

**A. Generator Information**

- 1. Company name: \_\_\_\_\_
- 2. Address: \_\_\_\_\_
- 3. Generator facility: \_\_\_\_\_
- 4. Primary Technical Contact: \_\_\_\_\_ email: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_
- 5. DOE Point of Contact: \_\_\_\_\_ email: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_
- 6. Waste Certification Official: \_\_\_\_\_ email: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

7. Generator's EPA Identification Number (If profile involves hazardous waste):

8. If the waste is being processed/treated/shipped from a location other than the Generator Facility provide the following:

Company name: \_\_\_\_\_

Address: \_\_\_\_\_

Primary Technical Contact: \_\_\_\_\_ email: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Processing/Treatment Facility's EPA Identification Number (If profile involves hazardous waste): \_\_\_\_\_

**B. General Waste Stream Information**

1. Waste stream name: \_\_\_\_\_

New Profile

Revised Profile

2.a. NNSW Waste stream identification number: \_\_\_\_\_

Profile Revision Number: \_\_\_\_\_ Profile Revision Date: \_\_\_\_\_

2.b. Profile revisions: *Describe and list **all** changes made to the profile.* If any part of the generating, packaging, characterization, or certification process has changed, list all process changes

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3. Waste generating process description: *Describe the process that generated the waste stream identified by this profile sheet. Attach process flow charts and other available information if helpful in explaining the generating process.*

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4. Waste management services requested:

- Disposal
- Other; describe (e.g. mixed low-level waste storage): \_\_\_\_\_

5. Waste Category (Check all that apply)

- Low Level (LLW)  Regulated Asbestiform LLW
- Classified LLW  Classified Waste requiring protection from visual observation
- Mixed LLW  PCB Waste requiring disposal in permitted hazardous waste landfill
- Classified Non-Radioactive Waste  Hydrocarbon-Burdened LLW (NNSA/NSO generated waste only)
- Classified Non-Radioactive Hazardous Waste
- Contains Accountable Nuclear Material

5.a. If any of the classified waste boxes in Section B.5. above are checked, please attach a copy of the signed DOE or NNSA Security Authorization for permanent burial without sanitization.

6. Estimated volume: \_\_\_\_\_ (m<sup>3</sup>/yr) Total remaining volume: \_\_\_\_\_ (m<sup>3</sup>)

7. Estimated frequency of shipments per fiscal year: \_\_\_\_\_

8. Total Number of Waste Containers (for Mixed Waste Profiles only), \_\_\_\_\_

### C. Physical/Chemical Characterization

1. Physical/Chemical process knowledge. Describe the process knowledge information used for physical/chemical characterization of this waste stream:

- Material Safety Data Sheets. Attach MSDSs used to designate this waste stream
- Mass balance from process inputs. Describe how process inputs are controlled and recorded:

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Historical process and analytical data. Describe:

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Inert debris characterized by inventory control. Check this box when the waste stream consists largely of inert debris items that are characterized by inventory control procedures and recorded on inventory sheets. Briefly list or describe inventory procedures:

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Other. Describe:

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Physical/chemical characterization varies. Check this box when the characterization strategy varies from container to container. Describe below the strategy used to meet the characterization requirements of the waste acceptance criteria.

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2. Physical/chemical analysis. Describe the sampling and analysis performed to characterize this waste stream:

No analysis performed.

Field screening performed. Describe the frequency and type of field screening performed:

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Laboratory analysis performed. Describe the sample source and sampling frequency and methods.

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*Attach completed Table B-1 and data validation summary:\_\_\_\_\_*

3. Regulatory status. Check all boxes below that describe the regulatory status of the waste stream:

Federally regulated (RCRA) hazardous waste (40 CFR 261). List all RCRA U, P, F, K or D waste codes that apply to the waste stream; place waste codes that do not apply to all containers in parentheses:

TSCA regulated PCB (40 CFR 761). Describe category of PCB (PCB waste, PCB bulk product waste, PCB remediation waste, PCB analytical waste, etc). Describe PCB source and concentration:

Waste generated from cleanup activities conducted under CERCLA. If checked, list applicable regulatory documents and agreements (Records of Decisions, Remedial Actions/Feasibility Studies, Removal Action Plans, etc.).

Waste is hazardous per state-of-generation regulations? If yes, identify hazardous components and state regulations.

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Is any part of the generating site under investigation or findings pending by any regulating authority, (i.e., Federal, State, or Local) which affects waste characterization data? If checked, explain in detail.

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Waste is not regulated under any of the above regulations.

4. Federal land disposal restrictions. Check all boxes that apply:

Waste stream is not subject to federal land disposal restrictions

Waste stream requires treatment to meet land disposal restrictions of 40 CFR Part 268.

If checked, provide the following information:

Wastewater                       Non-wastewater                       Hazardous debris

Waste contains Underlying Hazardous Constituents (applicable UHCs must be included in Item C.9)

Was the waste treated after August 24, 1998?  Yes  No

Waste stream meets some of the applicable land disposal restrictions of 40 CFR 268. Check this box if the waste has been treated to meet some federal land disposal restrictions or if it meets some federal land disposal restrictions as generated. If checked, describe the treatment performed and analytical data to support LDR determination:

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Waste stream meets all applicable land disposal restrictions of 40 CFR 268. Check this box if the waste has been treated to meet all federal land disposal restrictions or if it meets the land disposal restrictions as generated. If checked, describe the treatment performed and analytical data to support LDR determination:

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5. Physical state:

- |   |  |                                       |                                     |
|---|--|---------------------------------------|-------------------------------------|
| <input type="checkbox"/> Liquid                 | <input type="checkbox"/> Sludge        | <input type="checkbox"/> Debris       | <input type="checkbox"/> Solid      |
| <input type="checkbox"/> Powder/Dust            | <input type="checkbox"/> Sealed Source | <input type="checkbox"/> Encapsulated | <input type="checkbox"/> Solidified |
| <input type="checkbox"/> Other; describe: _____ |  |                                       |                                     |

6. Does the waste stream contain liquid?  Yes  No

If yes, check all that apply:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Containerized liquid | <input type="checkbox"/> Absorbed Liquid | <input type="checkbox"/> Stabilized liquid |
|---|--|--|

6.a. If this waste stream contains a high moisture content waste or if it contains absorbed or stabilized liquid, has this portion of the waste stream been evaluated to determine its potential to release liquid during handling, storage, and transportation? Describe the evaluation performed to support this determination.

7. Other contents: Check if any of the following are components of the waste stream and provide a description (list procedure, or provide detailed description) of how the waste acceptance criteria for each are met:

- |   |   |                                     |                                       |
|---|---|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> Animal carcasses | <input type="checkbox"/> Infectious waste | <input type="checkbox"/> Vegetation | <input type="checkbox"/> Free liquids |
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- |   |  |   |                                       |
|---|--|---|---------------------------------------|
| <input type="checkbox"/> Chelating agents | <input type="checkbox"/> Organic liquids | <input type="checkbox"/> Asbestos (Friable) | <input type="checkbox"/> Particulates |
|---|--|---|---------------------------------------|

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|--------------------------------|-------------------------------|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> Gases | <input type="checkbox"/> PCBs | <input type="checkbox"/> Explosives | <input type="checkbox"/> Pyrophorics |
|--------------------------------|-------------------------------|-------------------------------------|--------------------------------------|

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CAS Number	Chemical constituent	Waste Component	Estimated weight percent <input type="checkbox"/> Estimated volume percent <input type="checkbox"/>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**D. Radiological Characterization**

1. Radiological process knowledge. Describe the source(s) of the radioactive material in this waste stream (i.e., the radiological processes that introduced the radioactive material into the waste stream).

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Radiological characterization methods. Describe the analysis and characterization methods used to determine the radionuclide inventory of the waste stream. Check all that apply.

Radionuclide material accountability. Describe the accounting methods used to help establish the radionuclide inventory:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Radiochemical analysis. Describe type and frequency of sampling and analysis,

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Attach data validation summary: \_\_\_\_\_

Nondestructive assay. Describe type and frequency of assay performed:

Field measurement instruments. Describe the type of instruments and how they are used to help establish the radionuclide inventory:

Scaling factors. Explain how the scaling factors were derived and how they are used:

Computer models. Describe the computer model used and how it is used to establish the radionuclide inventory:

Other. Describe method:

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2.a. If two or more methods are checked above, describe how the methods are used together to establish the radiological inventory of the waste stream.

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3. Estimated Radiation Dose rate from disposal package (mSv/hr):

Surface: \_\_\_\_\_ @ 30 cm: \_\_\_\_\_ @ 1 Meter: \_\_\_\_\_

4.  Yes  No Does the waste contain enriched uranium ( $^{235}\text{U}$  wt% > 0.90),  $^{233}\text{U}$ ,  $^{239}\text{Pu}$ ,  $^{241}\text{Pu}$ ,  $^{242\text{m}}\text{Am}$ ,  $^{243}\text{Cm}$ ,  $^{245}\text{Cm}$ ,  $^{247}\text{Cm}$ ,  $^{249}\text{Cf}$ ,  $^{251}\text{Cf}$ ? If yes, check all boxes that are applicable. If no, skip to Section D.5.

4.1  Attach completed NNSWAC, Appendix E, Table E.3,  $^{235}\text{U}$  FGE and  $^{235}\text{U}$  Effective Enrichment, for each enrichment level or range.

4.2  Meets criteria specified in 49 CFR 173.453, Fissile materials – exceptions. Specify controlling document:

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4.3  Fissile material does not exceed 350 g of  $^{235}\text{U}$  FGE per package nor does it exceed 2 g of  $^{235}\text{U}$  FGE per kilogram of waste (mass of the package is not included in the mass of the waste) (graphite and beryllium must not exceed 1% of the mass of the waste). *Note: These criteria apply to 55-gallon metal drums or larger containers (i.e., 85-gallon drums, metal boxes) and are not applicable to drums < 55-gallon or soft sided, wood, or plastic containers.* Specify controlling document:

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4.4  Waste complies with the limits and conditions as specified in NNSWAC, Appendix E, Table E.4. Specify controlling document:

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4.5  Graphite and beryllium exceeds 1% of the mass of the waste.

4.6  Waste complies with the limits and conditions as specified in NNSWAC, Appendix E, Tables E.5 and E.6. Specify controlling document:

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4.7  A waste specific nuclear criticality safety evaluation (NCSE) was performed to show compliance with the NNSWAC, Section 3.2.1. Attach NCSE for review and specify controlling document:

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5. Reportable radionuclides. List the radionuclides that could be reportable in the waste stream by listing the high activity and the activity representative of the final waste form in ( $\text{Bq}/\text{m}^3$ ): For revised waste profiles, highlight all changes in the table below.

*Note: Concentrations must be entered in Becquerel/cubic meter ( $\text{Bq}/\text{m}^3$ ).*



_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

7. Provide supporting Plutonium Equivalent Gram (PE-g) calculations.

Isotope	High Activity from Table D.5 (Bq/m <sup>3</sup> )	PE-g Conversion Factors (gPE/Bq)	PE-g/m <sup>3</sup>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Total PE-g/m <sup>3</sup>			_____

Value for container is derived from multiplying Total PE-g/m<sup>3</sup> by volume of container (m<sup>3</sup>)

7.a. Are there any packages in this waste stream that exceed the 300 PE-g total (NNSSWAC, Section 3.2.2)?

Yes  No

If yes, please describe controls to ensure that the package activity limit is not exceeded.

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### E. Packaging

1. Packaging used. Check the applicable boxes.

Drum; describe size(s), type, and weight range: \_\_\_\_\_

Metal box; describe size range, type, and weight range: \_\_\_\_\_

Wood box; describe size range, type, and weight range: \_\_\_\_\_

Do the Metal or Wood boxes meet the 3,375 lb/ft<sup>2</sup> strength test?  Yes  No

High integrity container; describe size range, type, and weight range: \_\_\_\_\_

Cargo transport container; describe size range, type, and weight range: \_\_\_\_\_

Roll-off container; describe size range, type, and weight range: \_\_\_\_\_

Have returnable roll-off boxes been packaged in accordance with NNSWAC Appendix F?  Yes  No

For waste containers that will be emptied (i.e. roll-off boxes) provide anticipated contamination levels of the waste. \_\_\_\_\_

Other container; describe size(s), type, and weight range: \_\_\_\_\_

Bulk waste containers such as soft-sided packages, provide shipment dimensions and weight ranges – describe (supersack, burrito wraps, equipment, etc.): \_\_\_\_\_

SCO (equipment, large machinery, etc.) provide shipment dimensions and weight ranges.

Type B Package - Attach Certificate of Compliance (CoC) for the package

Shielded; describe type of shielding:  
\_\_\_\_\_  
\_\_\_\_\_

Sorbents (required only for Mixed Waste Profiles); describe type: \_\_\_\_\_

2. Maximum container size: \_\_\_\_\_

3. Maximum container gross weight: \_\_\_\_\_

4. Describe any liners/protective coatings used to ensure that the container is compatible with the waste:

5. Does each container meet each of the package criteria as defined in the Nevada National Security Site Waste Acceptance Criteria?

Yes  No

If no, complete Section F.2

6. Are any of the containers checked above required to be returned to the generator facility?

Yes  No If yes, specify.

7. Do any packages listed above require special handling (remote handled, Type B Package, odd package configurations, etc...)?

Yes  No

Reference any special handling procedures and ALARA documentation required to off-load waste, if applicable.

8. Is internal contamination (i.e. internal contamination of a Type B cask for waste removal and cask return) anticipated?

Yes  No If yes, please provide anticipated contamination levels.

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9. Is radon expected to be generated during storage, handling, and shipping?

Yes  No

## **F. Additional Information**

1. Comments:

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2. Exception or Deviation Request to waste acceptance criteria: Complete if needed

a) Identify specific requirement for which an exception or deviation is desired:

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b) Provide reason an exception or deviation is needed:

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c) Describe any proposed alternative methods to meet the general intent of the requirement:

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3. Attachments. List any attachments provided with this profile:

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**G. Generator Signatures**

To the best of my knowledge, the information provided on this form and the attached documentation is a full, true and accurate description of the waste stream. Willful and deliberate omissions have not been made. All known and suspected hazardous materials have been disclosed.

Technical Contact Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Waste Certification Official Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_