWNs) and the historical management of the containers in the waste streams. The AK auditors also reviewed information in the AK Summary Reports and AK source documents that addressed the eight WAP TRU waste programmatic requirements, the twelve TRU waste stream specific requirements, and examples of additional AK compiled as required.

The audit team also examined the following completed attachments for each stream as required by procedure CCP-TP-005, Rev. 26, *CCP Acceptable Knowledge Documentation*: Attachment 1, AK Documentation Checklist; Attachment 4, AK Information List; Attachment 5, Hazardous Constituents; Attachment 6, Waste Form, Waste Material Parameters, Prohibited Items, and Packaging, along with the justification memoranda for waste material parameter weight estimates; Attachment 7, Radionuclides; AK/NDA memoranda for the CH waste streams; and Attachment 8, Waste Containers List, along with applicable add-container memoranda that document the examination of waste container contents before the drum is added to the target waste stream. Examples of the resolution of AK discrepancies in the AK record and discrepancy resolution at characterization, along with AK Reevaluation forms, were also reviewed and added to the AK objective evidence. Particular attention was given to the

impact of AK Reevaluations on the AK Accuracy Reports for the applicable waste stream (see Observation 1 in section 6.3).

With regard to non-compliant waste containers, the auditors examined several NCRs dealing with prohibited items and compiled objective evidence of container inspection prior to the start of CCP characterization. The WAP-required container traceability exercise was conducted by the AK audit team for a total of six waste containers from the four waste streams. The drums selected provided batch data reports for RTR, VE, NDA, and the DTC process. Additional traceability documentation was collected through IDC database screenshots, AK tracking spreadsheet data, and waste container input forms. Several Waste Stream Characterization Checklists and supporting data were also examined, reconciling the results of characterization with the AK record.

For waste stream SR-RH-SWD.01, the AK auditors also reviewed and compiled objective evidence that demonstrates compliance with the requirements of the WCPIP, as noted above, including CCP-RC-SRS-641, *Remote-Handled Transuranic Radiological Characterization Technical Report*, and CCP-CP-SRS-642, *CCP RH TRU Waste Certification Plan for 40 CFR Part 194 Compliance*. The audit team also reviewed a WCPIP-compliant draft AK Accuracy Report and a draft Characterization Reconciliation Report, along with the examination of relevant AK source documents. In addition, the DQO Determination Summary, Table 5 in the AK Summary Report, which lists the RH DQOs to be addressed along with supporting AK records relating to the defense waste, radiological, and physical waste stream determinations was examined. The CCP TRU Waste Correlation and Surrogate Summary Form, CCP Attachment 15, was also reviewed. This form supported the use of waste stream characteristics from CH waste stream SR-SWMF-HET-B (CCP-AK-SRS-12) to identify the waste material parameters for the RH container.

QA requirements of the AK process and AK records were reviewed by the designated QA auditor. Training records for AKEs and SPMs were examined and compiled. The AK NCR process was reviewed. In addition, document control was examined with respect to preparation, review, correction, approval and maintenance. The AK quality assurance objective of precision was evaluated through the review of relevant internal surveillances.

The AK audit team issued two recommendations, one adding clarifying language to two AK summaries, CCP-AK-SRS-04 and CCP-AK SRS-22 (see Recommendation 2 in section 6.4), and the other dealing with enhancing documentation in AK summary reports during the next revision relevant to absorbents and neutralization agents (see Recommendation 3 in section 6.4).

#### **5.4.2 Project-Level Data Validation and Verification**

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-001, Rev. 21, *CCP Project Level Data Validation and Verification*; CCP-TP-002, Rev. 26, *CCP Reconciliation of DQOs and Reporting Characterization Data*; CCP-TP-005, Rev. 26, *CCP Acceptable Knowledge*

*Documentation*; and CCP-TP-500, Rev. 13, *CCP Remote-Handled Waste Visual Examination*, to determine the degree to which the procedures address upper-tier requirements. The results of the review indicate that the referenced procedures adequately address upper-tier requirements.

The audit team evaluated the following batch data reports (BDRs) in support of both CH and RH characterization activities completed at the SRS/CCP to verify that project-level data V&V activities are performed in compliance with applicable procedural requirements.

RTR

SR4RTR0358	SR4RTR0362	SRLBR0114	SRLBR0102
SRLBR0118	SRLBR0120		

VE

SRSRHVE13001

NDA/DTC

SRLBC1077	SRLBC1097	SRLBC1081	SRLBC1052
SRRH1401	SRSRHDTTC11003	SRS DTC12002	SRS DTC13003

The audit team determined the BDRs were compliant with the procedure requirements. The DTC BDRs were reported through the SPM level complying with reporting requirements. The Analytical Sampling BDR SRRH1401 is appropriately reported and the SRS Lab is an approved supplier on the NWP Qualified Suppliers List, last evaluated August 20, 2014.

The audit team reviewed three WSPFs for the following waste streams: SR-W027-221H-HET-C, SR-SDD-HET-A, and SR-RH-221H.01. The WSPFs were properly completed with Characterization Information Summaries. AK Source Document Summary Discrepancy Resolution Reports (DR016, DR029, and DR030) were provided to the audit team which consisted of only minor changes to the AK document and none that affected container waste stream reassignment.

The documentation of quarterly repeat reviews of data generation level BDRs was maintained since the previous audit. All quarterly requests were properly documented and submitted to the data generation level for re-review of a randomly selected container.

No concerns were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for project-level 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.

### 5.4.3 Real-time Radiography

The audit team evaluated the continued adequacy, implementation, and effectiveness of SRS/CCP activities to characterize and certify CH SCGs S3000 homogeneous solids, S4000 soil/gravel, and S5000 debris waste, and RH SCG S5000 debris waste using the RTR characterization process.

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-QP-002, Rev. 38, *CCP Training and Qualification Plan*; CCP-TP-028, Rev. 9, *CCP Radiographic Test Drum and Training Container Construction*; CCP-TP-053, Rev. 15, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*; CCP-TP-074, Rev. 6, *Large Container Non-Destructive Examination (LCNDE) Operating Procedure*; CCP-TP-145, Rev. 4, *CCP RTR #4 Operating Procedure*; and CCP-TP-508, Rev. 9, *CCP RH Standard Real-Time Radiography Inspection Procedure*, to determine the degree to which the procedures address upper-tier requirements. The review of the procedures indicated that upper-tier requirements are adequately addressed.

The audit team examined the following CH RTR BDRs:

SR4RTR0358	SR4RTR0359	SR4RTR0361
SRSRTR0362	SRLBR0115	SRLBR0117

The audit team examined the following RH RTR BDRs:

SRLBR0100	SRLBR0102	SRLBR0118
-----------	-----------	-----------

During the review of BDRs and associated audio/video media, the audit team identified two concerns. In BDRs SRLBR0100, SRLBR0102, and SR4RTR0362, the SPM answered "YES" to question 12 of the SPM checklist which states: "Does observable liquid, if present, meet the criteria of the TSDF-WAC?" However, the RTR operators are answering "No" to the first question in Section 5 of the RTR Data Sheet (Attachment 2 to CCP-TP-053) that asks: "Is there observable liquid?" The SPM answering "YES" to question 12 of the SPM checklist indicates that there is observable liquid. The issue does not affect QA objectives; however, it is recommended that question 12 of Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary from CCP-TP-001, along with other similar questions, be revised to clarify the objective of the question (see Recommendation 1 in section 6.4).

During the review of RTR videos for containers TEMP16I, TEMP16J, HMSF001192, and CSK200202B, characterized on the LCNDE unit, there was no objective evidence that the RTR operator entered the appropriate scan information on the video display as required by CCP-TP-053, which states in section 4.4.1[C]: "Enter the appropriate scan information (e.g., Container ID No., Date), on the video display" (see CAR 15-011 in section 6.1). RTR videos of containers observed that were characterized on the RTR

Unit 4 contained the appropriate information. This appears to be limited to the LCNDE unit.

The audit team evaluated RTR operator required test and training drum audio/video media for three RTR operators. Additionally, records of RTR operator training and qualification were examined, including test and training drum documentation. The audit team confirmed that RTR operators were trained and qualified as required.

During surveillance S-15-06 conducted on October 15, 2015, the surveillance team observed the RTR characterization process at the SRS Solid Waste Materials Facility (SWMF), TRU Pad 4, for CH container 773A120017 using RTR Unit 4. The audit team performed a walk-down of the unit to verify the components required by the WAP to effectively characterize waste. In addition, the surveillance team interviewed RTR operators, verified the use of current RTR operating procedures and AK Summary Reports, and reviewed associated logbooks to verify entries were appropriately logged and Vendor Project Manager reviews were being performed as required.

As a result of interviews and reviews of related documents and records, the audit team concluded that the applicable requirements for characterizing CH SCGs S3000 homogeneous solids, S4000 soil/gravel, and S5000 debris waste, and RH SCG S5000 debris waste using the RTR characterization process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effectively implemented for achieving the desired results.

#### **5.4.4 Visual Examination**

The scope of the audit included the evaluation of VE activities for CH SCGs S3000 solids, S4000 soils/gravel, and S5000 debris waste, and RH SCG S5000 debris waste.

No VE activities have been performed by SRS/CCP since the last CBFO Recertification Audit A-14-04, conducted November 13 – 15, 2013.

Although no VE activities have been performed, the following VE procedures were reviewed for adequacy: CCP-TP-113, Rev. 18, *CCP Standard Contact-Handled Waste Visual Examination*; CCP-TP-163, Rev. 4, *CCP Evaluation of Waste Packaging Records for Visual Examination of Records*; and CCP-TP-500, Rev. 13, *CCP Remote-Handled Waste Visual Examination*. As a result of the review, the audit team determined that the procedures continue to adequately address applicable upper-tier requirements.

The audit team reviewed training/qualification records, including a VEE appointment letter dated 10/30/2013 for a RH VE Operator/ITR, and determined that the individual is appropriately trained and qualified. There were no CH VE Operator/ITR or CH VEE qualifications available for review by the audit team.

Continued corrective actions resulting from CAR 14-006 were verified and determined to be acceptable. CAR 14-006 dealt with the failure to appoint a VEE for the SRS site. No concerns were identified.

The procedures reviewed and evaluated during the audit indicate that the applicable requirements for the VE process are adequately established for compliance with upper-tier requirements. Since no VE activities have been performed since the previous audit, effective implementation of procedures and procedure effectiveness could not be verified. Overall, the VE process was deemed indeterminate and will need to be re-evaluated prior to waste characterization resumption using the VE process.

#### **5.4.5 Dose-to-Curie**

The audit team evaluated the implementation of the DTC method activities for characterizing RH SCG S5000 retrievably-stored debris waste for SRS/CCP.

No DTC activities have been performed by SRS/CCP since the last CBFO Recertification Audit A-14-04, conducted November 13 – 15, 2013.

The audit team reviewed the following BDRs:

SRSRHDTTC11003  
SRSRHDTTC12001  
SRSRHDTTC12002  
SRSRHDTTC12003  
SRSRHDTTC13003

These BDRs were generated prior to the previous audit, but additional revisions were made during the previous year as a result of NCRs issued against the BDRs.

In the application of the DTC methodology to the drums in BDR SRSRHDTTC11003, the necessary ratios of the reportable radionuclides to the measured and modeled quantity of <sup>241</sup>Am were derived from isotopic ratios obtained from the CH portion of this waste stream and measurement data obtained by an In-Situ Object Counting System (ISOCS).

In the application of the DTC methodology to the drums in BDRs SRSRHDTTC12001, SRSRHDTTC12002, SRSRHDTTC12003, and SRSRHDTTC13003, <sup>137</sup>Cs is the "fiducial" isotope that is measured and modeled in order to obtain the necessary ratios of the reportable radionuclides to the measured isotope.

The audit team developed a checklist based on the CCP operating procedures for the ISOCS (CCP-TP-139, Rev. 5) and the Dose-to-Curie Survey Procedure (CCP-TP-504, Rev. 14, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*) in use at the time the original data was gathered and analyzed in order to evaluate the performance of the ISOCS and the implementation of the DTC methodology. The audit team also interviewed CCP personnel.

Though no DTC measurements were performed, the audit team did verify that SRS/CCP maintains qualified personnel to perform DTC.

No concerns regarding DTC were identified during the audit. The procedures and documents reviewed provide evidence that the applicable requirements using DTC methodology are adequately established for compliance with upper-tier requirements.

#### **5.4.6 Nondestructive Assay**

The audit team conducted interviews with the responsible personnel and reviewed implementing procedures CCP-TP-189, Rev. 3, *CCP Box Segmented Gamma System (BSGS) Operating Procedure*; CCP-TP-190, Rev. 2, *CCP Box Segmented Gamma System (BSGS) Calibration Procedure*; CCP-TP-191, Rev. 2, *CCP Box Neutron Assay System (BNAS) Operating Procedure*; CCP-TP-192, Rev. 1, *CCP Box Neutron Assay System (BNAS) Calibration Procedure*; and CCP-TP-193, Rev. 6, *CCP Data Reviewing, Validating, and Reporting Procedure for the Nondestructive Assay Box Counters*. The audit team determined that the procedures adequately address upper-tier requirements.

The audit team assessed the adequacy, implementation, and effectiveness of the NDA systems used at SRS as part of the CCP to characterize waste from the CH SCGs S3000 homogeneous solids, S4000 soils/gravels, and S5000 debris wastes. Specifically, the audit team evaluated the Box Segmented Gamma Scanner (BSGS) and the Box Neutron Assay System (BNAS). These two instruments collectively comprise the Savannah River Box Counter. These systems were previously evaluated by CBFO in November 2013 as part of Audit A-14-04 and Surveillance S-15-06 in October 2014.

The BSGS, also referred to as the Segmented Gamma Box Counter, and the BNAS, also referred to as the Non-destructive Assay Box Counter (NABC), can act as stand-alone assay systems or work in concert to assay wastes contained in 55-gallon (208 liter) drums, Standard Large Box-2s (SLB-2s), and Standard Waste Boxes (SWBs).

The large box counter system consists of a Segmented Gamma Scanner (SGS) and a separate neutron assay counter. The SGS uses four High-Purity Germanium (HPGe) detectors to measure passive gamma emissions from the waste. The system can measure three different types of containers: 55-gallon drums; Standard Waste Boxes (SWBs); and SLB-2s. The SGS utilizes both a transmission and an efficiency correction. Transmission correction is accomplished by scanning the waste with an active gamma source (in this case, two 250 mCi <sup>60</sup>Co sources [approximate as of date of installation]) paired with two 5-inch (diameter) X 4-inch (depth) sodium iodide detectors. Each <sup>60</sup>Co source has a variable attenuation shutter that is independently controlled so that a transmission correction can be optimized for each measurement segment. The gamma spectra obtained on the BSGS are analyzed using the Multi-Group Analysis (MGA) or Fixed-energy Response function Analysis with Multiple efficiencies (FRAM) software.

Neutron measurement is performed by the BNAS. The BNAS has two operating modes: efficiency-determined multiplicity analysis mode and standard neutron coincidence counting (NCC) mode. The counter utilizes 320 <sup>3</sup>He proportional tubes arranged in a 4π geometry about the assay cavity and divided into 80 counting channels. Matrix correction is accomplished by using an Add-A-Source (AAS) where the empty chamber response to the AAS is compared to system response with the waste present and the AAS inserted to determine neutron moderation characteristics of the waste matrix. NDA 2000 in conjunction with GENIE 2000 software is used to control both of these systems.

Based on a review of the current revisions of CCP procedures and reports provided prior to the audit, a checklist was prepared and used to evaluate the following:

- System stability as evidenced by the implementation and effectiveness of quality control measurements, 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;
  - Successful participation in the CBFO-sponsored NDA Performance Demonstration Program cycles 21A and B14A;
  - Completed BDRs to ensure data are reported and reviewed as required
- Data storage and retrievability
- Continued operability and condition of the NABC systems.

The audit team interviewed NDA personnel and examined electronic and paper copies of reports and records. The audit team verified that nonconformances are being appropriately identified, reported, and documented on NCRs as required. Training records were reviewed for NDA personnel and determined to be in compliance with the requirements of the CCP training program. The audit team verified that corrections to the selected BDRs and associated forms were made according to procedural requirements. Additionally, the audit team verified that the records generated are identified in the records section of each procedure and located in Records if required. The audit team verified that record copies of the BDRs selected by the audit team were legible, accurate, and complete.

The audit team specifically selected the following NDA BDRs for review:

SRLBC1053  
SRLBC1063  
SRLBC1069  
SRLBC1076  
SRLBC1082  
SRLBC1085  
SRLBC1086  
SRLBC1091  
SRLBC1093  
SRLBC1099

SRLBC1100

No concerns regarding NDA were identified during the audit. The procedure and document reviews provided evidence that the applicable requirements for characterizing CH SCGs S3000 homogeneous solids, S4000 soils/gravel, and S5000 debris wastes using the NDA process 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 Flammable Gas Analysis**

The audit team verified BDRs regarding flammable gas analysis (FGA) completed at SRS/CCP. The evaluation of BDRs SR13FG11100, SR14FG11001, and SR14FG11007 confirmed that CCP adhered to the WIPP FGA procedure and the QA and quality control measures specified in the procedure.

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

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

The audit team conducted interviews with responsible personnel and reviewed implementing procedures CCP-TP-030, Rev. 33, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry*, and CCP-TP-530, Rev. 11, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*. The audit team determined that the procedures adequately address upper-tier requirements.

The audit team evaluated implementation of the CCP TRU waste certification and WWIS/WDS data entry procedures for CH container certification using the WWIS/WDS data entry spreadsheet, the IDC CH module, and the CBFO WWIS/WDS software application. The evaluation included data population of the WWIS/WDS spreadsheet, review of data entry, review of IDC data content, waste certification by the Waste Certification Official (WCO), submittal for WWIS/WDS review/approval, and submittal of data packages to records. The audit team reviewed CH WWIS/WDS data packages for CH Container SR504026A, an SLB-2 from SRS CH Waste Stream SR-W027-773A-HET of Waste Matrix Code S5400, and CH Container HBL110111, a Pipe Overpack Container from SRS CH Waste Stream SR-221H-PuOx of Waste Matrix Code S5100.

RH WWIS/WDS data packages for containers SDD076307, SDD076308, and SDD076309 (15-gallon drum To Be Overpacked containers from SRS RH DRAFT Waste Stream SR-RH-SDD.01 of Waste Matrix Code S5400) were reviewed. These containers are being submitted in WWIS/WDS as part of evaluation of the new WSPF and have not yet been assembled into a waste canister. RH container certification at SRS is performed using the WWIS/WDS data entry spreadsheet method.

Implementation of the IDC software application for data management, data entry, and certification of RH waste containers for SRS was discussed with CCP WCO personnel. The IDC RH module is currently under development and testing and is expected to be in production within the next few months. Once the software module is complete and promoted to production, the module will replace the WWIS/WDS data entry spreadsheet. With the IDC RH module in production, existing data will be transcribed into the module as appropriate to allow electronic submittal of characterization data to WWIS/WDS and electronic certification using the combination of the IDC RH module and the WWIS/WDS software application. Future implementation of the RH IDC module for SRS container certification is expected to be adequate based on the evaluation of capabilities and familiarity of WCO personnel with the WWIS/WDS spreadsheet and with current implementation of the IDC module for other CCP host site locations.

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

#### **5.4.9 Container Management**

During surveillance S-15-06 conducted on October 15, 2015, the surveillance team evaluated the Container management activities for compliance with CCP-TP-035, Rev. 26, *CCP Container Management*, by performing a walk-through of SRS/CCP container storage areas, examining shipping documents, and interviewing the CCP Container Management Specialist (CMS) at the SRS SWMF. Evidence reviewed confirmed that SRS personnel are trained to procedure CCP-TP-035 and perform all movement and storage of containers. The CCP CMS performs verification of these activities. Container tracking is performed by the CMS by obtaining container numbers of stored containers in the field as they are transferred from SRS to CCP and then locating the containers in the CMS and CCP databases. Containers are processed through characterization and tracked during each operation. Any containers that do not meet the criteria for disposal at WIPP are identified with a red hold tag and an NCR is initiated. The NCR is dispositioned prior to the container being certified to ship to WIPP. At the end of characterization activities, acceptable containers are stored in a separate area for shipment, ensuring that noncompliant containers are not shipped to WIPP.

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

## **6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS**

The audit team identified five concerns during the audit. These concerns were evaluated and classified by CBFO QA representative and are documented in the following subsections.

## **6.1 Corrective Action Reports**

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

**Condition Adverse to Quality (CAQ)** – 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.

One CAQ resulted from Audit A-15-02, necessitating the issuance of CBFO CAR 15-011.

### **CAR 15-011**

During the review of RTR videos for containers TEMP16I, TEMP16J, HMSF001192, and CSK200202B, characterized on the LCNDE unit, the audit team identified that there was no objective evidence that the RTR operator entered the appropriate scan information on the video display as required in CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*, which states in section 4.4.1[C]: "Enter the appropriate scan information (e.g., Container ID No., Date), on the video display." For each container listed above, the ITR recorded "YES" to Question 15, "Was the video/audio recording media properly prepared and labeled for each waste container?" NOTE: RTR videos of containers observed that were characterized on the RTR Unit 4 contained the appropriate information. This appears to be limited to the LCNDE Unit.

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

During the audit, the audit team may identify CAQs. Audit team members, the audit team leader (ATL), and the CBFO QA representative evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL and the CBFO QA representative, determines if the CAQ is 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 and the CBFO QA representative, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the CBFO QA representative categorizes the condition as corrected during audit (CDA) according to the definition below.

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

There were no CAQs corrected during the audit.

### **6.3 Observations**

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The CBFO QA representative evaluates these conditions and classifies them as Observations using the following definition:

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

One Observation was identified during the audit.

#### **Observation 1**

The AK Accuracy Report for SR-W027-221H-HOM should be revised to address the AK reevaluations that are documented for this waste stream for waste containers that have moved to another waste stream based on RTR results. It appears that these containers should have counted as a hit for AK accuracy. The CCP process, however, only looks at discrepancies identified after the WSPF is approved. CCP-TP-005, section 4.6, is the procedure to be followed but is unclear regarding the start point. CCP should examine this section to determine how it can be clarified.

### **6.4 Recommendations**

During the audit, the audit team may identify suggestions for improvement that should be communicated to the audited organization. The CBFO QA representative evaluates these conditions and classifies them as Recommendations using the following definition:

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

The audit team presented three Recommendations to SRS/CCP management for consideration as a result of the audit.

#### **Recommendation 1**

On BDRs SRLBR0100, SRLBR0102, and SR4RTR0362, the SPM answered "YES" to question 12 of the SPM checklist which states "Does observable liquid, if present, meet the criteria of the TSDF-WAC?" However, the RTR operators are answering "No" to the first question in Section 5 of the RTR Data Sheet (Attachment 2 to CCP-TP-053) that asks: "Is there observable liquid?" The SPM answering "YES" to question 12 of the SPM checklist indicates that there is observable liquid. The issue does not affect quality assurance objectives; however, it is recommended that question 12 of Attachment 2 – CCP SPM Radiography Project Level Validation Checklist and Summary from CCP-TP-001, along with other similar questions, be revised to clarify the objective of the question.

### **Recommendation 2**

It is recommended that clarifying language be added to AK summaries CCP-AK-SRS-04 and CCP-AK SRS-22 as follows:

#### **CCP-AK-SRS-4**

- Provide clarifying information regarding the process(es) that generated the waste stream SR-W027-221H-HOM.

#### **CCP-AK-SRS-22**

- Provide additional information on the sources of the HEUOx that has been or is slated to be blended down for ultimate disposal at WIPP, including additional support for the defense determination.
- Provide a table that indicates the number of drums of each of the three sub-categories of HEUOx.
- Change the packaging section to indicate that the plastic bag containing the blended waste can is a filtered bag.

### **Recommendation 3**

Enhance, as needed, documentation in the SRS AK Summary Reports during the next revision relevant to absorbents and neutralization agents:

- Specific reference to the applicable Material Safety Data Sheets compiled in AK source documents
- Direction to examine additional relevant absorbent information in chemical tables listed in the AK summaries
- Reference to AK source documents with applicable procedures utilizing absorbents

## **7.0 LIST OF ATTACHMENTS**

Attachment 1: Personnel Contacted During Audit A-15-02

Attachment 2: Summary Table of Audit Results

**Attachment 3: List of Audited Documents**

**Attachment 4: Processes and Equipment Reviewed During Audit A-15-02**

<b>PERSONNEL CONTACTED DURING AUDIT A-15-02</b>				
<b>NAME</b>	<b>TITLE/ORG</b>	<b>PREAUDIT MEETING</b>	<b>CONTACTED DURING AUDIT</b>	<b>POST AUDIT MEETING</b>
Armijo, Cheryl	Training Analyst;TFE		X	
Auckland, Sherry	AKE;LANL	X	X	X
Billett, Michele	Training Coordinator; NTPC Training		X	X
Fisher, A.J.	Support Service Manager; NWP/CCP	X	X	X
Harrison, Jeff	AKE; Tech Specs/CCP	X	X	X
Harvill, Joe	NPA; NWP/CCP	X	X	X
Holmes, Steve	Observer/NMED	X	X	X
Jones, Laura	QAE; NWP/CCP		X	X
Joo, Irene	RH PM; NWP/CCP	X	X	X
Kirkes, Creta	WCO; NWP/CCP		X	
Knox, Jake	SPM;NWP/CCP	X	X	X
Ledford, Wayne	QA Specialist; NWP/QA	X	X	X
Lee, Ronnie	PM; NWP/CCP	X	X	X
Licklitter, Kenneth	NTP Support	X	X	X
Martinez, Shelly	NDE CE;NWP/CCP		X	
Papp, Michael	AKE; Tech Specs/CCP	X	X	X
Payanes, Jose	Doc. Mgr.;TFE			X
Pearcy, Sheila	Records Manager; CCP/Stoller	X	X	X
Peters, Kevin	AKE; CCP	X	X	X
Ramirez, Mike	WCO/WWIS/WDS Manager; NWP/CCP		X	
Reeves, Ron	CCP Project Mgr	X		
Remington, Dan	NDA; Canberra	X	X	
Sharif, Farok	PM;NWP CCP			X
Turner, Charlie	SPM; NWP/CCP	X	X	X
Yturralde, Jewell	Records; TFE		X	

**Summary Table of Audit Results**

Processes	Concern Classification				QA Evaluation		Technical
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
<b>Activity</b>							
Acceptable Knowledge			1	2	A	S	E
Flammable Gas Analysis					A	S	E
Real-Time-Radiography	1			1	A	S	E
Visual Examination					A	S	E
Project Level V&V					A	S	E
Nonconformance Reporting					A	S	E
Training					A	S	E
Records					A	S	E
WWIS/WDS					A	S	E
Nondestructive Assay					A	S	E
Dose-to-Curie					A	S	E
Container Management					A	S	E
TOTALS	1	0	1	3			

**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

<b>LIST OF AUDITED DOCUMENTS</b>			
	<b>Document No.</b>	<b>Revision Number</b>	<b>Document Title</b>
1.	CCP-PO-001	21	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	27	CCP Transuranic Waste Certification Plan
3.	CCP-PO-004	35	CCP/SRS Interface Document
4.	CCP-PO-005	24	CCP Conduct of Operations
5.	CCP-PO-505	3	CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)
6.	CCP-QP-002	38	CCP Training and Qualification Plan
7.	CCP-QP-005	24	CCP TRU Nonconforming Item Reporting and Control
8.	CCP-QP-008	23	CCP Records Management
9.	CCP-QP-016	19	CCP Control of Measuring and Testing Equipment
10.	CCP-QP-021	10	CCP Surveillance Program
11.	CCP-QP-028	15	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
12.	CCP-TP-001	21	CCP Project Level Data Validation and Verification
13.	CCP-TP-002	26	CCP Reconciliation of DQOs and Reporting Characterization Data
14.	CCP-TP-005	26	CCP Acceptable Knowledge Documentation
15.	CCP-TP-028	9	CCP Radiographic Test Drum and Training Container Construction
16.	CCP-TP-030	33	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
17.	CCP-TP-035	26	CCP Container Management
18.	CCP-TP-053	15	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
19.	CCP-TP-058	5	CCP NDA Performance Demonstration Program
20.	CCP-TP-066	14	CCP Radiography Screening Procedure for Prohibited Items
21.	CCP-TP-068	11	CCP Standardized Container Management
22.	CCP-TP-074	6	CCP Large Container Non-Destructive Examination (LCNDE) Operating Procedure
23.	CCP-TP-087	6	CCP Scale Operations
24.	CCP-TP-113	18	CCP Standard Contact-Handled Waste Visual Examination
25.	CCP-TP-139	5	CCP in Situ Object Counting System Nondestructive Assay Operating Procedure
26.	CCP-TP-145	4	CCP RTR#4 Operating Procedure
27.	CCP-TP-163	4	CCP Evaluation of Waste Packaging Records for Visual Examination of Records
28.	CCP-TP-189	3	CCP Box Segmented Gamma System (BSGS) Operating Procedure
29.	CCP-TP-190	2	CCP Box Segmented Gamma System (BSGS) Calibration Procedure
30.	CCP-TP-191	2	CCP Box Neutron Assay System (BNAS) Operating Procedure
31.	CCP-TP-192	1	CCP Box Neutron Assay System (BNAS) Calibration Procedure
32.	CCP-TP-193	6	CCP Data Reviewing, Validating, and Reporting Procedure for the Nondestructive Assay Box Counters
33.	CCP-TP-500	13	CCP Remote-Handled Waste Visual Examination
34.	CCP-TP-504	14	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
35.	CCP-TP-506	5	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
36.	CCP-TP-508	9	CCP RH Standard Real-Time Radiography Inspection Procedure
37.	CCP-TP-530	11	CCP RH TRU Waste Certification and WWIS/WDS Data Entry
38.	DOE/WIPP-02-3214	3	Remote Handled TRU Waste Characterization Program Implementation Plan
39.	DOE-WIPP 06-3345	6	Waste Isolation Pilot Plant Flammable Gas Analysis

**Processes and Equipment Reviewed During Audit A-15-02 of the SRS/CCP**

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
<b>NEW PROCESSES OR EQUIPMENT</b>				
	N/A			
<b>PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT</b>				
The following were evaluated for recertification during CBFO Audit A-15-02				
1NABC1	Nondestructive Assay Procedures – CCP-TP-189 and CCP-TP-191 Description – Box Segmented Gamma System (BSGS) and Box Neutron Assay System (BNAS), Five Foot Setback Configuration	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	N/A	YES
1LCNDE	Real-time Radiography Procedure – CCP-TP-053 and CCP-TP-074 Description – Large Container Non-Destructive Examination (LCNDE) Unit – standard waste boxes (SWBs) and SLB2s	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	NO
1RR4	Real-time Radiography Procedure – CCP-TP-053 and CCP-TP-145 Description – RTR-4, 55-gallon drums and standard waste boxes (SWBs), Standard large box 2s (SLB2s)	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	NO
1RHVE1	Visual Examination Procedures – CCP-TP-163 and CCP-TP-500 Description – Visual Examination of Records for Remote-Handled for Waste Stream SR-RH-SDD.01 only	Debris (S5000)	YES	YES
VISUAL	Visual Examination Procedure – CCP-TP-113 Description – VE QC Check for RTR, VE in lieu of RTR, VET for Retrievably Stored Waste	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	YES
1DTC1	Dose-to-Curie Procedure – CCP-TP-504 Description – Radiological Characterization	Debris (S5000)	N/A	YES

**Processes and Equipment Reviewed During Audit A-15-02 of the SRS/CCP**

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
N/A	Acceptable Knowledge (AK)	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	Data Generation and Project Level Validation and Verification (V&V)	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	WIPP Waste Information System/Waste Data System (WWIS/WDS)	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	YES	YES
N/A	Quality Assurance Program	Solids (S3000) Soils/Gravel (S4000) Debris (S5000)	N/A	YES