

**INSTRUCTIONS FOR COMPLETING
WASTE STREAM PROFILE SHEET (WSPS)**

Note: DO NOT enter NA unless specifically allowed by these instructions.

5/2003

Block #	Description	Guidance
SECTION I: GENERAL WASTE STREAM INFORMATION		
1	Master Profile	Request the WCO to determine which master profile(s) will be used for disposal of this waste. Check all boxes that apply.
2	Location of Waste Generation	Enter a description of the actual location where the waste was generated/bulked. Provide as much specific information as possible.
3	Generator Information	Enter the name of the individual in the generating division who knows the most about generation of the waste, and that individual's phone number.
4	GI/GIE Information	Enter the name of the GI/GIE who assisted the generator in completing this form, and that individual's phone number.
5	Applicability	Indicate whether the waste stream described in this form will only be generated during one discrete period of time (one time), or whether the waste stream will continue to be produced in the future as a result of the exact same process (ongoing).
6	Contamination Type	Indicate whether the radiological contamination associated with this waste is contact contamination (occurs only on the item's surface as a result of contact with radiological contamination) or volume contamination (contamination is distributed throughout the volume of the item). The Table of Common Waste Items lists typical items that fall under each category.
7	Generation Process	Define the process that resulted in the contaminated waste, attaching process descriptions, flow diagrams, and process procedures/instructions as necessary. Be aware that if any part of the process that may affect the characteristics of the waste changes, the GI/GIE must be notified so that the WSPS can be revised as needed.

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8	Contaminated Items	<p>Enter a list of the items contained in this waste stream. The Table of Common Waste Items lists typical items.</p> <p>Indicate if the waste contains either asbestos-containing material or sealed sources, and provide the basis for this determination. Enter the document titles/numbers of references used to make this determination.</p> <p>Indicate “yes” for asbestos if the waste stream contains friable asbestos material; Category I nonfriable asbestos-containing material (ACM) that has become friable; Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading; or Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder. If the waste stream does contain asbestos, verify that Master Profile L-055 is checked in block 1.</p> <p>The Nevada Test Site WAC provides the following guidance for sealed sources. Sealed sources containing transuranics must be individually evaluated, considering only the mass of the source and any component integral to the source. Sealed sources with an activity less than 3.7 MBq (100 µCi) can be a component of waste streams such as contaminated trash. The total volume of the waste is then used for waste classification and determination of radionuclide concentration. Sealed sources with an activity equal to or greater than 3.7 MBq (100 µCi) must be segregated from other waste and profiled as a separate waste stream. If this requirement applies, verify that Master Profile L-115 is checked in block 1.</p>
9	Beryllium	<p>Beryllium is defined as elemental beryllium and any insoluble beryllium compound or alloy containing 0.1 percent beryllium or greater that may be released as an airborne particulate. Indicate whether the waste contains beryllium that meets this definition. If yes, indicate verification that any beryllium values have been reported in grams or ppm.</p>
10	High Moisture Content Waste	<p>Indicate whether the waste is high moisture content waste (i.e., waste that has the potential to release moisture from its final waste form in excess of NTSWAC requirements). If the waste is high moisture content, decisions made when characterizing and determining sorbents must be documented and attached.</p>

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SECTION II: HAZARDOUS COMPONENTS REVIEW		
1	RCRA Determination	<p>Indicate whether the waste is excluded (under 40 CFR261.4), exempt (under 40 CFR 261.5), non-RCRA, RCRA waste treated to be non-RCRA, or RCRA waste. If RCRA waste is checked, the waste is mixed waste and is not acceptable for disposal at NTS.</p> <p>Attach the appropriate Process Knowledge form and check this block under Reference documents. Also enter the titles/document numbers, as applicable, of other reference documents (operating procedures, sampling and analysis results, etc.) that were used to determine that RCRA constituents are below regulatory levels.</p> <p>If sampling and analysis results are listed as a reference document, indicate whether the laboratory used is SMO-approved and audited. If not, the data must be validated by process knowledge.</p> <p>If sampling and analysis results are listed as a reference document, verify that the upper 90% confidence level has been calculated, and that it is below the regulatory threshold value. For each potential RCRA constituent, calculate the upper 90% confidence level (CL) as follows:</p> <p>CL = mean + (tvalue at alpha=0.2)(standard error)</p>

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2	PCB Determination	<p>Check the appropriate PCB definition based on the following:</p> <ul style="list-style-type: none"> • Non-PCB (<2 ppm) - material with no detectable contamination, or less than 2 ppm • Detectable PCB (>=2 ppm and <50 ppm) - non-regulated PCB waste with < 50 ppm PCB • PCB bulk product waste - as defined in 40 CFR 761.62(b)(1)(i and ii) • PCB remediation waste - dewatered bulk PCB remediation waste with <50 ppm of PCBs (e.g., soil contaminated with heat transfer liquid) • Drained carcass of PCB-contaminated electrical equipment - (e.g., transformer, voltage regulator) • Non-liquid cleaning materials and personal protective equipment wastes – at any PCB concentration from decontamination or self-implementing remediation site cleanup (e.g., brushes, booties, gloves, rags) • Non-liquid wastes from research and development activities - (e.g., glassware, tubing, spatulas, filter paper) <p>Attach the appropriate Process Knowledge form and check this block under Reference documents. Also enter the titles/document numbers, as applicable, of all reference documents (operating procedures, sampling and analysis results, etc.) that were used to determine that PCBs meet checked definition.</p> <p>If sampling and analysis results are listed as a reference document, indicate whether the laboratory used is SMO-approved and audited. If not, the data must be validated by process knowledge.</p> <p>If sampling and analysis results are listed as a reference document, verify that the upper 90% confidence level has been calculated, and that it is below the regulatory threshold value. Calculate the upper 90% confidence level (CL) as follows:</p> <p>CL = mean + (tvalue at alpha=0.2)(standard error)</p>

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3	Prohibited Items	<p>For each prohibited item described below, briefly indicate the basis for the determination that the waste does not contain the item. Enter the document titles/numbers for references used to make this determination.</p> <ul style="list-style-type: none"> • Etiologic Agents, Pathogens, Infectious Waste • Free Liquids - The residual liquid will not exceed 1% of the volume of the waste when the waste is in a disposal container, or 0.5% of the volume of the waste processed to a solidified form. • Pyrophorics, Explosives, Ignition Sources* - The waste is not capable of detonation or explosive decomposition or reaction at normal pressures and temperatures, or of explosive reaction with water. Pyrophoric materials contained in the waste are treated, prepared and packaged to be nonflammable. Pyrophoric materials that are blended in a hardened concrete matrix are considered to be treated to be nonflammable. • Toxic Gases, Vapors, Fumes • Pressurized Gases - The waste is not capable of exceeding 1.5 atmospheres at 20 degrees centigrade.** Compliance may be achieved by puncturing aerosol cans and removing the valve mechanism from expended gas cylinders. • Dense Material - The waste does not include dense material or graphite in amounts exceeding Table 1 of Section H of the BJC Master Profile. • Chelating Agents - The waste does not contain active chelating or complexing agents greater than 1% of the weight of the waste (unless they have been stabilized and solidified.) • Destabilizing Agents - The waste does not contain destabilizing agents, such as waste that will react with other waste or the packaging, that may jeopardize container integrity during storage, shipment, handling, or disposal. • Biological Wastes • Particulates - The waste contains no more than 1 weight percent of less-than-one-micron diameter particles, or 15 weight percent of less-than-200-micron diameter particles. <p>Draft: 5/6/2003</p>

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Block #	Description	Guidance
		<p><i>*BJC Master Profile L-110 provides mitigation measures if flammable gas concentrations may exceed the lower explosive level during handling.</i></p> <p><i>**Note: BJC Master Profile L-110 provides mitigation measures if gas generation may exceed this level during handling.</i></p>
SECTION III: RADIOLOGICAL CHARACTERIZATION		
1	Radionuclide Distribution	<p>Indicate "Later" if the radionuclide distribution cannot be determined at the time this WSPS is prepared. Provide justification for why this information cannot be provided.</p> <p>Enter references for the laboratory analysis and the evaluation document that describes how the distribution was derived from the data.</p> <p>List all radionuclides in the left column that are known or reasonably expected to be present in the waste meeting any of the following criteria:</p> <ul style="list-style-type: none"> • The activity concentration in the final waste form is expected to exceed 1 percent of the Action Level (Table E-1 of NTSWAC) • The radionuclide requires reporting on shipping papers and labels per DOT regulations (49 CFR 173.433) • The radionuclide is an alpha-emitting transuranic radionuclide with a half-life greater than five years, Pu-241 or Cm-242. • The activity concentration in the final waste form is expected to exceed 1 percent of the total activity concentration. The total activity concentration shall include the activity of all radionuclides except those exempt radionuclides listed in Table E-2 of NTSWAC and radionuclides occurring at concentrations not exceeding applicable background ranges. <p>Enter the corresponding percent of total activity for each listed radionuclide in the right column. The form will total the percentages, which should be close to 100%.</p>

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2	Nuclear Criticality Safety	<p>Indicate "Later" if either the enrichment information or the presence of other fissile isotopes cannot be determined at the time this WSPS is prepared. Provide justification for why this information cannot be provided.</p> <p>Indicate if the waste stream contains enriched uranium; and the percent enrichment in U-235, if U-234, U-235, or U-238 is present. Indicate if the waste stream contains other fissile isotopes* other than depleted or natural uranium. A Criticality Safety Evaluation is required for waste packages with greater than 15 g U-235 and U-235 enrichment equal to or greater than 0.90 percent by weight, and may be required for waste packages containing other fissile isotopes on a case by case basis.</p> <p>*Fissile isotopes: Am-241, Am-242m, Am-243, Cf-250, Cf-252, Cm-243, Cm-244, Cm-245, Cm-247, Cm-246, Es-254, Np-237, Pa-231, Pu-238, Pu-239, Pu-240, Pu-241, Pu-242, U-232, U-233, U-234, U-235</p>
3	Data Sources for Radiological Characterization	Indicate all data sources that were used to perform radiological characterization. For each data source checked, provide the reference document titles/numbers.
4	Methods for Calculating Activity in SLLW	Indicate the method (as described in ORNL-WC-507) that was used to calculate activity for this waste stream. Attach the actual calculation sheets, or sample calculation sheets, as applicable, to this form. Document inputs and outputs. If a sample calculation sheet is included that will be used on multiple waste containers, the sheet must be verified and validated, and controlled. Also document the method used to obtain the radionuclide distribution using sampling and analysis results, and process knowledge, if applicable.
5	Radiation Measurements	Indicate the types of radiological measurements that were taken for this waste stream.
6	Scaling Factors	Indicate "yes," "no," or "NA" in response to the questions regarding scaling factors. Provide the document title/number of reference material that supports "yes" responses where a Reference entry field is provided. "No" responses will generally not be acceptable.

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7	Class C and Table E-1 Determinations	<p>Indicate “Later” if it is not possible to determine whether the waste will exceed to commercial class C limits or the NTSWAC Table E-1 limits at the time this WSPS is prepared. Provide justification for why this information cannot be provided.</p> <p>Refer to 10 CFR 61.55 and indicate whether the waste stream will exceed commercial class C limits.</p> <p>Refer to NTSWAC Table E-1, and indicate whether the waste stream will exceed these limits.</p> <p>Follow the guidelines provided in the notes below as applicable.</p> <p>Note: Waste exceeding NTSWAC Table E-1 limits and Class C limits may be accepted by NTS on a case-by-case basis. This waste should be segregated and managed under BJC Master Profile L-110.</p> <p>Note: The activity of small concentrated sources (less than 3.7 MBq (100 µCi)) may be averaged over the volume of the waste package when mixed with other contaminated waste. For sources with an activity greater than 3.7 MBq (100 µCi), unless the waste package has been stabilized or encapsulated, the activity is averaged over the volume of the waste form. For waste packages that will be stabilized or encapsulated, the activity is averaged over the volume of the waste package.</p> <p>If the results are greater than 50% of the regulatory threshold, verify that the upper 90% confidence level has been calculated, and that it is below the regulatory threshold value. Calculate the upper 90% confidence level (CL) as follows:</p> <p>CL = mean + (tvalue at alpha=0.2)(standard error)</p>
SECTION IV: QUALITY REQUIREMENTS AND DOCUMENTATION		
1	Process Knowledge	Indicate “yes,” “no,” or “NA” in response to the questions regarding process knowledge. Provide the document titles/numbers of reference material that supports “yes” responses where a Reference entry field is provided. “No” responses will generally not be acceptable.
2	Sampling and Analysis	Indicate “yes,” “no,” or “NA” in response to the questions regarding sampling and analysis. Provide the document titles/numbers of reference material that supports “yes” responses where a Reference entry field is provided. For instance, references demonstrating that samples were representative of the waste stream might include the sampling and analysis plan, and a survey map indicating where smears were taken. “No” responses will generally not be acceptable.

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3	Documentation	Enter the document titles/numbers and physical location of documents (if not attached), for all documents that are referenced in this form. Review the list of typical documents and verify that all applicable documents have been listed.
4	Signature Block	The generator, GI/GIE, ECR, and WA/WCO shall read and sign the applicable certification statement.