



ENCLOSURE

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

JUN 26 2012



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

Subject: Review of Savannah River Site-Central Characterization Project Waste Stream Profile Form Number SR-221H-PuOx

Dear Mr. Kieling:

The Department of Energy, Carlsbad Field Office has approved the Waste Stream Profile Form (WSPF) Number SR-221H-PuOx, *Blended PuOx*, for the Central Characterization Project at the Savannah River Site.

Enclosed is a copy of the WSPF as required by Section C-5a of the Waste Isolation Pilot Plant, Hazardous Waste Facility Permit, No. NM4890139088-TSDF.

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 questions, please contact Mr. J. R. Stroble, Director of the Office of the National TRU Program, at (575) 234-7313.

Sincerely,

Jose R. Franco, Manager  
Carlsbad Field Office

Enclosure

- cc: w/enclosure
- J. R. Stroble, CBFO \* ED
- N. Castaneda, CBFO ED
- B. Mackie, CBFO ED
- T. Morgan, CBFO ED
- M. Pinzel, CBFO ED
- S. Holmes, NMED ED
- T. Kliphuis, NMED ED
- CBFO M&RC

\*ED denotes electronic distribution



Attachment 2 – CCP Waste Stream Profile Form

<b>(1) Waste Stream Profile Number:</b> SR-221H-PuOx			
(2) Generator site name: Savannah River Site		(3) Generator site EPA ID: SC1890008989	
(4) Technical contact: Beverly Schrock		(5) Technical contact phone number: 575-234-7444	
(6) Date of audit report approval by New Mexico Environment Department (NMED): March 3, 2011			
(7) Title, version number, and date of documents used for WIPP-WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011; CCP-PO-004, CCP/SRS Interface Document, Revision 30, October 17, 2011			
(8) Did your facility generate this waste? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
(9) If no, provide the name and EPA ID of the original generator: NA			
<b>Waste Stream Information</b>			
(10) WIPP ID: None Available		(11) Summary Category Group: S5000 – Debris Waste	
(12) Waste Matrix Code Group: Heterogeneous Debris Waste		(13) Waste Stream Name: SRS Blended PuOx	
(14) Description from the ATWIR: This waste is not currently included in DOE/TRU-10-3425, <i>Annual Transuranic Waste Inventory Report (ATWIR)</i> – 2011. Waste stream SR-221H-PuOx is comprised primarily of plutonium oxide blended with an inert inorganic material. The waste stream also contains packaging materials such as metal cans and plastic bags.			
(15) Defense TRU Waste: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
(16) Check One: CH <input checked="" type="checkbox"/> RH <input type="checkbox"/>			
(17) Number of SWBs: NA	(18) Number of Drums: 470 55-gallon drums (POCs)	(19) Number of Canisters: NA	
(17a) Number of SLB2: NA			
(20) Batch Data Report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers.			
(21) List applicable EPA Hazardous Waste Numbers: NONE			
(22) Applicable TRUCON Content Numbers: SR 125 / 225			
<b>(23) Acceptable Knowledge Information</b>			
<b>(For the following, enter the supporting documentation used [i.e., references and dates])</b>			
<b>Required Program Information</b>			
(23A) Map of site: CCP-AK-SRS-21, Revision 0, January 24, 2012, Figures 1, 2 and 3			
(23B) Facility mission description: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 4.3			
(23C) Description of operations that generate waste: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 4.7			
(23D) Waste identification/categorization schemes: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 4.6.3			
(23E) Types and quantities of waste generated: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 4.6.1			
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 4.6.2			
(24) Waste certification procedures: CCP-TP-030, Revision 30, May 21, 2012			
(25) Required Waste Stream Information			

**CCP-TP-002, Rev. 24**  
**CCP Reconciliation of DQOs and**  
**Reporting Characterization Data**

**Effective Date: 12/28/2011**

**Page 27 of 45**

(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 5.1	
(25B) Waste stream volume and time period of generation: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 5.2	
(25C) Waste generating process description for each building: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 5.3	
(25D) Waste Process flow diagrams: CCP-AK-SRS-21, Revision 0, January 24, 2012, Figure 4	
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-SRS-21, Revision 0, January 24, 2012, Section 5.4	
(25F) Waste Material Parameter Weight Estimates per unit of waste: See table entitled "Waste Stream SR-221H-PuOx Waste Material Parameters" in Summation of Aspects of the AK Summary Report: Waste Stream SR-221H-PuOx	
(26) Which Defense Activity generated the waste:	
X	Weapons activities including defense inertial confinement fusion
	Naval Reactors development
	Verification and control technology
	Defense research and development
	Defense nuclear waste and material by products management
X	Defense nuclear material production
	Defense nuclear waste and materials security and safeguards and security investigations
(27) Supplemental Documentation:	
(27A) Process design documents: NA	
(27B) Standard operating procedures: See P5001, P5002, P5003, P5004, P5005, P5006, P5007, P5008, P5009, P5010, P5011, P5012, P5015 and P5043 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27C) Safety Analysis Reports: See D5006, D5016, D5018, D5019 and D5020 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27D) Waste packaging logs: NA	
(27E) Test plans/research project reports: See C5024, M5031, P5016, P5033, P5036, P5037 and P5038 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27F) Site databases: See M5015 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27G) Information from site personnel: See C5009, C5014 and C5018 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27H) Standard industry documents: NA	
(27I) Previous analytical data: See C5003, C5023, D5008, M5001, M5002, M5003, M5004, M5005, M5015, M5030, M5031, P5016, P5033, P5036, P5037 and P5038 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27J) Material safety data sheets: See P5017, P5018, P5019, P5020, P5021, P5022, P5023, P5024, P5025, P5026, P5027, P5028, P5029, P5030 and P5031 in the Summation of Aspects of AK Summary Report: Waste Stream CCP-AK-SRS-21, Source Documents	
(27K) Sampling and analysis data from comparable/surrogate Waste: See M5001, M5002, M5003, M5004, M5005 and M5031 in the Summation of Aspects of AK Summary Report: Waste Stream SR-221H-PuOx, Source Documents	
(27L) Laboratory notebooks: NA	
Confirmation Information	
For the following, when applicable, enter procedure title(s), number(s) and date(s)	
(28)	Radiography: CCP-TP-053, Revision 11, July 20, 2011
	Visual Examination: NA



# CHARACTERIZATION INFORMATION SUMMARY

WSPF # SR-221H-PuOx

Lot 1

## TABLE OF CONTENTS

Characterization Information Cover Page.....	002
Correlation of Container Identification Numbers to Batch Data Report Numbers.....	003
CCP Headspace Gas UCL <sub>90</sub> Evaluation Form.....	004
Headspace Gas Summary Data.....	006
RTR/VE Summary of Prohibited Items and AK Confirmation.....	007
Reconciliation with Data Quality Objectives.....	008

**CCP Characterization Information Summary Cover**

Waste Stream # SR-221H-PuOx Lot #: 1  
 AK Expert Review: N/A Date: N/A  
 SPM Review: Richard Kantrowitz *[Signature]* Date: 6/11/2012

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

**List of procedures used:**

**Radiography (RTR/NDE):**

CCP-TP-053 Rev. 11 07/20/11 CCP Standard Real-Time Radiography (RTR) Inspection Procedure

**Non Destructive Assay (NDA):**

CCP-TP-191 Rev. 1 10/20/09 CCP Box Neutron Assay System (BNAS) Operating Procedure

**Headspace Gas Sampling and Analysis (HSG):**

CCP-TP-093 Rev. 16 09/07/11 CCP Sampling of TRU Waste Containers  
 CCP-TP-106 Rev. 7 12/29/10 CCP Headspace Gas Sampling Batch Data Report Preparation  
 CCP-TP-175 Rev. 3 08/02/11 CCP Analysis of Gas Samples for VOCs by GC/MS  
 CCP-TP-175 Rev. 2 12/29/10 CCP Analysis of Gas Samples for VOCs by GC/MS

**Project Level Data Validation / DQO Reconciliation:**

CCP-TP-001 Rev. 19 12/29/10 CCP Project Level Data Validation and Verification  
 CCP-TP-002 Rev. 24 12/28/11 CCP Reconciliation of DQOs and Reporting Characterization Data  
 CCP-TP-002 Rev. 23 12/29/10 CCP Reconciliation of DQOs and Reporting Characterization Data  
 CCP-TP-003 Rev. 18 12/29/10 CCP Data Analysis for S3000, S4000, and S5000 Characterization  
 CCP-TP-005 Rev. 24 11/28/11 CCP Acceptable Knowledge Documentation  
 CCP-TP-005 Rev. 23 05/30/11 CCP Acceptable Knowledge Documentation  
 CCP-TP-030 Rev. 30 05/21/12 CCP CH TRU Waste Certification and WWIS/WDS Data Entry  
 CCP-TP-030 Rev. 29 04/26/11 CCP CH TRU Waste Certification and WWIS/WDS Data Entry

**WAP Certification:**

CCP-PO-001 Rev. 20 06/16/11 CCP Transuranic Waste Characterization Quality Assurance Project Plan  
 CCP-PO-002 Rev. 26 07/14/11 CCP Transuranic Waste Certification Plan  
 CCP-PO-004 Rev. 30 10/17/11 CCP/SRS Interface Document

## CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

Waste Stream: # SR-221H-PuOx

Lot # 1

Page 6 of 26

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack. Yes	Headspace Gas BDR		
							Sample	Analysis	
HBL110064	SRLBC0654	SR4RTR0244	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110065	SRLBC0653	SR4RTR0246	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110066	SRLBC0654	SR4RTR0245	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110069	SRLBC0653	SR4RTR0246	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110071	SRLBC0653	SR4RTR0246	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110073	SRLBC0653	SR4RTR0246	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110078	SRLBC0654	SR4RTR0243	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110079	SRLBC0653	SR4RTR0246	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110080	SRLBC0654	SR4RTR0245	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A
HBL110088	SRLBC0653	SR4RTR0245	N/A	N/A	N/A		SRHSG1209	ECL12016M	N/A

  
Signature of Site Project Manager

Richard Kantrowitz  
Printed Name

6/11/2012  
Date

GIS003

# CCP Headspace Gas UCL<sub>90</sub> Evaluation Form

WSPF #:

SR-221H-PuOx

Waste Stream Headspace Gas Lot 1 through 1  
Number

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL <sub>90</sub> (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL <sub>90</sub> > PRQL Yes	EPA Hazardous Waste Number
Acetone	Log	10	10	2.00	1.24	0.43	1.43	100	4.61		
Benzene	SQRT	0	10	0.53	0.40	0.10	0.44	10	3.16		
Bromoform	SQRT	0	10	0.29	0.22	0.05	0.24	10	3.16		
Butanol	Log	10	10	0.47	-0.54	0.54	-0.30	100	4.61		
Carbon Disulfide <sup>(2)</sup>	SQRT	0	10	0.59	0.44	0.10	0.49	10	3.16		
Carbon tetrachloride	SQRT	0	10	0.37	0.28	0.07	0.31	10	3.16		
Chlorobenzene	Log	0	10	-1.69	-2.31	0.49	-2.10	10	2.30		
Chloroform	SQRT	0	10	0.44	0.33	0.08	0.36	10	3.16		
Chloromethane <sup>(2)</sup>	SQRT	0	10	0.70	0.53	0.13	0.58	10	3.16		
Cyclohexane <sup>a</sup>	SQRT	0	10	0.52	0.39	0.09	0.43	10	3.16		
1,1-Dichloroethane	Log	0	10	-1.43	-2.06	0.50	-1.84	10	2.30		
1,2-Dichloroethane	SQRT	0	10	0.48	0.36	0.09	0.40	10	3.16		
1,1-Dichloroethylene	SQRT	0	10	0.49	0.37	0.09	0.41	10	3.16		
cis-1,2-Dichloroethylene <sup>(2)</sup>	SQRT	0	10	0.49	0.37	0.09	0.41	10	3.16		
trans-1,2-Dichloroethylene	SQRT	0	10	0.49	0.37	0.09	0.41	10	3.16		
1,2-Dichloropropane <sup>(2)</sup>	SQRT	0	10	0.46	0.34	0.08	0.38	10	3.16		
Ethyl benzene	SQRT	0	10	0.43	0.32	0.08	0.35	10	3.16		
Ethyl ether	SQRT	0	10	0.57	0.43	0.10	0.47	10	3.16		
Methanol	Log	10	10	2.64	2.07	0.39	2.24	100	4.61		
Methyl ethyl ketone	SQRT	0	10	0.56	0.42	0.10	0.46	100	10.00		
Methyl isobutyl ketone	SQRT	0	10	0.45	0.34	0.08	0.37	100	10.00		
Methylene chloride	SQRT	0	10	0.55	0.41	0.10	0.46	10	3.16		
1,1,2,2-Tetrachloroethane	SQRT	0	10	0.37	0.28	0.07	0.31	10	3.16		
Tetrachloroethylene	SQRT	0	10	0.37	0.28	0.07	0.31	10	3.16		
Toluene	Log	10	10	3.64	2.68	0.62	2.95	10	2.30	Yes	None <sup>(3)</sup>
1,1,1-Trichloroethane	SQRT	0	10	0.43	0.32	0.08	0.36	10	3.16		
Trichloroethylene	SQRT	0	10	0.44	0.33	0.08	0.36	10	3.16		
Trichlorofluoromethane <sup>(2)</sup>	SQRT	0	10	0.44	0.33	0.08	0.36	10	3.16		
1,1,2-Trichloro-1,2,2-trifluoroethane	Log	0	10	-1.97	-2.59	0.50	-2.38	10	2.30		

CIS004

# CCP Headspace Gas UCL<sub>90</sub> Evaluation Form

WSPF #: SR-221H-PuOx

Waste Stream Headspace Gas Lot 1 through 1  
Number

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL <sub>90</sub> (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL <sub>90</sub> > PRQL Yes	EPA Hazardous Waste Number
1,3,5-Trimethylbenzene <sup>a</sup>	SQRT	0	10	0.41	0.31	0.07	0.34	10	3.16		
1,2,4-Trimethylbenzene <sup>a</sup>	SQRT	0	10	0.42	0.31	0.08	0.35	10	3.16		
m,p-Xylene <sup>b</sup>	SQRT	0	10	0.45	0.34	0.08	0.37	10	3.16		
o-Xylene	SQRT	0	10	0.44	0.33	0.08	0.36	10	3.16		
Formaldehyde <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine <sup>d</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<sup>a</sup> These compounds are from CCP-PO-003, CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) and are flammable VOCs that do not appear in CCP-PO-001. These are not part of the target analyte list, but samples may be analyzed for these compounds.

<sup>b</sup> These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

<sup>c</sup> Required only for homogenous solids and soil/gravel waste from Savannah River Site.

<sup>d</sup> Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

**Comments:**

- (1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)
- (2) The noted analytes are not included in the target analyte list Table C3-2 of HWFP Attachment C3. The analytes are reported in the analysis Batch Data Report provided by the Idaho lab and included on the UCL<sub>90</sub> for completeness.
- (3) No Hazardous Waste Number assigned as Toluene is attributable to the waste packaging. See DR001 to CCP-AK-SRS-21.



Signature of Site Project Manager

Richard Kantrowitz

Printed Name

6/11/2012

Date

# CCP   Cadspace Gas Summary Da

Waste Stream Number

SR-221H-PuOx

Lot Number (s)

1

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
None	N/A	N/A	N/A
Data Supports EPA Hazardous Waste Numbers Assigned by AK?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
If no, describe the basis for assigning the EPA Hazardous Waste Codes:			

SPM Signature



Date

6/11/2012

# CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream Number: SR-221H-PuOx

Lot(s)#: 1

Container Number	RTR Prohibited Items <sup>a,b</sup>	Visual Examination Prohibited Items <sup>a,b</sup>
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	VE was not performed on any of the containers in this Lot.

a. See Batch Data Reports  
 b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).

Justification for the selection of RTR: RTR was selected as the characterization method for the containers because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste stream SR-221H-PuOx.



Site Project Manager Signature

Richard Kantrowitz

Printed Name

6/11/2012

Date

## CCP Reconciliation with Data Quality Objectives

WS# SR-221H-PuOx

Lot # 1

### Sampling Completeness

#### RTR/VE:

Number of Valid Samples: 10  
Percent Complete: 100 (QAO is 100%)

Number of Total Samples Analyzed: 10

#### NDA

Number of Valid Samples: 10  
Percent Complete: 100 (QAO is 100%)

Number of Total Samples Analyzed: 10

#### HSG

Number of Valid Samples: 10  
Percent Complete: 100 (QAO is  $\geq 90\%$ )  
Number of Valid Samples: 10  
Percent Complete: 100 (QAO is  $\geq 90\%$ )

Number of Total Samples Collected: 10

Number of Total Samples Analyzed: 10

#### Total VOC

Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )  
Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

#### Total SVOC

Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )  
Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

#### Total Metals

Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )  
Number of Valid Samples: NA  
Percent Complete: NA (QAO is  $\geq 90\%$ )

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

## CCP Reconciliation with Data Quality Objectives

WS# SR-221H-PuOx

Lot # 1

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL <sub>90</sub> values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003 Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL <sub>90</sub> values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003, Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, (UCL <sub>90</sub> ) values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003, Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL <sub>90</sub> ) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

## CCP Reconciliation with Data Quality Objectives

WS# SR-221H-PuOx

Lot # 1

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.		
9	NA	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.		
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.		
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.		
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.		
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.		
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.		
		<b>Completeness</b>	<b>Comparability</b>	<b>Representativeness</b>
	Radiography	Y	Y	Y
	VE	NA	NA	NA
	Headspace Gas Analysis	Y	Y	Y
	Solids Sampling	NA	NA	NA
	Solids VOCs	NA	NA	NA
	Solids SVOCs	NA	NA	NA
Solids Metals	NA	NA	NA	
Comments: None.				

  
Signature of Site Project Manager

Richard Kantrowitz  
Printed Name

6/11/2012  
Date

**SUMMATION OF ASPECTS OF AK SUMMARY REPORT: SR-221H-PuOx****Overview:**

The primary mission of the Savannah River Site (SRS) has been to support national security as a major source of reactor-produced materials, including plutonium, uranium, neptunium, and other special nuclear materials for weapons manufacturing. The primary function of H-Canyon has been the chemical separation of the isotopes Np-237 and Pu-238 from SRS reactors and from uranium and plutonium scrap material received from off-site sources. The HB-Line (sometimes referred to as HBL), also receives plutonium and neptunium solutions and converts them to solid plutonium and neptunium oxides.

HB-Line is scheduled to blend and repackage plutonium/uranium oxides into Pipe Overpack Containers (POC) for shipment to the Waste Isolation Pilot Plant (WIPP). This material was previously packaged into screw-lid 3013 containers and stored in K-Area as part of the DE-3013 program. The material is shipped from K-Area to HB-Line in model number 9975 shipping packages (Reference P5009). The plutonium oxide material in the 3013 can is divided into several blend cans pre-filled with an inert blending material. The blending can is sealed, the contents mixed, and then bagged out of the glovebox. The bagged blending can is placed in a slag and crucible (S&C) can for packaging into a POC. The POC is shipped to E-Area for WIPP certification. An estimated 70 kilograms of material is blended and repackaged into approximately 470 POCs during this campaign, further processing may involve up to 500 kilograms (References C5001, P5003, P5004, P5008, P5010, P5011, and P5047).

The plutonium oxides in this waste stream are high grade material from SRS, Rocky Flats Environmental Site (RFETS), and Hanford that have been selected for disposal as part of the K-Area Interim Surveillance Program (Reference P5032). RFETS materials were used in the production of weapons components; Hanford materials are associated with defense nuclear production and mixed oxide fuel production related to defense activities; and SRS materials are related to defense nuclear production activities (References C5023, P5034, P5035, and P5046).

This Summation of the Acceptable Knowledge (AK) Summary Report includes information to support Waste Stream Profile Form (WSPF) number SR-221H-PuOx. The primary source of information for this Summation is CCP-AK-SRS-21, Central Characterization Project Acceptable Knowledge Summary Report For Savannah River Site Waste Stream: SR-221H-PuOx, Revision 0, January 24, 2012.

**Waste Stream Identification Summary:**

Waste Stream Name: SRS Blended PuOx

Waste Stream Number: SR-221H-PuOx

Generation Dates: 2011 - 2012  
 Waste Stream Volume, Current: 470 POCs  
 Waste Stream Volume, Projected: Increased volume is expected  
 No current volume estimate available  
 Summary Category Group: S5000  
 Waste Matrix Code Group: Heterogeneous Debris Waste  
 Waste Matrix Code: S5100, Inorganic Debris  
 TRUPACT-II Content Code (TRUCON): SR 125/225  
 Annual Transuranic Waste Inventory Report  
 Identification Number: Not Available

**Waste Stream Description and Physical Form:**

Waste stream SR-221H-PuOx is comprised primarily of plutonium oxide blended with an inert inorganic material. The waste stream will also contain packaging materials such as metal cans and plastic bags. The waste was plutonium oxide material that was selected for disposal. SRS stores plutonium oxide material that originated from RFETS, Hanford, Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and SRS. The materials currently identified for disposal are from RFETS, Hanford, and SRS.

Waste Stream SR-221H-PuOx meets the WIPP Waste Analysis Plan waste stream definition. The waste stream consists of waste materials that have common physical form (blended plutonium oxide), that contain similar hazardous constituents (this is a non-Resource Conservation and Recovery Act (RCRA)-regulated waste), and that are generated from a single process or activity (the blending project).

The final form of the waste stream is a debris consisting of blended plutonium oxide, a blend can, a bagout bag, an S&C can, and the POC.

**Point of Generation:** Waste stream SR- 221H-PuOx is generated at SRS in Aiken, South Carolina. The waste is stored at the SRS E-Area.

**Area and/or Building of Generation:** SRS H-Canyon, South HB-Line.

**Generating Processes:****Description of Waste Generating Processes**

Plutonium-bearing materials are stored at the K-Area Material Storage Area in 9975/3013 shipping packages. A surveillance program is in place at the K-Area to validate the safety of the stored 3013 packages. This surveillance program is implemented through a complex-wide Integrated Surveillance Program (Reference P5038). The material is shipped from K-Area to HB-Line in model number 9975 shipping packages (Reference P5009). Upon receipt in H-Area, the 9975 shipping package is transported to a vault type room where the 3013 daughter is removed to the blending process area. The 3013 can is introduced into the South Line (Reference P5003). The DE-3013 can is opened and the inner can is removed. If the inner can was bagged, the plastic bag is removed and discarded. The inner can is opened and the scrap material is poured into the working can and weighed. Scrap material is transferred into a charge beaker until the target weight is achieved (less than or equal to 150 grams and less than or equal to the target scrap weight loading value). An inner blend can is placed on the balance and the material in the charge beaker is poured into the inner blend can. The blend can volume is about 1.3 liters (Reference P5003). The inner blend can is closed and placed on the blender, rotated, fitted with a filtered lid, and staged for bagout. The inner blend can is bagged out into an S&C can (References P5004 and P5005).

The bagged blending can is analyzed by pulse height analysis (PHA) prior to packaging into a POC. The POC is transported to and temporarily staged in the warm crane maintenance area vestibule of H-Canyon until shipment to E-Area for WIPP certification. An estimated 70 kilograms of material will be blended and repackaged into approximately 470 POCs during this campaign, further processing may involve up to 500 kilograms of plutonium oxide (Reference C5001, P5004, P5005, P5008, P5010, P5011, and P5047).

**Waste Stream Material and Chemical Inputs**

The HB-Line waste has historically been managed in accordance with the generator site requirements and in compliance with the requirements of the South Carolina Department of Health and Environmental Control (SCDHEC). Based on planned blending operations and waste management, the containers in this newly generated waste stream are managed as non-hazardous (Reference P5033).

## RCRA Determinations

### Historical Waste Management

The plutonium oxide material has been managed as product at RFETS, Hanford, LANL, LLNL, and SRS. As product, it was not assigned Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) (References P5033, P5034, and P5038).

SRS has performed engineering calculations addressing eight characteristic metals found in the blending demonstration project and has determined that the waste which will be generated is non-hazardous. The determination also states that the blended material will not be ignitable, reactive, or corrosive (References P5005, P5033, and P5038).

### Hazardous Waste Determinations

#### Ignitability, Corrosivity, Reactivity

The waste material in this waste stream does not meet the definition of ignitable, corrosive, and reactive as defined in 40 Code of Federal Regulations (CFR) 261.

#### Ignitability

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. There were no ignitable metals used as pure metal or otherwise in the HB-Line blending operations (e.g., sodium) (References P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

#### Corrosivity

The waste in this waste stream is not liquid and does not contain unreacted corrosive chemicals; therefore, it does not meet the definition of corrosivity (D002) found in 40 CFR 261.22. (References P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

#### Reactivity

The waste material in this waste stream does not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change without detonating. The materials will not react violently with water, form potentially explosive mixtures with water, nor generate toxic gases, vapors, or fumes when mixed with water. There were no reactive metals used as pure metal or otherwise in the HB-Line blending operations (e.g., sodium) (References P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

Non-radionuclide pyrophorics are not present in the repackaging process (References P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

The containers in this waste stream will be evaluated in accordance with the WIPP Waste Analysis Plan using radiography prior to shipment to ensure the waste is not ignitable, reactive, or corrosive.

### **Toxicity Characteristic**

The SRS evaluated the blending operations and concluded that the waste generated is non-hazardous. The evaluation states that before blending, the plutonium oxide material and the blend mixture are not waste; the material becomes waste when it leaves the H-Canyon facility (References P5033 and P5038). The evaluation was based on the scope of work for the blending operation and a hazardous waste determination evaluation performed for the job control waste associated with K-Area Interim Surveillance Program. Calculations were performed to demonstrate that the waste will not be characteristic for the toxicity characteristic constituents arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), and silver (D011). Sample results of the source plutonium oxide material are above the regulatory limits for some metals; however, after blending with the inert blending material, the resulting waste is below the RCRA limits (References P5033 and P5038).

Based on review of AK relative to chemicals and materials used or present in the blending operation, waste stream SR-221H-PuOx is not contaminated with organic toxicity characteristic compounds as defined in 40 CFR 261.24 (References P5033, and P5038).

Based on review of AK relative to chemicals and materials used or present in the blending operations, waste stream SR-221H-PuOx is not contaminated with toxicity characteristic solvent compounds as defined in 40 CFR 261.24 (Reference P5033 and P5038).

### **F-Listed Waste**

SRS has performed a hazardous waste determination for this waste stream and did not identify solvent use in the process. CCP evaluations of the blending operations confirmed the absence of solvents in the repackaging process. Job control waste is not included in this waste stream. Based on these evaluations, waste stream SR-221H-PuOx is not an F-listed waste as identified in Title 40 Code of Federal Regulations, Protection of the Environment, Part 261.31 as hazardous waste from non-specific sources (References DR001, P5004, P5005, P5006, P5007, P5033, and P5038).

Headspace gas sampling of Lot 1 resulted in the 90 Percent Upper Confidence Limit for toluene exceeding the Program Required Quantitation Limit. There is no source of toluene in the blending process. There are a number of common uses of toluene

associated with the packaging materials used with this waste stream such as tape, plastic, adhesives on labels, and ink used to write on labels. A discrepancy resolution attributes the presence of toluene to the packaging materials used; therefore, F005 is not assigned to this waste stream (Reference DR001).

### **K-Listed Waste**

Based on review of repackaging procedures relative to chemicals and materials used, waste stream SR-221H-PuOx is not hazardous waste from any of the sources specified in 40 CFR 261.32 (References P5033, and P5038). Repackaging instructions ensure no material other than plutonium oxide and blend material are included in the blend cans (Reference P5005). This waste stream does not include general building or maintenance-related waste. Therefore, waste stream SR-221H-PuOx is not assigned a K-listed HWN.

### **P and U-Listed Waste**

Based on review of repackaging procedures relative to chemicals and materials used, waste stream SR-221H-PuOx is not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33 (References P5033, and P5038). Repackaging instructions ensure no material other than plutonium oxide and blend material are included in the blend cans (Reference P5005). This waste stream does not include general building or maintenance-related waste.

The HWN U134 for hydrofluoric acid does not apply to SR-221H-PuOx (References P5033 and P5038).

Beryllium is expected to be present in the plutonium oxide waste as a contaminant in plutonium oxide product. Estimations performed by SRS using six parent DE 3013 cans show between five and 96 parts per million beryllium (Reference P5016). Beryllium is present only in trace quantities because each POC will contain less than one gram of beryllium and carbon combined (Reference P5016). Beryllium is therefore expected only in particulate form as an impurity or in residual trace amounts less than one percent by weight of the waste in any payload container. It is not used in this process as a pure commercial chemical in powder form (References P5004, P5005, P5006, P5007, P5033, and P5038). HWN P015 will not be assigned to this waste stream for pure beryllium powder.

### **Polychlorinated Biphenyls**

Polychlorinated biphenyls (PCBs) are not expected to be present in this waste. The repackaging procedures ensure that material that is not plutonium oxide or blend material is not added to the blend can. This waste stream does not include maintenance debris (References P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

**Prohibited Items**

Prohibited items include pyrophorics, liquids, particulates, flammable liquids, aerosol cans, and resins. Pyrophorics and explosives are not expected in this TRU waste stream. No compressed gas cylinders or explosives are expected. Any prohibited items identified during radiography are remediated (e.g., absorbing liquids, opening sealed containers greater than four liters, venting pressurized containers), to correct the deficiency. Based on the instructions in the repackaging procedures, prohibited items will not be present in this waste stream (References M5026, P5004, P5005, P5006, P5007, P5012, P5033, and P5038).

Waste packaging for the S&C cans placed into the POC will not require sharps protection or block and brace protection beyond that provided inside the POC (References P5002 and P5007).

CCP will perform radiography on the POCs to ensure the absence of prohibited items in waste stream SR-221H-PuOx.

**Method for Determining Waste Material Parameters Weights Per Unit of Waste**

To estimate the Waste Material Parameter (WMP) weight percent (wt%) for waste stream SR-221H-PuOx, data were obtained from estimates provided in the packaging procedures (References P5004, P5005, and P5030). The identified WMPs and the estimated weights were used to calculate the wt% estimates for a blend package (Reference M5032). The wt% range is not used because the analysis will not result in a range. It is expected that the actual implementation of the repackaging procedure will result in a small variability in weights in any given can.

The results of the analysis are presented in the table, "Waste Stream SR-221H-PuOx Waste Material Parameters." This evaluation is documented in a memorandum, as required by CCP-TP-005 (Reference M5032).

## Waste Stream SR-221H-PuOx Waste Material Parameters

Waste Material Parameter	Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	26.29	Not Applicable
Aluminum-based Metals/Alloys	0.00	Not Applicable
Other Metals	7.06	Not Applicable
Other Inorganic Materials	61.28	Not Applicable
Cellulosics	0.00	Not Applicable
Rubber	0.00	Not Applicable
Plastics (waste materials)	5.37	Not Applicable
Inorganic Matrix	0.00	Not Applicable
Organic Matrix	0.00	Not Applicable
Soils/Gravel	0.00	Not Applicable
Total Inorganic Waste Avg.	94.63	
Total Organic Waste Avg.	5.37	

**List of AK Sufficiency Determinations**

There are no AK Sufficiency Determinations associated with this waste stream.

**Transportation**

This waste stream meets the requirements for TRUCON codes SR 125/225.

**Beryllium**

Beryllium will not be present in amounts greater than 1% by weight of the waste in each payload container.

**Radionuclide Information**

To determine the isotopic ratios for waste stream SR-221H-PuOx, SRS used assay values for each of the 19 DE-3013 parent containers of plutonium oxide identified for disposal in this waste stream. The total gram value for each individual radionuclide was divided by the total mass of all radioactive constituents in the 3013 can and converted to a percentage normalized to Pu-239. CCP calculated the averages of each radionuclide reported for each of the 19 3013 cans. Because the estimate was made prior to the material being repackaged, the radionuclide (wt%) range for individual containers is not calculated. The same process was applied to determine "Total Radionuclide Ci%." As shown in the table, "Radionuclide Distribution for Waste Stream SR-221H-PuOx," Pu-239 is the most predominant radionuclide by mass, and Pu-240 is the second most predominant radionuclide by mass (Reference M5031).

## Radionuclide Distribution for Waste Stream SR- 221H-PuOx

Radionuclide	Total Radionuclide Wt% <sup>1</sup>	Radionuclide Wt% Range for Individual Containers <sup>2</sup>	Total Radionuclide Ci% <sup>3</sup>	Radionuclide Ci% Range for Individual Containers <sup>2</sup>	Suspected Present (Yes/No)
<b>WIPP-Tracked Radionuclides</b>					
Am-241	0.94	N/A	6.45	N/A	Yes
Pu-238	0.07	N/A	1.92	N/A	Yes
Pu-239	<b>86.38</b>	N/A	<b>26.72</b>	N/A	Yes
Pu-240	<b>6.86</b>	N/A	6.49	N/A	Yes
Pu-242	0.20	N/A	<0.01	N/A	Yes
U-233	NR <sup>4</sup>	N/A	NR	N/A	Yes
U-234	NR	N/A	NR	N/A	Yes
U-238	1.59	N/A	<0.01	N/A	Yes
Cs-137	NR	N/A	NR	N/A	Yes
Sr-90	NR	N/A	NR	N/A	Yes
<b>Additional Radionuclides</b>					
Np-237	0.03	N/A	<0.01	N/A	Yes
Pu-241	0.22	N/A	<b>58.42</b>	N/A	Yes
U-235	3.71	N/A	<0.01	N/A	Yes

1. This column indicates the total wt% of each radionuclide over the entire waste stream.
2. This evaluation is based on the 3013 source containers; individual container values will depend on the repackaging weights.
3. This column indicates the total activity (curie) percent of each radionuclide over the entire waste stream.
4. Not reported (NR) in the analytical results, potentially present.

Payload management is not being considered for this waste stream.

**AK Source Documents**

<b>Number</b>	<b>Title</b>
C5001	Memorandum from D.A. Wagoner to R.J. Parks Re: Radiological Assessment for WIPP Blending Demonstration
C5002	Memorandum from K.E. Goodwin to R.T. Bartholomew Re: Termination of Safeguards Request for Attractiveness Level D Plutonium Material
C5003	Memorandum from B.A. Eberhard to J.W. Christopher Re: 3013 Container Data for Select K-Area Interim Surveillance Items
C5004	Suspect Hazardous Waste Handling Requirements
C5009	Record of Communication - Atomic Energy Defense Activities
C5014	Record of Communication - Interview of Mike Mobley Re: TRU Waste Generation in Old HB-Line Record
C5018	Record of Communication - Interview of G. Blackburn, B. Smith, C. McClard, C. Byrd, and F. Loudermilk Re: TRU Waste Generation in HB-Line
C5023	Memorandum from Matthew S. McCormick to Kerry W. Watson Re: Request for Carlsbad Field Office Approval of Waste Stream Profile RLHMOX.001 for Waste Stream HMOX01.001
C5024	Termination of Safeguards Material Description
D5001	Dismantlement and Decontamination of a Plutonium-238 Facility at SRS
D5002	Characterization of HB-Line Transuranic (TRU) Waste
D5004	Implementation Plan for Buried Transuranic Waste at the Savannah River Plant
D5005	Transuranic Waste Projections at SRS for Long Range Planning
D5006	Savannah River Site Solid Waste Management Facility Safety Analysis Report
D5007	Transuranic Waste Baseline Inventory Report
D5008	Old Radioactive Waste Burial Ground
D5009	Characterization of HB-Line Low-Level Waste
D5014	Technical Safety Requirements Savannah River Site - Solid Waste Management Facility
D5015	Separations HB-Line Facility - Low Level Radioactive Waste/Mixed Waste Certification Plan
D5016	Building 221-H, B-Line Scrap Recovery Facility (SUP 2A)
D5017	Separations HB-Line Facility Transuranic (TRU) Waste Certification Plan
D5018	HB-Line Safety Analysis Report
D5019	Systems Analysis - 200 Area Savannah River Plant HB-Line Operations
D5020	HB-Line Basis for Interim Operation
D5022	Solid Waste Division 1998 System Plan

<b>Number</b>	<b>Title</b>
D5023	Safety Analysis - 200 Area; Savannah River Plant, Separations Area Operations, Building 221-H, B-Line, Plutonium Oxide Facility (Sup 2C)
D5024	Separations HB-Line Facility - Characterization of HB-Line Transuranic (TRU) Waste
DR001	Discrepancy Resolution: Toluene Detected in Headspace Gas Samples of Waste Stream SR-221H-PuOx
M5001	Data Summary Sheet: FY07 Metals Results
M5002	Data Summary Sheet: FY08 Metals Results
M5003	Data Summary Sheet: FY09 Metals Results
M5004	Data Summary Sheet: FY10 Metals Results
M5005	Data Summary Sheet: FY11 Metals Results
M5010	Power Point Presentation: Storage and Disposal History
M5012	Miscellaneous SRS Maps and Location Information
M5013	Waste Acceptance Criteria for USF/HB-Line Waste Handling Facility
M5015	Clarification of Scrap Declaration
M5016	"Universal" Figuring Book No. S 98
M5017	"Universal" Figuring Book No. S 98
M5019	Accountability Book 4
M5026	TRU Waste Container Characterization Forms (OSR 29-90) for drum additions
M5030	WIPP Blend Down Campaign - Internal Packaging Configuration
M5031	DE-3013 TRU Waste Characterizations for Containers Assayed from 2007 through 2010 for the WIPP Blend Down Campaign
M5032	DE-3013 Radionuclide Calculations
P5001	Bagport Operations Manual - Installing a Bag
P5002	Bagport Operations Manual - Bagging Out Process Operations
P5003	Phase I Scrap Recovery Manual - Moving DE-3013 Material and Blend Cans to the South Line - Oxides
P5004	Phase I Scrap Recovery Manual - Processing DE-3013 Item into WIPP Blend
P5005	Phase I Scrap Recovery Manual - Generating WIPP Blend Cans
P5006	Phase III 3013 Processing Manual - Placing Items In-Transit in CAL LAB/MA 1 & 2
P5007	Packaging WIPP Blend Waste
P5008	Transferring WIPP Blend TRU Waste in Pipe Overpack Containers to Solid Waste Disposal Facility
P5009	Shipping and Receiving Manual - Receipt of 9975 Shipping Containers from K-Area

<b>Number</b>	<b>Title</b>
P5010	Shipping and Receiving Manual - Receipt Preparations for Shipping Container Loaded with DE-3013 Project Material in 9975
P5011	Shipping and Receiving Manual - Unpackaging 9975 Shipping Container Loaded with DE-3013 Material
P5012	Prohibited Items Control
P5015	General Decontamination
P5016	HB-Line WIPP Blending MAR and OSA Compliance
P5017	Material Safety Data Sheet - Brillo Soap Pads
P5018	Material Safety Data Sheet - Comet Cleanser
P5019	Material Safety Data Sheet - Radiacwash
P5020	Material Safety Data Sheet - Basic-H Concentrated Organic Cleaner
P5021	Material Safety Data Sheet - Safest Stripper
P5022	Material Safety Data Sheet - CloWhite
P5023	Material Safety Data Sheet - Stripcoat
P5024	Material Safety Data Sheet - Tide
P5025	Material Safety Data Sheet - Blue Whiz
P5026	Material Safety Data Sheet - Regency Professional Heavy Duty Degreaser HD400
P5027	Material Safety Data Sheet - Clorox Clean-Up Cleaner with Bleach
P5028	Material Safety Data Sheet - Zap-O-Strip
P5029	Material Safety Data Sheet - Isoclean Concentrate
P5030	Material Safety Data Sheet - DeconGel 1101, 1120, 1121
P5031	Material Safety Data Sheet - Borax
P5032	HB-Line WIPP Blending Demonstration Scope of Work
P5033	Hazardous Waste Determination for the Material in the WIPP Blending Demonstration Project in HB-Line
P5034	Backlog Waste Reassessment Baseline Book - Waste Form 28 Product
P5035	Central Characterization Project Acceptable Knowledge Summary Report for Rocky Flats Combustibles and Plastic Stored at the Idaho National Laboratory: Waste Stream ID-RF-S5300-A
P5036	Waste Stream Profile Form: RF141.01
P5037	Waste Stream Profile Form: RF141.02
P5038	Hazardous Waste Determination for Waste Generated During the K Area Interim Surveillance (KIS) Destructive Evaluation (DE) Evolutions
P5039	H-Canyon/Of-H/Old B-Line Facility-Specific Minimization Plan

<b>Number</b>	<b>Title</b>
P5040	E-Area TRU Pads Transuranic Waste Acceptance Criteria
P5043	Cabinet Bagport Operations
P5044	Savannah River Plant: Management of Solid Radioactive Waste/Radiation and Contamination Control
P5046	Acceptable Knowledge Document for Hanford Site Mixed Oxides Waste Stream HMOX01
P5047	Interim Action Determination Disposal of Certain Plutonium Stored at Savannah River Site