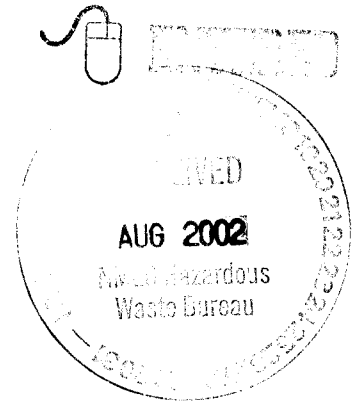




**Department of Energy**  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
August 13, 2002



Mr. Steve Zappe  
Hazardous Waste Permits Program  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
2905 E. Rodeo Park Drive, Bldg. 1  
Santa Fe, NM 87505

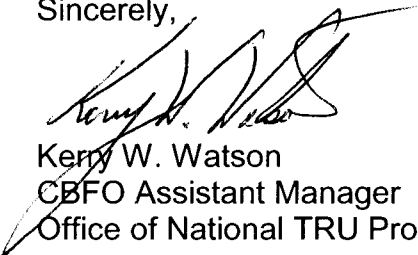
Subject: Transmittal of Approved Waste Stream Profile Form for Rocky Flats  
Environmental Technology Site, Waste Stream Profile Form Number  
RF004.01

Dear Mr. Zappe:

The Department of Energy, Carlsbad Field Office (CBFO) has approved the Rocky Flats Environmental Technology Site (RFETS), Waste Stream Profile Form RF004.01. Enclosed is a copy of the approved form as required by Section B-4(b)(1) of the WIPP Hazardous Waste Facility Permit No. NM4890139088-TSDF.

If you have any questions on this matter, please contact me at (505) 234-7357 or (505) 361-0265.

Sincerely,

  
Kerry W. Watson  
CBFO Assistant Manager  
Office of National TRU Program

Enclosure

cc: w/o enclosure  
J. Kieling, NMED  
C. Walker, TechLaw  
J. Bennett, WTS  
P. Roush, WTS  
L. Greene, WTS  
S. Calvert, CTAC  
CBFO Mailroom



WIPP WASTE STREAM PROFILE FORM

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Waste Stream Profile Number: RF004.01

Generator site name: RFETS

Technical contact: Eric D'Amico

Generator site EPA ID: CO7890010526

Phone number: (303) 966-5362

Date of audit report approval by NMED: March 9, 2000 as amended February 7, 2001; June 5, 2001 and April 8, 2002

Title, version number, and date of documents used for WAP certification: Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan, 95-QAPJP-0050, Revision 6, March 2002, Transuranic (TRU) Waste Management Manual, 1-MAN-008-WM-001, Revision 5, May 2002, Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 0, May 2002.

Did your facility generate this waste?  Yes  No If no, provide the name and EPA ID of the original generator:

**Waste Stream Information<sup>(1)</sup>**

WIPP ID: RF-TT0440 (RF-W113), RF-TT0441 (RF-W113), RF-TT0442 (RF-W113), RF-TR0440 (RF-W113), RF-TR0441 (RF-W113), RF-TR0442 (RF-W113)

Summary Category Group: S5000 Waste Matrix Code Group: Inorganic Nonmetal Waste (S5122)

Waste Stream Name: Glass/TRU

Description from the WTWBIR: Made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows.

Defense TRU Waste:  Yes  No

Check one:  CH  RH Number of SWBs 1 Number of Drums 3,000 Number of Canisters N/A

Batch Data Report numbers supporting this waste stream characterization: See Table 7.

List applicable EPA Hazardous Waste Codes<sup>(2)</sup>: None

Applicable TRUCON Content Codes: RF 118A, RF 118B, RF 118C, RF 118D, RF 118E, RF 118F, RF 118H, RF 118I, RF 118N, RF 118T

**Acceptable Knowledge Information<sup>(1)</sup>**

**Required Program Information**

- Map of site: Reference List, No. 3
- Facility mission description: Reference List, No. 3
- Description of operations that generate waste: Reference List, Nos. 1, 2, 3, 6
- Waste identification/categorization schemes: Reference List, Nos. 10, 11
- Types and quantities of waste generated: Reference List, Nos. 1, 2, 3, 6
- Correlation of waste streams generated from the same building and process, as appropriate: Reference List, Nos. 1, 2, 6
- Waste certification procedures: Reference List, No. 5

**Required Waste Stream Information**

- Area(s) and building(s) from which the waste stream was generated: Reference List, Nos. 1, 2, 6
- Waste stream volume and time period of generation: Reference List, Nos. 4, 6
- Waste generating process description for each building: Reference List, Nos. 1, 2, 6
- Process flow diagrams: Reference List, Nos. 1, 2
- Material inputs or other information identifying chemical/radionuclide content and physical waste form: Reference List, Nos. 1, 2, 3, 6

Which Defense Activity generated the waste: (Check one) Reference List, No. 3

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Weapons activities including defense inertial confinement fusion             | <input type="checkbox"/> Naval Reactors development           |
| <input type="checkbox"/> Verification and control technology   | <input type="checkbox"/> Defense research and development     |
| <input type="checkbox"/> Defense nuclear waste and material by products management                               | <input type="checkbox"/> Defense nuclear materials production |
| <input type="checkbox"/> Defense nuclear waste and materials security and safeguards and security investigations |   |

Reviewed For Classification/UCNI

By: V S SENDELWECK

Date: 9 AUG 02 (ANA)

OK PUBLIC

WIPP WASTE STREAM PROFILE FORM

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Supplemental Documentation:

- Process design documents: Note 3
- Standard operating procedures: Note 3
- Safety Analysis Reports: Note 3
- Waste packaging logs: Note 3
- Test plans/research project reports: Note 3
- Site data bases: Note 3
- Information from site personnel: Note 3
- Standard industry documents: Note 3
- Previous analytical data: Note 3
- Material safety data sheets: Note 3
- Sampling and analysis data from comparable/surrogate Waste: Note 3
- Laboratory notebooks: Note 3

Sampling and Analysis Information<sup>(1)</sup>

[For the following, when applicable, enter procedure title(s), number(s) and date(s)]

- Radiography: Reference List, Nos. 7, 8
- Visual Examination: Reference List, No. 12
- Headspace Gas Analysis  
 VOCs: Reference List, No. 9  
 Flammable: Reference List, No. 9  
 Other gases (specify): N/A
- Homogeneous Solids/Soils/Gravel Sample Analysis (Tables 1, 3, 4, and 5 are not applicable and not included)  
 Total metals: N/A  
 PCBs: N/A  
 VOCs: N/A  
 Nonhalogenated VOCs: N/A  
 Semi-VOCs: N/A  
 Other (specify): N/A

Waste Stream Profile Form certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

R. Ballinger For GAO  
Signature of Site Project Manager

G. A. O'Leary, Manager TRU Programs  
Printed Name and Title

8/9/02  
Date

C. L. Ferrera  
Signature of Site QA Officer

C. L. Ferrera, TWCP Site QAO  
Printed Name and Title

8/9/02  
Date

- NOTE**
- (1) Use back of sheet or continuation sheets, if required.
  - (2) If radiography, visual examination, headspace gas analysis, and/or homogeneous solids/soils/gravel sample analysis were used to determine EPA Hazardous Waste Codes, attach Characterization Information Summary documenting this determination.
  - (3) See the References section in the Acceptable Knowledge Summary (attached) for additional backup documentation associated with this waste stream.

## REFERENCE LIST

1. Backlog Waste Reassessment Baseline Book, Waste Form 17, Glass, Ground Glass, and Plexiglas, April 2002.
2. Waste Stream and Residue Identification and Characterization (WSRIC), Revision 7, and archived versions.
3. RFETS TRU Waste Acceptable Knowledge Supplemental Information, RF/RMRS-97-018, Revision 9, June 2001.
4. Waste and Environmental Management System (WEMS) database.
5. Transuranic Waste Certification, 1-PRO-X05-WC-4018, Revision 4, May 2002.
6. Acceptable Knowledge TRU/TRM Waste Stream Summaries, RMRS-WIPP-98-100, Revision 16, August 2002.
7. Real-Time Radiography Testing of Transuranic and Low-Level Waste, 4-W30-NDT-00664, Revision 5, October 2001.
8. Real-Time Radiography Testing of Transuranic and Low-Level Waste in Building 569, 4-I19-NDT-00569, Revision 6, January 2002.
9. GC/MS Determination of Volatile Organics Waste Characterization, L-4111-X, January 2002.
10. Waste Characterization, Generation, and Packaging, 1-PRO-079-WGI-001, Revision 4, May 2002.
11. Waste Characterization Program Manual, 1-MAN-036-EWQA-Section 1.6.1, Revision 2, September 2000.
12. Visual Examination for Confirmation of RTR, 4-H80-776-ASRF-007, Revision 5, June 2001.
13. Interoffice Memorandum from Thomas R. Gatliffe to Eric L. D'Amico, Headspace Gas Analysis Data Evaluation Report For The Confirmation Of EPA Hazardous Waste Numbers Using Headspace Gas Analytical Results From Lot 1 of Waste Stream Profile Number RF004.01, TRG-127-00, December 2000.

Form A  
Reconciliation with Data Quality Objectives

I certify by signature (below) that sufficient data have been collected to determine the following Program-required waste parameters:

WSPF # RF004.01

Item	Check Box <sup>a</sup>	Reconciliation Parameter
1	✓	Waste Matrix Code as reported in WEMS.
2	✓	Waste Material Parameter Weights for individual containers as reported in WEMS.
3	✓	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	✓	Container mass and activities of each radionuclide of concern as reported in WEMS.
5	✓	Each waste container of waste contains TRU radioactive waste.
6	✓	Mean concentrations, UCL <sub>90</sub> for the mean concentrations, standard deviations, and the number of samples collected for each VOC in the headspace gas of waste containers in the waste stream/waste stream lot.
7	N/A	Mean concentrations, UCL <sub>90</sub> for the mean concentrations, standard deviations, and number of samples collected for VOCs in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
8	N/A	Mean concentrations, UCL <sub>90</sub> for the mean concentrations, standard deviations, number of samples collected for SVOCs in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
9	N/A	Mean concentrations, UCL <sub>90</sub> for the mean concentrations, standard deviations, and number of samples collected for metals in the waste stream/waste stream lot. Summary Categories S3000 and S4000.
10	N/A	Sufficient number of samples was taken to meet statistical sampling requirements.
11	✓	Only validated data were used in the above calculations, as documented through the site data review and validation forms and process.
12	✓	Waste containers were selected randomly for sampling, as documented in site procedures.
13	✓	The potential flammability of TRU waste headspace gases.
14	✓	Sufficient number of waste containers was visually examined to determine with a reasonable level of certainty that the UCL <sub>90</sub> for the misclassification rate is less than 14 percent.
15	✓	Whether the waste stream exhibits a toxicity characteristic (TC) under 40 CFR Part 261, Subpart C.
16	✓	All TICs were appropriately identified and reported in accordance with the requirements of the WIPP WAP prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
17	✓	The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WIPP WAP Sections B3-2 through B3-9 prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
18	✓	The RTLs (i.e., PRQLs) for all analyses were met prior to submittal of a waste stream profile form for a waste stream or waste stream lot.
19	✓	Whether the waste stream can be classified as hazardous or non-hazardous at the 90-percent confidence limit.

<sup>a</sup> Check (✓) indicates that data or acceptable knowledge are sufficient to determine the waste parameters and that the waste parameters have been reported in the listed document or database. N/A indicates parameter does not apply to waste stream. NO indicates data are insufficient.

*R. Ballenger for 6A*  
Signature of Site Project Manager

G. A. O'Leary  
Printed Name

8/9/02  
Date

Data Summary Report—Table 2: Headspace Gas Summary Data

WSPF # RF004.01

Sampling and Analysis Method (check one):

100% Sampling

Reduced Sampling

2A

ANALYTE <sup>f</sup>	# Samples <sup>b</sup>	Maximum (ppmv)	Mean <sup>e</sup> (ppmv)	SD <sup>e</sup> (ppmv)	UCL <sub>90</sub> <sup>e</sup> (ppmv)	RTL <sup>c</sup> (ppmv)	EPA Code <sup>a</sup>
1,1-Dichloroethane						NA	
1,2-Dichloroethane						10	
1,1-Dichloroethylene						10	
cis-1,2-Dichloroethylene						NA	
1,1,2,2-Tetrachloroethane						10	
1,1,1-Trichloroethane	2	0.79	0.35	0.10	0.37	10	
1,1,2-Trichloro-1,2,2-Trifluoroethane						10	
Acetone	18	34	9.24	9.06	11.40	100	
Benzene	5	2.2	0.53	0.51	0.65	10	
Bromoform						NA	
Butanol						100	
Carbon disulfide	1	1.6	0.36	0.24	0.42	10	
Carbon tetrachloride	1	4	0.44	0.67	0.60	10	
Chlorobenzene						10	
Chloroform	1	5.2	0.48	0.89	0.69	10	
Ethyl benzene						10	
Ethyl ether						100	
Methanol	7	78	18.96	18.04	23.28	100	
Methyl ethyl ketone	5	9.1	2.66	1.96	3.13	100	
Methyl isobutyl ketone						100	
Methylene chloride	2	2.5	0.41	0.40	0.51	10	
o-Xylene						10	
m,p-Xylene						10	
Tetrachloroethylene						10	
Toluene	20	42	5.54	8.76	7.64	72.02 <sup>d</sup>	
Trichloroethylene						10	

Data Summary Report—Table 2: Headspace Gas Summary Data (continued)

WSPF # RF004.01

2B

TENTATIVELY IDENTIFIED COMPOUND	Maximum Observed Estimated Concentrations (ppmv) <sup>b</sup>	# Samples Containing TIC <sup>b</sup>
No TICs included in the 40 CFR 261 Appendix VIII list were detected in at least 25 percent of the headspace gas samples for the waste stream lot.		

Did the data verify the acceptable knowledge?  Yes  No

Data as reported in Data Summary Report – Table 2 confirm acceptable knowledge that the waste stream is not a hazardous waste.

If not, describe the basis for assigning the EPA Hazardous Waste Codes:

NOTES:

- <sup>a</sup> No entry indicates no associated EPA Code assigned to the waste stream.
- <sup>b</sup> A total of 30 samples were collected and analyzed. Analysis was performed for all analytes identified unless otherwise noted. No entry indicates no detectable measurements available for statistics. Samples were not composited.
- <sup>c</sup> RTLs for headspace gas analysis results correspond to the analyte PRQL for analytes that are hazardous waste constituents. "NA" means the analyte is not a hazardous waste constituent and so has no associated regulatory threshold.
- <sup>d</sup> Limit used for evaluating EPA Hazardous Waste Code for toluene (Reference No. 3).
- <sup>e</sup> Statistics based on using 1/2 MDL for less-than-detectable observations.
- <sup>f</sup> Headspace sampling and analysis was conducted prior to the addition of (trans)-1,2-dichloroethylene to the target analyte list.

**Data Summary Report—Table 6: Exclusion of  
Prohibited Items****WSPF # RF004.01**

The absence of prohibited items is documented through acceptable knowledge. Radiography or visual examination is performed on each container in this waste stream to verify the absence of the following prohibited items:

- Liquids
- Non-radionuclide pyrophoric materials
- Waste incompatible with backfill, seal and panel closure materials, container and packaging materials, shipping container materials, or other wastes
- Explosives or compressed gases
- PCBs in concentrations greater than or equal to 50 ppm
- Waste exhibiting the characteristics of ignitability, corrosivity or reactivity
- Non-mixed hazardous wastes



**CHARACTERIZATION INFORMATION SUMMARY**

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August 9, 2002

**Data Summary Report—Table 7: Correlation  
of Container Identification to Batch Data Reports**

**WSPF # RF004.01**

<b>Package No.<sup>a</sup></b>	<b>Headspace Sample Batch No.</b>	<b>Headspace VOC Data Package</b>	<b>Radioassay Data Package</b>	<b>RTR Data Package</b>
D37634	01W0005	HVOC-DP-00362	CPN-98-008	6T-1696
D43929	01W0006	HVOC-DP-00364	CIQ-98-007	6T-1699
D53822	01W0005	HVOC-DP-00361	CPN-01-002	6T-1708
D61572	01W0006	HVOC-DP-00363	CIQ-98-018	6T-1696
D62015	01W0005	HVOC-DP-00361	CIQ-01-004	6T-1708
D63444	01W0005	HVOC-DP-00362	CPN-98-008	6T-1696
D64559	01W0006	HVOC-DP-00363	CIQ-98-027	6T-1696
D65381	01W0005	HVOC-DP-00362	CPN-98-008	6T-1696
D66108	01W0005	HVOC-DP-00362	CIQ-01-006	6T-1719
D66599	01W0005	HVOC-DP-00362	CIQ-98-021	6T-1696
D66691	01W0006	HVOC-DP-00363	CIQ-98-020	6T-1696
D66707	00W0080	HVOC-DP-00353	CIQ-00-050	6T-1710
D66718	00W0088	HVOC-DP-00361	CIQ-01-007	6T-1719
D67096	00W0086	HVOC-DP-00358	CIQ-01-007	6T-1719
D69014	01W0006	HVOC-DP-00363	CIQ-98-019	6T-1698
D69043	01W0006	HVOC-DP-00363	CIQ-98-027	6T-1696
D69188	00W0087	HVOC-DP-00360	CIQ-98-019	6T-1697
D69639	00W0086	HVOC-DP-00358	CPN-98-009	6T-1696
D70159	01W0001	HVOC-DP-00364	CIQ-98-019	6T-1698
D70273	00W0088	HVOC-DP-00360	CIQ-98-021	6T-1697
D70334	00W0087	HVOC-DP-00359	CPN-98-010	6T-1699
D70336	01W0006	HVOC-DP-00363	CIQ-98-019	6T-1696
D71558	01W0005	HVOC-DP-00362	CIQ-98-018	6T-1697
D72515	00W0087	HVOC-DP-00360	CIQ-98-012	6T-1697
D81499	00W0080	HVOC-DP-00353	CIQ-00-049	6T-1711
D81535	00W0088	HVOC-DP-00361	CIQ-01-004	6T-1708
D85036	01W0001	HVOC-DP-00365	CIQ-00-030	6T-1681
D85194	00W0088	HVOC-DP-00361	CIQ-01-004	6T-1708
D91430	01W0001	HVOC-DP-00364	CIQ-00-041	6T-1676
D95222	00W0087	HVOC-DP-00360	CIQ-00-046	6T-1701

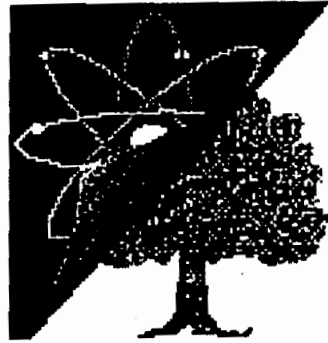
**NOTE:**

<sup>a</sup> Radiography was performed on all of the containers identified here. All of the containers were candidates for visual examination for confirmation of radiography, however, none were selected.

**Acceptable Knowledge Summary**

**WSPF # RF004.01**

RMRS-WIPP-98-100, Acceptable Knowledge TRU/TRM Waste Stream Summaries, Section 6.4, TRU Glass Debris Waste (attached).



**Rocky Flats Environmental Technology Site**

**ACCEPTABLE KNOWLEDGE INFORMATION**

**ACCEPTABLE KNOWLEDGE TRU/TRM  
WASTE STREAM SUMMARIES**

**RMRS-WIPP-98-100**

**Section 6.4**

**TRU Glass Debris Waste**

**Profile No. RF004.01**

**Revision 16**

Reviewed for Classification/UCNI  
By: Unclassified Not UCNI  
Reference Exemption Number CEX-032-00  
Date: September 11, 2000

Approval signatures in Site Document Control history file

6.4 TRU Glass Debris Waste

Profile No. RF004.01

**Acceptable Knowledge Waste Stream Summary**

Waste Stream Name: TRU Glass Debris Waste

Generation Buildings: Buildings 371, 440, 559, 707, 771, 776, 777, and 779 <sup>(5,6,10)</sup>

Waste Stream Volume (Retrievably Stored): 358 55-Gallon Drums <sup>(5,6)</sup>

Generation Date (Retrievably Stored): January 1987 – September 2001 <sup>(5,6)</sup>

Waste Stream Volume (Newly Generated): 325 55-Gallon Drums, 1 Standard Waste Box <sup>(6,17)</sup>

Generation Dates (Newly Generated): October 2001 – May 2002 <sup>(6,17)</sup>

Waste Stream Volume (Projected): 2,317 55-gallon drums <sup>(6,7,8)</sup>

Generation Dates (Projected): May 2002 – February 2006 <sup>(7,8)</sup>

TRUCON Content Codes <sup>(1)</sup>: RF 118A, RF 118B, RF 118C, RF 118D, RF 118E, RF 118F, RF 118H, RF 118I, RF 118N, RF 118T

Process Knowledge Demonstrates Flammable VOCs in Headspace < 500 ppm: No (see Section 6.4.6)

6.4.1 Transuranic Waste Baseline Inventory Report Information <sup>(2)</sup>

WIPP Identification Numbers: RF-TT0440, RF-TT0441, RF-TT0442, RF-TR0440, RF-TR0441, RF-TR0442

Summary Category Group: S5000 Waste Matrix Code Group: Inorganic Nonmetal Waste

Waste Matrix Code: S5122 Waste Stream Name: Glass/TRU

Description from the TWBIR: Made up of glass from analytical labs, recovery processes, ceramics, and glovebox windows.

6.4.2 Waste Stream Description

TRU glass debris waste items and material were generated by similar activities and are similar in material, physical form, and hazardous constituents (i.e., no EPA hazardous waste codes are assigned), and therefore constitute a single waste stream.

Table 6.4-1 presents the waste matrix codes and waste material parameters for glass wastes.<sup>(3)</sup>

**Table 6.4-1, Glass Debris Waste Stream Description**

IDC	IDC Description	Waste Matrix Code	Waste Material Parameters	Weight % (Average)
0440	Glass (except Raschig rings)	S5122, Glass Debris	Other Inorganic Material	100%
0441	Unleached Raschig Rings	S5122, Glass Debris	Other Inorganic Material	100%
0442	Leached Raschig Rings	S5122, Glass Debris	Other Inorganic Material	100%

**IDC 440, Glass (Except Raschig Rings):** Primarily glassware from analytical and recovery processes. Glass waste items include, but are not limited to, containers (e.g., beakers, flasks, graduated cylinders, sample bottles, pipettes, and vials), rods, funnels, ion-exchange columns, and other glass instruments and equipment. This IDC also includes glass glovebox windows (non-lead glass), and ceramic materials. This IDC does not include Raschig rings, lead glass, or fluorescent light bulbs.<sup>(4,9,10,11,12,13,14,15,16)</sup>

**IDC 441, Unleached Raschig Rings:** Borosilicate glass rings used to maintain subcritical conditions in fissile solution storage tanks. The rings were replaced if they were broken or otherwise damaged, or if the assay of the tank exceeded acceptable limits. The rings were assayed, and if the material count was below the economic discard limit (EDL), they were packaged without leaching as IDC 441.<sup>(4)</sup>

**IDC 442, Leached Raschig Rings:** Raschig rings contaminated with plutonium above the EDL, which were leached with dilute nitric acid or water. Solvent-contaminated Raschig rings were segregated as IDC 443.<sup>(4)</sup>

#### 6.4.3 Areas of Operation

TRU glass wastes are generated by the following defense operations:<sup>(3,9,10,11,12,13,14,15)</sup>

- Plutonium Production
- Plutonium Recovery
- Laboratory Operations
- Research and Development
- Maintenance
- Waste and Residue Repackaging and Treatment
- Decontamination and Decommissioning (D&D) Operations

#### 6.4.4 Generation Processes

Glass wastes are generated by nearly every operation on site. Table 6.4-2 provides the title of each generating process along with the corresponding WSRIC building and process number. A description of each of these processes, process flow diagrams, and

details of each glass stream can be found in the *WSRIC Building Books* or archived *WSRIC files*. (4,9,10,11,12,13,14,15)

**Table 6.4-2, Glass Debris Waste Generation Processes**

Building	Process	Title
<b>Building 371</b>		
371	1	DCHP Preparation
371	3	Repack Operations
371	4	Analytical Lab
371	5	Chemical Standards Laboratory
371	6	PROVE Vacuum System
371	7	Process Vent Scrubber
371	8	Utility Scrubber System
371	15	General Waste (RMMA) and Deactivation
371	19	Caustic Waste Treatment System
371	21	Nitrate Contaminated Residue Treatment
371	23	Salt Residues Repack Project
371	24	Box-N-Go Project
371	25	Sand Slag & Crucible Residue Repack Project
371	26	Fluoride Stabilization
371	27	Dry Residue Repack
371	28	Ash Residue Repack
371	29	Plutonium Stabilization And Packaging System
371	30	Non-Regulated Radiological Process Ops (D&D)
371	31	Regulated Radiological Process Ops (D&D)
371	32	Sludge Processing and Repackaging
371	35	Low-Grade Oxide Repackaging
<b>Building 440</b>		
440STOR	11	WIPP Characterization
<b>Building 559</b>		
559	2	Dynamic Analysis
559	3	X-Ray Methods
559	4	Infrared Analysis
559	5	GC/MS Environmental Samples/RCRA Waste
559	6	Thermal Analysis
559	8	Miscellaneous Analyses
559	9	Isotopic Analysis
559	11	Nondestructive Analysis
559	12	Uranium Analysis
559	13	Gallium Analysis
559	14	Plutonium Assay
559	15	Carbon Analysis
559	16	Raschig Ring Analysis
559	17	Coulometric Titration
559	18	Iron & Silicon Non-Routine
559	19	Non-Routine Ion Chromatograph
559	20	Non-Routine Plutonium Oxide
559	21	Assay Of Uranium By Auto Titration
559	22	Specific Ion Electrode
559	23	Sample Receiving
559	24	Sample Break In And Sample Cutting

Building	Process	Title
559	25	Maintenance
559	28	ICP Spectroscopy
559	29	Atomic Absorption
559	30	General Waste
559	31	Extractions
559	33	GC Analysis--Production Support
559	34	GC Analysis--Production Support
559	35	Total Metals Digestion
559	36	Toxicity Characterization Leaching Procedure
559	37	Analysis of Sulfides/Aqueous Solutions
559	38	Total And Amenable Cyanide Analysis
559	39	Analysis For Reactive Sulfides
559	40	Analysis For Reactive Cyanide
559	41	Sulfide Analysis
559	42	Cyanide Analysis
559	43	Mercury Analysis
559	44	Reactivity Characteristic Test of Pyrochemical Salts
559	45	Chromium (VI) Determination
559	48	Ion Chromatography
559	49	Radiochemical Operations
559	50	Particle Size Distribution
559	51	Waste Processing
<i>Building 707</i>		
707	1	Module A
707	2	Module K/X-Y Retriever
707	3	Module J
707	20	Inspection
707	35	Module B Through H
707	36	Deactivation/Decon/Decommissioning (D\3)
707	39	Salt Stabilization
707	41	Dry Residue Repack
707	42	Ash Residue Stabilization/Repack
707	43	Salt Repack
707	45	Waste Repackaging
<i>Building 771</i>		
771	1	High-Level Dissolution
771	2	Low-Level Dissolution
771	3	Cation Exchange
771	4	Anion Exchange
771	5	Feed Evaporation
771	6	Precipitation Feed Batching
771	7	Precipitation
771	8	Precipitation Filtrate Evaporation
771	9	Calcination
771	11	Reduction And Button Breakout
771	12	Miscellaneous Residue Processing
771	13	Metal Burning
771	14	Crushing And Grinding
771	15	Spray Leach
771	16	Oralloy Leach
771	17	Oralloy (OY) Precipitation

Building	Process	Title
771	18	Special Recovery Anion Exchange
771	19	Caustic Filtration
771	20	Fume Scrubber
771	21	Vacuum Systems
771	23	Radioactive Inorganic Laboratory
771	24	Chemical Standards Laboratory
771	25	Chemical Technology
771	26	Plutonium Metallurgy
771	31	Raschig Ring Removal
771	32	Radiological Safety
771	35	General Building Waste (RMMA)
771	39	Solution Processing
771	40	Set 34, Decontamination & Decommissioning
771	41	Set 37, Decontamination & Decommissioning
771	42	Set 40, Decontamination & Decommissioning
771	43	Set 44, Decontamination & Decommissioning
771	44	Set 17, Decontamination & Decommissioning
771	45	Set 38A, Decontamination & Decommissioning
771	46	Set 38B, Decontamination & Decommissioning
771	47	Set 38C, Decontamination & Decommissioning
771	48	Set 38D, Decontamination & Decommissioning
771	49	Set 39, Decontamination & Decommissioning
771	50	Set 41, Decontamination & Decommissioning
771	51	Set 50, Decontamination & Decommissioning
771	52	Set 07, Decontamination & Decommissioning
771	53	Set 25, Decontamination & Decommissioning
771	54	Set 27, Decontamination & Decommissioning
771	55	Set 35, Decontamination & Decommissioning
771	56	Set 46, Decontamination & Decommissioning
771	57	Set 28, Decontamination & Decommissioning
771	58	Set 12, Decontamination & Decommissioning
771	59	Set 26, Decontamination & Decommissioning
771	60	Set 36A, Decontamination & Decommissioning
771	61	Set 42, Decontamination & Decommissioning
771	62	Support, Decontamination & Decommissioning
771	63	Waste Drum & Crate Repackaging Operation
771	64	D&D Fixed Equipment, Glovebox and Tank Removal
<b>Building 776/777</b>		
776	2	Size Reduction
776	5	Coating
776	14	General Building Waste
777	11	Inspection
777	13	Nuclear Assembly Technology
777	16	Coatings Laboratory
777	17	Tritium Surveillance Laboratory
777	18	Plutonium Metallurgical Lab
777	23	General Building Waste
776_777	6	General Building Waste and Decommissioning
776_777	12	Waste Repackaging



Building	Process	Title
<b>Building 779</b>		
779	2	Generic Residue Treatment Process Wastes
779	8	RTT-Salt Recycle
779	9	Hydride-Hydride And Metal
779	10	Hydride-Hydride/Oxide
779	14	Physical Metallurgy
779	16	RTT-Plutonium Oxide Dissolution
779	17	RTT-Peroxide Precipitation
779	18	RTT-Residue Recovery Extraction
779	21	RTT-Ion Exchange Resin Project
779	23	Pu Tech-Gas-Solid Kinetic Studies
779	24	Pu Tech-Nuclear Material Comp. Studies
779	25	Nondestructive Lab Testing & Metal Study
779	26	Surface Analysis Laboratory
779	27	Pu Tech-Microbalance Pu Reaction Studies
779	37	General Maintenance and Deactivation
779	40	Deactivation, Decontamination, and Decommissioning
779	42	Decontamination and Decommissioning Activities
779	43	Building D&D Activities

6.4.5 RCRA Characterization

This waste stream is NOT characterized as a mixed waste. Table 6.4-3 presents the chemical constituent codes (CCCs) and EPA Hazardous Waste Numbers associated with the BWR Subpopulations and WSRIC Waste Streams assigned to TRU glass waste containers. Supporting characterization information is provided in the *BWR Baseline Book*, *WSRIC Building Book*, and *WSRIC archived files*.<sup>(4,9,10,11,12,13,14,15,16)</sup>

Table 6.4-3, Glass Debris Waste RCRA Characterization

IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Not-RCRA CCCs	EPA Hazardous Waste Numbers
<b>Glass</b>					
0440		371 - 3 - 10	00	00	None
0440		371 - 4 - 8	00	02	None
0440		371 - 5 - 5	00	0264	None
0440		371 - 15 - 9	00	00	None
0440		371 - 15 - 32	00	00	None
0440		371 - 19 - 10	00	00	None
0440		371 - 19 - 11	00	00	None
0440		371 - 21 - 2	00	02	None
0440		371 - 23 - 20	00	00	None
0440		371 - 25 - 20	00	00	None
0440		371 - 26 - 9	00	00	None
0440		371 - 27 - 13	00	00	None
0440		371 - 27 - 25	00	00	None
0440		371 - 28 - 9	00	00	None
0440		371 - 29 - 15	00	00	None

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IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0440		371 - 30 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		371 - 31 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		371 - 32 - 20	00	00	None
0440		371 - 35 - 17	00	00	None
0440		440STOR - 11 - 32	00	00	None
0440		559 - 3 - 8	00	02	None
0440		559 - 4 - 18	00	00	None
0440		559 - 4 - 55	00	00	None
0440		559 - 5 - 7	00	00	None
0440		559 - 5 - 47	00	00	None
0440		559 - 6 - 13	00	00	None
0440		559 - 6 - 21	00	00	None
0440		559 - 8 - 7	00	00	None
0440		559 - 8 - 55	00	00	None
0440		559 - 9 - 9	00	02	None
0440		559 - 9 - 32	00	00	None
0440		559 - 12 - 8	00	00	None
0440		559 - 15 - 3	00	00	None
0440		559 - 16 - 19	00	00	None
0440		559 - 21 - 4	00	02	None
0440		559 - 22 - 8	00	02	None
0440		559 - 23 - 10	00	00	None
0440		559 - 24 - 10	00	00	None
0440		559 - 25 - 30	00	00	None
0440		559 - 28 - 9	00	00	None
0440		559 - 29 - 10	00	00	None
0440		559 - 30 - 41	00	00	None
0440		559 - 30 - 57	00	00	None
0440		559 - 30 - 103	00	07	None
0440		559 - 31 - 34	00	00	None
0440		559 - 33 - 20	00	00	None
0440		559 - 35 - 1	00	02	None
0440		559 - 41 - 40	00	00	None
0440		559 - 42 - 37	00	00	None
0440		559 - 43 - 13	00	00	None
0440		559 - 44 - 1	00	00	None
0440		559 - 44 - 5	00	00	None
0440		559 - 45 - 3	00	0102	None
0440		559 - 48 - 2	00	00	None
0440		559 - 49 - 3	00	00	None
0440		559 - 50 - 2	00	00	None
0440		559 - 51 - 3	00	00	None
0440		707 - 1 - 43	00	00	None
0440		707 - 1 - 67	00	00	None
0440		707 - 2 - 35	00	00	None
0440		707 - 3 - 16	00	00	None
0440		707 - 35 - 17	00	00	None
0440		707 - 36 - 17	00	00	None

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IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0440		707 - 36 - 51	00	07	None
0440		707 - 39 - 12	00	00	None
0440		707 - 41 - 13	00	00	None
0440		707 - 41 - 26	00	00	None
0440		707 - 42 - 9	00	00	None
0440		707 - 43 - 11	00	00	None
0440		707 - 45 - 7	00	00	None
0440		771 - 4 - 6	00	00	None
0440		771 - 23 - 7	00	00	None
0440		771 - 24 - 7	00	00	None
0440		771 - 25 - 8	00	00	None
0440		771 - 32 - 5	00	00	None
0440		771 - 35 - 15	00	00	None
0440		771 - 35 - 44	00	00	None
0440		771 - 39 - 7	00	00	None
0440		771 - 40 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 41 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 42 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 43 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 44 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 45 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 46 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 47 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 48 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 49 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 50 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 51 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 52 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 53 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 54 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 55 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 56 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 57 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 58 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 59 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 60 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 61 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 62 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		771 - 63 - 13	00	00	None
0440		771 - 64 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		776 - 14 - 28	00	00	None
0440		776_777 - 6 - 16	00	00	None
0440		776_777 - 6 - 131	00	07	None
0440		776_777 - 12 - 14 -001	00	00	None
0440		779 - 2 - 8	00	00	None
0440		779 - 23 - 16	00	00	None
0440		779 - 37 - 13	00	00	None
0440		779 - 40 - 16	00	00	None

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IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0440		779 - 40 - 89	00	00	None
0440		779 - 40 - 116	00	07	None
0440		779 - 42 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		779 - 43 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0440		D&D - 3 - 18	00	00	None
0440		D&D - 3 - 153	00	07	None
0440	17B		00	00	None
<i>Unleached Raschig Rings</i>					
0441		371 - 15 - 141	00	00	None
0441		371 - 15 - 142	00	081224	None
0441		371 - 21 - 30	00	00	None
0441		371 - 30 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		371 - 31 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		707 - 36 - 158	00	00	None
0441		771 - 50 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 54 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 56 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 57 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 59 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 62 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		771 - 64 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0441		776_777 - 6 - 218 -001	00	32	None
0441		776_777 - 6 - 218 -002	00	07	None
0441		776_777 - 6 - 218 -003	00	07	None
0441		D&D - 3 - 142	00	00	None
0441	17D		00	00	None
<i>Unleached Raschig Rings</i>					
0442		371 - 7 - 7	00	00	None
0442		371 - 8 - 11	00	00	None
0442		371 - 15 - 34	00	00	None
0442		371 - 24 - 37	00	00	None
0442		371 - 27 - 14	00	00	None
0442		371 - 30 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		371 - 31 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		440STOR - 11 - 31	00	00	None
0442		559 - 16 - 24	00	00	None
0442		707 - 1 - 68	00	00	None
0442		707 - 36 - 177	00	00	None
0442		707 - 41 - 14	00	00	None
0442		771 - 31 - 1	00	00	None
0442		771 - 50 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		771 - 54 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		771 - 56 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		771 - 57 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		771 - 59 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		771 - 63 - 14	00	00	None
0442		771 - 64 - 0	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>
0442		776_777 - 6 - 8	00	00	None

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IDC	BWR Subpopulation	WSRIC Waste Stream	RCRA CCCs	Non-RCRA CCCs	EPA Hazardous Waste Numbers
0442		776_777 - 6 - 173	00	07	None
0442		776_777 - 6 - 174	00	07	None
0442		D&D - 3 - 78	00	00	None
0442	17E		00	00	None

Note:

1. WSRIC waste streams with an output number of "0" refer to a D&D process, which does not include specific outputs. The specific outputs associated with the D&D process are identified by a D&D WSRIC waste stream that is also assigned to the waste.

Visual examination of waste contents at the time of packaging and/or RTR is used to verify that the waste stream does not contain free liquid, explosives, non- radionuclide pyrophoric materials, compressed gasses, or reactive waste. Therefore, this waste stream does not exhibit the characteristics of ignitability (D001), corrosivity (D002), or reactivity (D003).

Glass (IDC 440) items in this waste stream: 1) were generated by processes that did not use hazardous chemicals, 2) were generated by processes that did use hazardous chemicals but the glass was not mixed with a hazardous waste, or 3) are empty containers exempt from regulation as hazardous wastes. The following two paragraphs provide a more detailed explanation of items 2 and 3.

Glass items, such as glovebox windows (non-lead glass) that were wiped down with solvents, or glass funnels from the laboratory that came in contact with solvents, are not considered listed hazardous wastes. At the time the solvent contamination occurred, the glass items and solvents were not waste, but were being utilized for their intended purpose. The glass items also would not have become contaminated with solvent because of their physical/chemical properties (i.e., glass is not a porous material and would not retain volatile solvents). Therefore, the glass is considered not to be an F-listed hazardous waste under the mixture rule as provided in 40 CFR 261.3.

As provided in 40 CFR 261.7, any hazardous waste remaining in an empty container is not subject to regulation under Part 261. A container that has held non-acute hazardous waste is empty if all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, aspirating, and no more than one inch of residue remains on the bottom of the container, or no more than 3 percent (in a container less than 110 gallons) or 0.3 percent (in a container greater than 110 gallons) by weight of the total capacity of the container remains.

Glass wastes (IDC 440) that did become contaminated with F-listed solvents are managed as hazardous waste and are not included in this waste stream. Inherently hazardous glass waste such as leaded glass, light bulbs, mercury thermometers, cathode ray tube monitors, and glass containers with lead shielding are segregated as hazardous waste and are not included in this waste stream.

Historical analysis of Raschig rings indicate they are not hazardous for metals. If sludge contaminated Raschig rings are identified during D&D operations, they will be sampled/analyzed and characterized appropriately. Raschig rings assigned IDCs 441 or 442 were originally used for both aqueous and solvent tank systems. In the late-1980s, IDC 443 was created for Raschig rings from solvent tank systems, which are managed as hazardous waste. Raschig rings generated prior to this time have been re-designated as IDC 443 and characterized as hazardous waste if they were generated in buildings that had solvent tank systems, namely Buildings 707 and 777. Raschig rings designated as IDC 443 are not included in this waste stream.

Beryllium was used in the manufacture/assembly of weapons components, and residual beryllium contamination of plutonium parts may have occurred. Glass debris waste may have been contaminated with beryllium and therefore, trace quantities of beryllium may be present in this waste stream. Any beryllium present is as a contaminant of the process and not as unused commercial chemical product, and therefore is not a P015-listed waste.

The glass waste streams generated at RFETS and sent to the INEEL for storage have the same IDCs but are considered different waste streams because of the EPA hazardous waste numbers assigned. The INEEL waste streams (HQ ID IN-W243, IN-W245, and IN-W247) were generated and shipped to INEEL prior to the full implementation of RCRA and therefore, the waste was not segregated and characterized based on its hazardous properties. Sometime after the waste was shipped to INEEL, each IDC was evaluated and EPA hazardous waste numbers were assigned to each IDC as a whole.<sup>(2)</sup>

Headspace gas sampling and analysis did not detect any hazardous waste VOCs in which the 90% upper confidence limit exceeded the regulatory threshold limit (RTL), and tentatively identified compounds (TICs) were not found in at least 25% of the samples. These results confirm the nonhazardous acceptable knowledge characterization of this waste stream.<sup>(17)</sup>

#### 6.4.6 Transportation

The payload containers in the waste stream must also comply with the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC) requirements. Flammable volatile organic compounds (VOCs) were used in the analytical laboratory processes that generated this waste stream. Solvent contamination is not anticipated in this waste stream; however, for the purpose of transportation requirements, AK by itself is not sufficient to definitively demonstrate and ensure that the concentration of flammable VOCs in the payload container headspace will never exceed 500 ppm. Therefore the headspace gas sampling and analysis will include the computation of the flammable VOC concentration.

6.4.7 Radionuclides

Table 6.4-4 summarizes the radionuclides potentially present in glass debris wastes.<sup>(3)</sup>

**Table 6.4-4, Glass Debris Waste Radionuclides**

IDC	Radionuclides <sup>1</sup>	Rationale
440	WG Pu, Am-241, DU, EU, Np-237	IDC generated in nearly every TRU building; radionuclides dependent on generation process.
441	WG Pu, Am-241, DU, EU, Np-237	IDC generated by several processes in Buildings 371 and 771; radionuclides dependent on generation process.
442	WG Pu, Am-241, DU, EU, Np-237	IDC generated in several TRU building; radionuclides dependent on generation process.

Key: WG Pu weapons-grade plutonium Am-241 americium-241  
DU depleted uranium Np-237 neptunium-237  
EU enriched uranium

6.4.8 References

1. DOE 2000. TRUPACT-II Content Codes (TRUCON), Revision 13. DOE/WIPP 89-004.
2. DOE 1995. Transuranic Waste Baseline Inventory Report, Revision 2. DOE/CAO-95-1121.
3. RFETS 2001. RFETS TRU Waste Acceptable Knowledge Supplemental Information. RF/RMRS-97-018, Revision 9.
4. RFETS 2002. Backlog Waste Reassessment Baseline Book, Waste Form 17, Glass, Ground Glass, and Plexiglas.
5. Waste and Environmental Management System (WEMS) database.
6. WASTREN 2002. Interoffice Memorandum from Jeff Harrison to Waste Records Center. JLH-009-2002. May 17.
7. WASTREN 2000. Interoffice Memorandum from Jeff Harrison to Vivian Sendelweck. JLH-016-2000. August 11.
8. WASTREN 1998. Letter from Jeff Harrison to Eric D'Amico. JLH/013/1198. November 30.
9. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 371, Version 7.0.
10. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 440 Storage, Version 7.0.
11. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 559, Version 7.0.

12. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 707, Version 7.0.
13. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 771, Version 7.0.
14. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 776\_777, Version 7.0.
15. RFETS 2002. Waste Stream and Residue Identification and Characterization, Building 779, Version 7.0.
16. RFETS 2002. Waste Stream and Residue Identification and Characterization, Decontamination/Decommissioning WSRIC Building Book, Version 7.0.
17. Interoffice Memorandum from Thomas R. Gatliffe to Eric L. D'Amico, Headspace Gas Analysis Data Evaluation Report For The Confirmation Of EPA Hazardous Waste Numbers Using Headspace Gas Analytical Results For Waste Stream Profile Number RF004.01 Lot 1, TRG-121-00, December 2000.