WASTE STREAM PROFILE SHEET
WSPS No:

SECTION I: GENERAL WASTE STREAM INFORMATION

1) Master Profile

Check applicable master profile(s) (check all that apply):

☐ BJC Master Profile L-010
☐ BJC Master Profile L-020
☐ BJC Master Profile L-030
☐ BJC Master Profile L-040
☐ BJC Master Profile L-050
☐ BJC Master Profile L-055
☐ BJC Master Profile L-080
☐ BJC Master Profile L-090
☐ BJC Master Profile L-110
☐ BJC Master Profile L-115

2) Location of Waste Generation:

Include building number, area, room number(s), hot cell identifier, or any other information that will give the location(s) of waste generation.

3) Generator Information
Generator Name:
Generator Phone No:

4) GI/GIE Information
GI/GIE Name:
GI/GIE Phone No:

5) Applicability: ☐ One Time ☐ Ongoing

Indicate **one time** *(this waste will be produced during a finite period), or* **ongoing** *(waste will continue to be produced in the future from the* ***exact same*** *generating process and location).*

6) Contamination Type: ☐ Contact Contamination ☐ Volume Contamination

Indicate **contact contamination** *if the waste will become contaminated by surface interaction or the waste is contaminated on the surface. Indicate* **volume contamination** *if the contamination is distributed throughout the bulk of the waste item. See the attached Table of Common Waste Items for assistance.*

7) Generation Process:

Briefly describe the process under which the waste was generated. Attach process descriptions and flow diagrams; and reference procedures/instructions as applicable. Note that the generator must inform the GI/GIE whenever any part of the processes that affect waste characteristics change.

8) Contaminated Items:

List above all items that may be included in this waste stream. See attached Table of Common Waste Items for assistance. Indicate if the following are present, and provide basis and references, as applicable:

Special waste constituent	Present	Basis	References
Regulated asbestos-containing material per the definition in 40 CFR 61.41.*	☐ Yes ☐ No		
Sealed Sources**	☐ Yes ☐ No		

**Regulated asbestos-containing material should be segregated and managed under BJC Master Profile L-055.*

***Sealed sources should be segregated and managed under BJC Master Profile L-115.*

9) Beryllium

Does the waste contain beryllium that may be released as an airborne particulate? ☐ Yes ☐ No

For waste containing beryllium, is the quantity reported in grams or ppm? ☐ Yes ☐ No

10) High Moisture Content Waste : ☐ Yes ☐ No

If yes, refer to NTS Generator Working Group "Position Paper for High Moisture Content Waste" for guidance, and attach applicable documentation.

SECTION II: HAZARDOUS COMPONENTS REVIEW

1) RCRA Determination ☐ Excluded ☐ Exempted ☐ Non-RCRA ☐ Treated
☐ RCRA (mixed waste not for NTS)

Reference Documents

Process Knowledge Form (see ORNL-WC-607) attached ☐ Yes ☐ No
Other References (list):

If sampling and analysis is used for RCRA characterization, complete the following:

Laboratory (check one): ☐ SMO-approved
☐ Non-SMO-approved, data supporting process knowledge

Laboratory Data Evaluation

The upper 90% confidence level of the mean is below the regulatory thresholds: ☐ Yes ☐ No

2) PCB Determination

☐ Non-PCB (<2 ppm)
☐ Detectible PCB (>=2 ppm and <50 ppm)
☐ PCB bulk product waste
☐ PCB remediation waste
☐ Drained carcass of PCB-contaminated electrical equipment
☐ Non-liquid cleaning materials and personal protective equipment wastes
☐ Non-liquid wastes from research and development activities

Process Knowledge Form (see ORNL-WC-607) attached ☐ Yes ☐ No
Other References (list):

If sampling and analysis is used for PCB characterization, complete the following:

Laboratory (check one): ☐ SMO-approved and audited
☐ Non-SMO-approved, data supporting process knowledge

Laboratory Data Evaluation

The upper 90% confidence level of the mean is below the regulatory thresholds: ☐ Yes ☐ No

3) Prohibited Items

Indicate the basis for concluding that the waste does not contain the following items, and cite references.

Prohibited Item	Present	Basis	Reference
Etiologic Agents, Pathogens, Infectious Waste	☐ Yes ☐ No		
Free Liquids	☐ Yes ☐ No		
Pyrophorics, Explosives, Ignition Sources	☐ Yes ☐ No		
Toxic Gases, Vapors, Fumes	☐ Yes ☐ No		
Pressurized Gases	☐ Yes ☐ No		
Dense Material	☐ Yes ☐ No		
Chelating Agents	☐ Yes ☐ No		
Destabilizing Agents	☐ Yes ☐ No		
Biological Wastes	☐ Yes ☐ No		
Particulates	☐ Yes ☐ No		

SECTION III: RADIOLOGICAL CHARACTERIZATION

1) Radionuclide Distribution

☐ **Later Justification:**

Enter "Later" if the distribution cannot be determined at the time this WSPS is prepared. Provide justification for why this data is not available.

Reference Documents:

Laboratory Analysis:
Evaluation:

Radionuclide	% of Total
Total	0.00

2) Nuclear Criticality Safety

☐ **Later Justification:**

Enter "Later" if the enrichment information or presence of other fissile isotopes cannot be determined at the time this WSPS is prepared. Provide justification for why this data is not available.

The waste contains enriched uranium: ☐ Yes ☐ No

If yes, enter percent enrichment in U-235:

Attach a Criticality Safety Evaluation for waste packages with greater than 15 g U-235 and U-235 enrichment equal to or greater than 0.90 percent by weight.

The waste contains fissile isotopes other than depleted or natural uranium: ☐ Yes ☐ No

3) Data Sources for Radiological Characterization

Check all that apply, and provide references for those checked:

☐ Process Knowledge	References:
☐ Direct Measurements	References:
☐ Sampling and Analysis	References:
☐ Material Control and Accountability	References:
☐ Gross Radiation Measurements	References:
☐ Scaling Factors	References:
☐ Other (requires WCO approval)	References:

4) Methods for Calculating Activity in SLLW

Check the method(s) used and attach supplemental method descriptions and calculation sheets as needed (see ORNL-WC-507)

☐ Method 1 – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Not Shielded by Waste Matrix, Nonstandard Geometry

☐ Method 2 – Contact Contamination, No Gamma-Ray Emitters Present, Accessible Waste Surfaces

☐ Method 3 – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Shielded by Waste Matrix, Non-accessible Waste Surfaces

☐ Method 4a – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Not Shielded by Waste Matrix, Standard Geometry

☐ Method 4b – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Not Shielded by Waste Matrix, Nonstandard Geometry-Boxes

☐ Method 4c – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Not Shielded by Waste Matrix, Low Energy/Low Gamma-ray Production Radionuclides

☐ Method 4d – Contact Contamination, Gamma-Ray Emitters Present, Gamma Rays Not Shielded by Waste Matrix, Nonstandard Geometry-Drums

☐ Method 5 – Contact Contamination, No Gamma-Ray Emitters Present, Non-accessible Waste Surfaces

☐ Method 6 – Volume Contamination, Gamma-Ray Emitters Present

☐ Method 7 – Volume Contamination, No Gamma-Ray Emitters Present

☐ Method 8 – Characterization Using Gamma Spectroscopy (requires WCO approval)

☐ Method 9 – Records Summation

☐ Method 10 – Calculation of Neutron Activation Yields

☐ Method 11 – Materials Control and Accountability

☐ Other (requires WCO approval) -

5) Radiation Measurements

Indicate the type(s) of measurements.

☐ Surface Beta/Gamma
☐ Surface Alpha
☐ Gamma Exposure Rate
☐ Smears

6) Scaling Factors

Methods used to develop scaling factors are documented. Reference:	☐ Yes	☐ No	☐ N/A
Scaling factors take into account waste package and detector geometry, shielding and attenuation effects, and the energy spectra and decay schemes of radionuclides in the waste.	☐ Yes	☐ No	☐ N/A
If scaling factors are used, distributions are periodically reverified through direct measurements or Sampling and Analysis. Reference:	☐ Yes	☐ No	☐ N/A

7) Class C and Table E-1 Determinations

☐ **Later Justification:**

Enter "Later" if, at the time this WSPS is prepared, it is not possible to determine whether the waste will exceed to commercial class C limits or the NTSWAC Table E-1 limits. Provide justification for why this data is not available.

Based upon characterization data, the waste:
☐ Will ☐ Will not exceed Commercial Class C limits (10 CFR 61.55)
☐ Will ☐ Will not exceed NTSWAC Table E-1 limits

Laboratory Data Evaluation

If the results are greater than 50% of the regulatory threshold, the upper 90% confidence level of the mean is below the regulatory thresholds: ☐ Yes ☐ No

SECTION IV: QUALITY REQUIREMENTS AND DOCUMENTATION

1) Process Knowledge

If PK includes historical analytical data, the data limitations are documented. Reference:	☐ Yes	☐ No	☐ N/A
If PK includes historical analytical data, the data is routinely verified through verification sampling and analysis. Reference:	☐ Yes	☐ No	☐ N/A
If PK relies on living memory, it is documented and signed by the interviewee (if possible) and interviewer. Reference (attach):	☐ Yes	☐ No	☐ N/A
PK has been evaluated to identify uncertainties, inconsistencies, limitations and usefulness. Reference:	☐ Yes	☐ No	☐ N/A

2) Sampling and Analysis

A Sampling and Analysis Plan was implemented for this waste stream. Reference:	☐ Yes	☐ No	☐ N/A
Sampling group is WCO-approved.	☐ Yes	☐ No	☐ N/A
Samples were representative of the waste stream. Reference:	☐ Yes	☐ No	☐ N/A
The samples were analyzed by an SMO-approved laboratory, or data is periodically verified by an SMO-approved laboratory. Reference:	☐ Yes	☐ No	☐ N/A
Propagation of error throughout the sampling and analysis process has been evaluated. Reference:	☐ Yes	☐ No	☐ N/A

Analysis results have been reviewed for the following:

Note: Provide analytical data received from the laboratory, and an explanation of how the radionuclide distribution was derived from laboratory data.

Analytical methods were appropriate for detection of the expected radionuclides.	☐ Yes	☐ No	☐ N/A
Analytical results are consistent with process knowledge of the radionuclides present in the area.	☐ Yes	☐ No	☐ N/A
Results include appropriate units and error.	☐ Yes	☐ No	☐ N/A
Results for gross alpha and gross beta are consistent with results for individual radionuclides (i.e., no indication of pure alpha or pure beta emitters that have not been identified)	☐ Yes	☐ No	☐ N/A
Analytical results are documented and signed by the responsible laboratory representative.	☐ Yes	☐ No	☐ N/A
Results provide sufficient information for deriving the radionuclide distribution.	☐ Yes	☐ No	☐ N/A

3) Documentation

List waste characterization documentation, and location if not attached. Include the following types of documents as applicable:

- *Process knowledge documentation: historical analytical data, literature searches, living memory, historic records, mass balance documentation, production specifications, certificates of traceability, plans and drawings, signed statements of living memory, system descriptions, work and operating procedures which generated waste, MSDS*
- *Evaluations of PK and historical data*
- *Independent reviews of program documents*
- *Reviewed and approved procedures including direct measurement and/or survey processes, survey area estimations (when surface area of waste material is utilized in radiological characterization calculations), and ratio/scaling factor information (approach to ratio/scaling factor development, application of ratio/scaling factors, justification for use of ratios/scaling factors, supporting calculations, operating procedures for assay equipment)*
- *Evaluated data, validated data, sampling and analysis plan, scope of work, and laboratory acquisition document.*

4) Signature Block

I certify that the waste characterization information provided by me for the development of this form is complete and accurate. This information reflects my direct knowledge of the generating process and/or information I obtained from others who are knowledgeable of the waste generating process. I am aware that I must notify the GI/GIE whenever any part of the processes that affect waste characteristics change in order to update/review this form for potential changes.

Generator: _____ **Date:** _____
Type Name: **Badge Number:** _____

I certify that the waste characterization information provided by me for the development of this form is complete and accurate. This information reflects my direct knowledge of the generating process and/or information I obtained from others who are knowledgeable of the waste generating process.

GI/GIE: _____ **Date:** _____
Type Name: **Badge Number:** _____

I have reviewed the waste generating process, the associated WSPS for prohibited items and the RCRA/TSCA analytical results, PK or PKEF for this process and concur that the waste characterization information is complete and accurate. Where waste segregation and administrative controls are used, I concur that those controls are in place to prevent prohibited items from entering the waste stream.

ECR/EPO: _____ **Date:** _____
Type Name: **Badge Number:** _____

I have reviewed the WSPS and the associated analytical results or PK or PKEF for this process and concur that the waste characterization information is complete and accurate.

WA/WCO: _____ **Date:** _____
Type Name: **Badge Number:** _____