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NMED Hazardous Waste Bureau

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

OCT - 3 2012

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

Subject: Transmittal of the Hazardous Waste Facility Permit Attachment C6 Audit Plan for Recertification Audit A-13-02 of the SRS/CCP Transuranic Waste Characterization and Certification Program

Dear Mr. Kieling:

This letter transmits the audit plan for the subject Carlsbad Field Office (CBFO) recertification audit to be conducted at the Savannah River Site and at the Carlsbad, New Mexico facilities November 6 – 8, 2012, as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Section C4-3g. The audit plan identifies the audit team members as required by Section C6-3 of the Permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. Randy Unger, at (575) 234-7065.

Sincerely,

George T. Basabilvazo for

Jose R. Franco
Manager, Carlsbad Field Office

Enclosure

cc: w/enclosure

R. Unger, CBFO	*ED	S. Holmes, NMED	ED
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G. Basabilvazo, CBFO	ED	WIPP Operating Record	ED
N. Castaneda, CBFO	ED	CBFO QA File	
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CARLSBAD FIELD OFFICE SRS/CCP RECERTIFICATION AUDIT PLAN

Audit Number: A-13-02

Organization: Savannah River Site (SRS)
Central Characterization Project (CCP)

Organizations to Be Notified: SRS
Nuclear Waste Partnership LLC (WTS)
U.S. Environmental Protection Agency
Defense Nuclear Facilities Safety Board
New Mexico Environment Department

Date and Locations: November 6 – 8, 2012
SRS and Carlsbad, NM

Audit Team:

Courtland G. Fesmire	Carlsbad Field Office (CBFO) Quality Assurance Management Representative
Priscilla Y. Martinez	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Charlie Riggs	Auditor, CTAC
Earl Bradford	Auditor, CTAC
Rick Castillo	Auditor, CTAC
Greg Knox	Auditor, CTAC
Katie Martin	Auditor, CTAC
Tammy Bowden	Auditor, CTAC
Cindi Castillo	Auditor, CTAC
Berry Pace	Auditor, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC
Mavis Lin	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Porf Martinez	Technical Specialist, CTAC
B.J. Verret	Technical Specialist, CTAC
Joe Willis	Technical Specialist, NWP
Robbie Morrison	Technical Specialist, NWP

Audit Scope:

The audit team will evaluate the continued adequacy, implementation, and effectiveness of the SRS/CCP technical and quality assurance (QA) activities performed for characterization of remote-handled (RH) Summary Category Group (SCG) S5000 debris waste and the SRS/CCP technical and QA activities performed for the characterization of contact-handled (CH) SCG S3000 homogeneous solids waste, S4000 soils/gravel waste, and S5000 debris waste.

The audit team will also evaluate the five foot set back configuration (55-gallon drums only) of the nondestructive assay box counter (NABC), which only affects the

gamma modality of the NABC. The specific processes to be audited are identified under *Activities to Be Audited*, and on the attached "Processes and Equipment to Be Reviewed During Audit A-13-02."

Activities to Be Audited:

The following areas from Attachment C6, Section C6-3 of the Hazardous Waste Facility Permit will be audited:

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

QA elements:

Personnel Qualification and Training
Documents and Records
Nonconformances
Container Management

Technical elements:

Acceptable Knowledge, including waste certification (i.e., Waste Stream Profile Forms)
Project-level Data Validation and Verification
Dose-to-Curie
Headspace Gas Sampling
Nondestructive Assay
Real-time Radiography
Visual Examination
WIPP Waste Information System/Waste Data System

Governing Documents/Requirements:

Evaluation of adequacy of SRS/CCP documents will be based on the current revisions of the following documents:

- DOE/CBFO-94-1012, *Quality Assurance Program Document*
- Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF
- DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
- DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan*
- DOE/WIPP 02-3283, *RH Packaging Program Guidance*

- DOE/WIPP 02-3284, *RH Packaging Operations Manual*
- DOE/WIPP 02-3183, *CH Packaging Program Guidance*
- DOE/WIPP 02-3184, *CH Packaging Operations Manual*
- DOE/WIPP 11-3456, *TRUPACT-III Program Guidance*
- DOE/WIPP 11-3451, *TRUPACT-III Operations Manual*
- TRUPACT-II *Safety Analysis Report; Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC);* and TRUPACT-II Certificate of Compliance, NRC 71-9218

Programmatic and technical checklists will be developed from the current revisions of the following documents:

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, *CCP Transuranic Waste Certification Plan*
- Related SRS/CCP QA and technical implementing procedures

Schedule of Audit Activities:

A pre-audit conference is scheduled for 8:00 a.m., Tuesday, November 6, 2012.

Audit team caucuses will be held at 3:00 p.m., Tuesday and Wednesday, November 6 and 7, 2012, and at 2:00 p.m. on Thursday, November 8, 2012.

The audit team leader will meet with SRS/CCP management to discuss audit concerns and audit progress at 8:30 a.m. daily, Wednesday and Thursday, November 7 and 8, 2012.

A post-audit conference is scheduled for 3:00 p.m., Thursday, November 8, 2012.

All audit activities, except WIPP Waste Information System/Waste Data System, Training, and Records, will be at the Savannah River Site. Audit activities related to WIPP Waste Information System/Waste Data System, Training, and Records will be performed in Carlsbad, NM. All times are Eastern Standard Times.

Approved By: Priscilla Y Martinez **Date:** 10-1-12
Priscilla Y. Martinez
CTAC Audit Team Leader

Approved By: R. Unger **Date:** Oct 12
Randy Unger, CBFO
Director, Office of Quality Assurance

Processes and Equipment to be Reviewed During Audit A-13-02

WIPP WWIS #	Site Equipment #	Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
NEW PROCESSES OR EQUIPMENT					
1NABC1	NABC – (SR05/SRN5)	Nondestructive Assay Box Counter – 55-gallon drums, standard waste boxes (SWBs), and standard large box 2s (SLB2s) Method identified in CCP-TP-189 and CCP-TP-191	Gamma • Two Co-60 Transmission Sources • Two NaI Gamma Detectors for transmission measurements • Four Broad Energy Germanium (BEGe) Detectors for gamma emission measurements • Six Digital Signal Processors Neutron • 320 He-3 Tubes in High Density Polyethylene Liner • Cf-252 Add-A-Source Correction	• NDA-2000 • Genie-2000	Gamma [5-foot set-back] far-field calibration utilizing multi-curve efficiency-based calibration, in accordance with ASTM Standard C1133/C1133-10 for the Box Segmented Gamma System at the Savannah River Site, CCP-SRS-NABC-2011-01, May 2, 2011. Both 1-hour extended count time and 20-minute reduced count time calibrations approved for NABC gamma efficiency-based calibration. The five-foot set back calibration applies to only 55-gallon drums at this time.
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT					
1NABC1	NABC – (SR05/SRN5)	Nondestructive Assay Box Counter – 55-gallon drums, standard waste boxes (SWBs), and standard large box 2s (SLB2s) Method identified in CCP-TP-189 and CCP-TP-191	Gamma • Two Co-60 Transmission Sources • Two NaI Gamma Detectors for transmission measurements • Four Broad Energy Germanium (BEGe) Detectors for gamma emission measurements • Six Digital Signal Processors Neutron • 320 He-3 Tubes in High Density Polyethylene Liner • Cf-252 Add-A-Source Correction	• NDA-2000 • Genie-2000	The NABC has two modalities of operation: gamma and neutron. Therefore, two sets of calibration documents exist. For the gamma modality three calibrations are approved: (1) Gamma near-field calibration utilizing multi-curve efficiency-based calibration, in accordance with ASTM Standard C1133/C1133-10 for the Box Segmented Gamma System at the Savannah River Site, CCP-SRS-NABC-2011-01, May 2, 2011. Both 1-hour extended count time and 20-minute reduced count time calibration arrangements are approved for NABC gamma near-field efficiency-based calibration. (2) Gamma near-field calibration utilizing matrix transmission correction-based calibration, in accordance with ASTM Standard C1133/C1133-10 for the Box Segmented Gamma System at the Savannah River Site, CCP-SRS-NABC-2011-01, May 2, 2011. Both 1-hour extended count time and 20-minute reduced count time calibration arrangements are approved for NABC gamma near-field matrix transmission correction-based calibration.

Processes and Equipment to be Reviewed During Audit A-13-02

WIPP WWIS #	Site Equipment #	Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
					For the passive neutron modality, two calibrations are approved: (1) Passive neutron calibration utilizing high-efficiency coincidence and multiplicity counting technique together with Cf-252 Add-A-Source based-calibration for 1-hour extended count time, in accordance with ASTM Standard C-1207 (Neutron Coincidence Counting) and ASTM Standard C-1500 (Neutron Multiplicity Counting) for the Box Neutron Assay System at the Savannah River Site, CCP-SRS-NABC-2011-01, May 2, 2011. The 1-Hour extended count time calibration arrangement is approved for the NABC Box Neutron Assay System neutron coincidence and multiplicity counting Cf-252 Add-A-Source-based calibrations. (2) Passive neutron calibration utilizing high-efficiency coincidence and multiplicity counting technique together with Cf-252 Add-A-Source based-calibration for 20-minute reduced count time, in accordance with ASTM Standard C-1207 (Neutron Coincidence Counting) and ASTM Standard C-1500 (Neutron Multiplicity Counting) for the Box Neutron Assay System at the Savannah River Site, CCP-SRS-NABC-2011-01, May 2, 2011. The 20-minute reduced count time calibration arrangement is approved for the NABC Box Neutron Assay System neutron coincidence and multiplicity counting Cf-252 Add-A-Source-based calibrations. The determination of the TMU for the NABC is similarly documented for the gamma modality in A40972, "Savannah River Box Gamma Box Counter Total Measurement Uncertainty Report for Alternatives for Non-Destructive Assay (NDA) of Large Containers to Allow Shipping in TRUPACT-III without Resizing and/or Repackaging," dated October 15, 2007, and for the neutron modality in A41309, "Savannah River Neutron Box Counter Total Measurement Uncertainty Report for

Processes and Equipment to be Reviewed During Audit A-13-02					
WIPP WWIS #	**Site Equipment #**	**Equipment Description**	**Components**	**Software**	**NDA Calibrated Range, Operating Range and TMU**
					Alternatives for Non-Destructive Assay (NDA) of Large Containers to Allow Shipping in TRUPACT-III without Resizing and/or Repackaging," dated October 15, 2007.
1RR3	RTR-15 (owned by SRS)	Real-time Radiography Built by Marietta X-Ray Method identified in CCP-TP-053	• Shielded x-ray enclosure with a hydraulic drum loading door and manually opened personnel door • Conveyer cart including drum manipulation equipment • X-ray imaging system including x-ray tube, image intensifier, and video camera • Video/audio recording equipment • Mobile platform	N/A	N/A
1RR4	RTR-4	Real-time Radiography Method identified in CCP-TP-053	• Shielded x-ray enclosure with a rear container loading door and manually opened personnel door • Conveyer cart • Drum manipulation equipment • X-ray imaging system including x-ray tube, image intensifier, and video camera • Video/audio recording equipment • Mobile platform	N/A	N/A
1LCNDE	LCNDE	Real-time Radiography Method identified in CCP-TP-053	• X-ray source - Linatron 3 MeV linear accelerator • Linear Diode Array (LDA) - X-ray imaging system which is used to produce a single still image of the container. • Area Detector Array (ADA) - X-ray imaging system which provides real time radioscopic images of the container. • Imaging and control software. • Container manipulation equipment • Video/audio recording equipment	N/A	N/A

Processes and Equipment to be Reviewed During Audit A-13-02					
WIPP WWIS #	**Site Equipment #**	**Equipment Description**	**Components**	**Software**	**NDA Calibrated Range, Operating Range and TMU**
VISUAL	Visual Examination	Visual Examination Method identified in CCP-TP-113	N/A	N/A	N/A
1DTC1	Dose-to-Curie	Radiological characterization Method identified in CCP-TP-504	As identified in CCP-TP-504	As identified in CCP-TP-504	N/A
N/A	HSG	SUMMA Sampling process on selected waste containers from waste stream lots.	As identified in CCP-TP-093	As identified in CCP-TP-093	N/A