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WASTE DESIGNATION AND LAND DISPOSAL RESTRICTIONS	Volume	18, Waste Management
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1.0 PURPOSE AND SCOPE

This procedure establishes requirements, roles, and responsibilities and the approach for properly designating waste (i.e., assigning applicable waste numbers) and determining applicable Land Disposal Restrictions (LDR) requirements. These requirements apply to activities carried out under the River Protection Project (RPP) contract involving the generation of a solid waste.

The intent of this procedure is to ensure that waste designation and Land Disposal Restrictions activities, managed by ~~Fluor Hanford, Inc. (FH)~~ CH2M HILL Hanford Group, Inc. (CHG) under the scope of the ~~Project Hanford Management Contract (PHMC)~~ River Protection Project (RPP), are carried out in a manner that protects human health and the environment, and meets applicable federal, state, and local regulator requirements. This procedure is to be implemented in accordance with the core functions and guiding principles of [RPP-MP-003](#), "Environment, Safety and Health Management System Description for the Tank Farm Contractor."

2.0 REQUIREMENTS

The organization responsible for the generation of a solid waste shall ensure the waste is designated by personnel qualified in accordance with HNF-IP-0842, Volume 3, Section 1.4, "Environmental Training."

BASIS: WAC 173-303-330(1); best management practice to ensure waste is designated properly

A proper waste designation shall result in the assignment of only those waste numbers required by steps in WAC 173-303-070(3) and (5).

BASIS: Best management practice to avoid assigning unnecessary treatment requirements on a dangerous waste.

Radionuclide measurements on a waste shall not be used to estimate chemical constituent concentrations for characteristic waste number applicability unless: (1) a technical basis can be established correlating the radionuclide measurement to the weight percent of a waste in a matrix; and (2) a technical basis can be established correlating the weight percent of the waste to the concentration of the chemical constituent.

BASIS: Best management practice to avoid misrepresentation of radionuclide applicability to WAC 173-303.

Actively managed environmental media (soil, groundwater, surface water, and sediments) shall be designated in accordance with WAC 173-303-070.

BASIS: “Contained-in Policy,” Ecology letter dated February 19, 1993.

If free liquids are suspected in a waste matrix, the Paint Filter Liquid Test, EPA SW-846 Method 9905, should be used to determine the presence of free liquids for waste designation purposes.

BASIS: 60 FR 3092.

2.1 Waste Designation Process

Dangerous waste is solid waste that designates in accordance with WAC 173-303-070(3) and (5) based on the procedures in WAC 173-303-080 through -100. There are three categories of dangerous waste to potentially consider: listed waste, characteristic waste, and criteria waste.

BASIS: WAC 173-303-070.

Waste designations are performed based on the properties of the waste at the point of generation. A point of generation occurs when a material first becomes a solid waste. A new point of generation is established after treatment is performed on a dangerous waste. A waste must be re-designated after treatment. If multiple treatment activities are necessary to meet applicable Land Disposal Restrictions, the point of generation shall be established after the last treatment in the treatment train. Any dangerous waste activity must be evaluated carefully to determine if the activity constitutes treatment because all waste management activities are not treatment activities. Establishing a new point of generation after treatment does not remove any Land Disposal Restrictions requirements identified at the original point of generation of the waste.

BASIS: Ecology Waste Designation Policy (Ecology Pub #97-439).

A waste designator shall only apply waste numbers if required to by the regulations. Waste numbers shall not be used to track treatment requirements regarding a waste. If an overall designation record for a container yields more waste numbers than required by regulation based on the existence of multiple waste streams, the designation record shall indicate the designation of each waste stream (e.g., lab packs).

NOTE: This statement is not related to an organization’s ability to declare a waste as dangerous.

NOTE: The terms “waste codes” and “waste numbers” are used interchangeably in WAC 173-303. The term waste numbers is used in this procedure.

BASIS: WAC 173-303-070(3) and (5); best management practice to avoid misrepresentation of treatment requirements.

1. Listed Waste Designation

“Listed” refers to solid waste that is designated as dangerous waste because it meets both the listing criteria requirements and it appears on any of two specific waste lists:

- Discarded chemical products (WAC 173-303-9903)
- Dangerous Waste Sources (WAC 173-303-9904).

Listed wastes are source-dependent. The mere existence of a particular constituent in a waste stream does not cause a waste to be a listed waste. Knowledge about the constituent's source shall not be used to establish a listed waste designation. If no source knowledge exists, the waste shall be designated as a listed waste. Refer to paragraph 2.1, items 5.c and 5.d, for additional information.

BASIS: 55 FR 8758.

Listed waste may be regulated as a hazardous waste or a state-only dangerous waste. In cases where the listed waste is a state-only dangerous waste but must be designated using a federal waste number (e.g., certain non-ignitable F003 waste), the waste designation records shall indicate the waste is a state-only waste.

BASIS: Ecology letter March 1, 1994; record keeping best management practice.

- Discarded chemical products

These waste types also are called "P" and "U" listed waste. This list consists of specific commercial chemical products and manufacturing chemical intermediates. This list applies to unused, discarded (including unused spilled) chemical products that contain the listed constituent of concern as the "sole active ingredient." This list does NOT apply to used chemicals or those that contain more than one active ingredient.

BASIS: WAC 173-303-040 and -070(3)(a)(i)y.

- Dangerous waste sources

Dangerous waste sources include non-specific sources "F" waste and specific sources "K" waste. Hanford Site activities usually do not generate "K" waste types, as specific sources usually refer to manufacturing processes. Contact Generator Services if you suspect your waste is designated as a "K" waste. If a waste has been designated as a discarded chemical product (e.g., U and P numbers) in paragraph 2.1, item 3.a, then by definition a waste cannot be designated as a dangerous waste source (e.g.; F and K numbers).

BASIS: WAC 173-303-070(3)(a)(ii).

On the Hanford Site, spent solvent waste in the F001-F005 listing descriptions are the most common dangerous waste sources. The following statements refer to spent solvent waste designations.

General spent solvent approaches

- Only one waste number is assigned after evaluation of a solvent listing.
- The evaluation as to which of the five waste numbers applies always is based on "before use" concentrations of the solvents, by volume. Any solvent found in the

waste used for its solvent properties appearing on the applicable solvent listings shall be included in the “before use” concentration calculation.

- The Environmental Protection Agency has indicated spent solvent uses include those that solubilize (dissolve) or mobilize other constituents. These include solvents used in degreasing, cleaning, and fabric scouring; as diluents; as extractants; and as reaction and synthesis media. Do not confuse reaction media with being a reactant. The Environmental Protection Agency has indicated that using a solvent as a reactant is not a solvent use.
- Only one waste number is assigned per chemical constituent. If the chemical appears on the F001 and F002 lists, the waste designator must make a choice between the two waste numbers as to how the waste is evaluated. For chemical constituents appearing on both the F001 and F002 lists, the first criteria to choose a waste number is based on whether the chemical was used as a “degreaser” or for “other solvent uses.” “Other solvent uses” spent solvents are evaluated under F002. The second decision is whether the degreasing operation is a large-scale or small-scale operation. The Environmental Protection Agency indicated in a May 1991 Hotline summary that large-scale degreasing operations are evaluated under F001 and small-scale degreasing operations are evaluated under F002.
- Small-scale degreasing operations can include cold cleaning using wipers or rags to degrease contaminated surfaces with the solvent. Large-scale degreasing operations can include other cold cleaning operations such as immersion. Vapor degreasing and fabric scouring are other examples of large scale degreasing.
- When a chemical constituent appears only on the F001 list, all degreasing uses must be considered for evaluation. Large-scale and small-scale degreasing operations are both applicable for F001 in this case.
- The evaluation process for F003 is different than the evaluation process for the other four waste numbers.

A waste stream could be generated where multiple solvent listings apply (e.g., F002, F003, and F004), resulting in the assignment of more than one waste number.

Waste number-specific approaches

F001

- If any F001 constituents, before use, are summed up and equal or exceed 10% by volume, F001 is assigned.
- If any F001 constituents and any F002, F004, and F005 constituents, before use, are summed up together and equal or exceed 10% by volume, F001 is assigned.

F002

- If any F002 constituents, before use, are summed up and equal or exceed 10% by volume, F002 is assigned.
- If any F002 constituents and any F001, F004, and F005 constituents, before use, are summed up together and equal or exceed 10% by volume, F002 is assigned.

F003

- If any F003 constituents, before use, comprise 100% of the matrix, F003 is assigned.
- If any F003 constituents and any F001, F002, F004, and F005 constituents, before use, are summed up separately from the F003 constituents, and equal or exceed 10% by volume, F003 is assigned.

F004

- If any F004 constituents, before use, are summed up and equal or exceed 10% by volume, F004 is assigned.
- If any F004 constituents and any F001, F002, and F005 constituents, before use, are summed up together and equal or exceed 10% by volume, F004 is assigned.

F005

- If any F005 constituents, before use, are summed up and equal or exceed 10% by volume, F005 is assigned.
- If any F005 constituents and any F001, F002, and F004 constituents, before use, are summed up together and equal or exceed 10% by volume, F005 is assigned.

2. Characteristic Waste

Each waste designation is subject to characteristic waste designation for the following four characteristics: ignitability (D001); corrosivity (D002, WSC2); reactivity (D003); and toxicity (D004-D043). Ecology has promulgated a state-only characteristic waste number for corrosivity (WSC2). After completing the characteristic waste designation step, federal Land Disposal Restrictions and waste designation procedures for state-only waste numbers may conclude characteristic waste numbers do not apply to the proper waste designation. Waste numbers not applicable are not carried forward in records. Federal waste numbers are used to track the following state-only characteristic waste: lead shielding and separated empty container residues. State-only characteristic wastes are those dangerous wastes designated pursuant to WAC 173-303-090 that are not designated by the Environmental Protection Agency as a characteristic waste under 40 CFR 261.

BASIS: WAC 173-303-070(3)(a)(iii) and -090; definition of state-only dangerous waste in WAC 173-303-040; WHC Letter, June 28, 1996.

If a waste has been designated as a listed waste, the proper waste designation shall not include any state-only characteristics.

BASIS: WAC 173-303-070(3)(a)(iii) and -070(3)(b).

If a waste has been designated as a listed waste, federal toxicity characteristic waste numbers or the same toxic constituent are not applied to the waste as part of the proper waste designation. The treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste.

BASIS: 40 CFR 268.9(a) and (b).

- Characteristic designation provisions

Testing for the characteristic of corrosivity (D002 and WSC2) must be conducted to ensure testing results are valid to designate a waste. Ecology has discontinued use of wide-range and narrow-range pH paper when testing for state-only characteristic of corrosivity. Ecology has indicated both wide-range and narrow-range pH paper is “not considered to be as accurate a form of pH measurement as pH meters. For this reason, pH measurements taken with pH paper cannot be used to definitively designate a waste as corrosive or non-corrosive for the purposes of regulation.” As such, pH paper is disallowed as a testing method if used solely in designating wastes under WAC 173-303-070(3)(a)(iii). This disallowance, however, is not to be confused with the use of acceptable knowledge based on WAC 173-303-070(3)(a)(c)(ii). Narrow-range pH paper, with pH increments of 1.0 pH units or less, will yield acceptable knowledge for waste in the pH range of 4.0 to 10.0, as long as knowledge obtained from narrow-range pH paper is consistent with existing knowledge regarding the waste. Narrow-range pH paper results outside of the 4.0 to 10.0 range would not be considered acceptable knowledge for making a knowledge-based, non-corrosive determination. If the pH is outside the 4.0 to 10.0 range, the waste shall be designated as corrosive based on existing knowledge or a pH meter shall be used to determine whether or not the waste is corrosive.

BASIS: Ecology Pub #97-439 and Pub #97-407.

Regarding cyanide and sulfide waste under the characteristic of reactivity (D003), a waste designator shall not use the interim cyanide and sulfide levels appearing in SW-846, Chapter 7. The Environmental Protection Agency has withdrawn the interim levels for cyanide and sulfide waste designations.

BASIS: EPA letter dated April 21, 1998.

Regarding the toxicity characteristic (D004 to D043), process knowledge can include testing using “totals” in lieu of testing the waste using the toxic characteristic leaching procedure. The physical form of the waste (solid, liquid, or a mixture) must be factored into comparison of “totals” testing results to regulatory thresholds.

BASIS: EPA Hotline Summary, January 1994.

State-only lead shielded waste must use a federal waste number (D008) in the waste designation process.

Under the state program, elemental lead serving a shielding function is NOT considered part of the waste for designation purposes until backfilled in a disposal location. As soon as backfilling occurs, lead shielding is designated as state-only dangerous waste (D008, DW). This state-only waste number is not assigned to waste that has been designated as a listed waste.

Non-waste lead and other materials that are, or will be used as shielding (where a future use as shielding has been identified), are NOT a solid waste. For lead shielding, documentation shall be kept for the quantity not in use and shall identify the planned use of the lead in accordance with WAC 173-303-017(2)(a)(ii).

BASIS: EPA letter dated April 30, 1991; Ecology letter dated March 4, 1991; best management practice for lead shielding serving its' intended purpose; WAC 173-303-070(3)(a)(iii).

The defueled U. S. Navy reactor compartments shall be accepted with the following waste designation for disposal in Trench 94: State-only D008, DW.

BASIS: U. S. Navy waste manifests.

3. Criteria Waste

Ecology regulates waste under limited circumstances based on two additional state-developed criteria: toxicity and persistence. Toxicity (WT01, WT02) and persistence (WP01, WP02, WP03) are state-only dangerous waste designation provisions. Waste shall only be designated under the criteria in the following cases:

- If the waste is not listed and does not exhibit a characteristic (WAC 173-303-070(3)(a)(iv))
- Ecology requires testing against the criteria in accordance with WAC 173-303-070(4), OR
- Additional designation is required in accordance with WAC 173-303-070(5) as described in paragraph 2.1, item 4.

BASIS: WAC 173-303-070.

For designation of waste within the WAC 173-303-100 toxicity and persistence criteria, existing knowledge shall be used to complete a designation unless the waste is an unknown, or Ecology invokes testing requirements under WAC 173-303-070(4). The organization responsible for the activity that generated the waste is not obligated to obtain additional knowledge through testing (sampling and analysis).

BASIS: Ecology Pub #97-407; definition of unknown waste in Ecology's TIM 82-5.

An extremely hazardous waste category shall only be obtained based on assignment of the state-only toxicity (WT01) and persistence (WP01 and WP03) criteria waste numbers denoting extremely hazardous waste.

Additional management requirements for toxic extremely hazardous waste and persistent extremely hazardous waste types exist. For example, containers holding toxic extremely hazardous waste require triple rinsing in accordance with WAC 173-303-160(2) to render the containers empty.

BASIS: WAC 173-303 extremely hazardous waste requirements.

a. Toxicity criteria

The toxicity criteria shall be determined either via the book designation procedure or via bioassay data. Most Hanford Site waste types are book designated for toxicity. Properly testing a waste to obtain bioassay data will supercede book designation results. If the designation acquired from book designation and bioassay do not agree, bioassay data will be used to designate the waste.

BASIS: WAC 173-303-100(5).

The Registry of Toxic Effect of Chemical Substances (RTECS) published by the National Institute for Occupational Safety and Health (NIOSH) is the only source for toxicity book designations. If no data exist in RTECS, the chemical compound shall not be considered toxic. Toxicity data from a material safety data sheet can be used to complete a book designation if the toxicity data are appropriate for the chemical product.

BASIS: WAC 173-303-100(5)(b)(i).

Waste designators shall apply the following provisions to properly book designate a waste:

- Anion-cation pairing shall not be used to identify compounds.
- RTECS data indicating a “greater than value” shall be considered just as if no toxicity information is available.
- If RTECS does not list a test time duration for inhalation data, do not use these data.
- Rat inhalation data units conversion shall be based on the ideal gas law to express units consistent with WAC 173-303-100(5).

BASIS: WHC letter, March 6, 1992; WHC letter, January 4, 1994; WHC letter, May 20, 1994.

Dangerous waste 90-day accumulation tank systems and final status treatment, storage, and/or disposal unit tank systems are subject to additional state-only requirements in

WAC 173-303-640(5)(e) when managing waste that is “acutely or chronically toxic by inhalation.” This term shall be interpreted to mean those dangerous waste types designated as a toxic waste for reasons due to rat inhalation criteria from the RTECS.

BASIS: Ecology letter dated August 28, 1991.

b. Persistence criteria

A waste can be regulated under the persistence criteria for halogenated organic compounds (HOCs) or polycyclic aromatic hydrocarbons (PAHs). Ecology has provided guidance in Pub #97-407 for test methods to determine HOCs. Ecology has made reference to SW-846 testing methods for both screening methods and determinative methods.

Total organic carbon (TOC) and total organic halides (TOX) SW-846 methods as HOC screening techniques will be taken into consideration for future revisions of Pub #97-407. TOC and TOX are considered reliable methods and results from these methods should be considered acceptable knowledge. TOC is used for PAH determinations and TOX is used for HOC determinations.

BASIS: Ecology Pub #97-407; Ecology Pub #97-439; WAC 173-303-070(3)(c)(ii).

4. Additional Designation

In accordance with WAC 173-303-070(5), additional designation is required for some waste types because designation under the criteria (WAC 173-303-100) may change how the waste must be managed. Ecology has specified three instances in the regulations where designation may change how the waste must be managed. These three instances are related to the following:

- Activities that qualify as a small quantity generator. For waste designated as **DW**, a waste designator shall determine if the waste is also a toxic extremely hazardous waste (WT01). The toxic dangerous waste number (WT02) shall not be applied. For example, waste generated in the 1100 Area is managed under a state/Environmental Protection Agency identification number separate from the Hanford Site and could be considered a small quantity generator.
- Activities that discharge to a Publicly Owned Treatment Works (POTW). For waste designated as **dangerous waste**, a waste designator shall determine if the waste is also extremely hazardous waste (WT01, WP01, or WP03). The toxic and persistent dangerous waste numbers (WT02 and WP02) shall not be applied. The only POTW in the vicinity of the Hanford Site is the city of Richland.
- Activities where the waste will be burned waste for energy recovery or land disposed within the state. For waste designated as state-only **dangerous waste** that will be burned for energy recovery, a waste designator shall determine if the waste is regulated under the criteria (any DW or EHW waste number). For waste designated as **state-only dangerous waste** that will be land disposed within the state, a waste designator must check to determine if the waste is also extremely

hazardous waste (WT01, WP01, or WP03). The toxic and persistent dangerous waste numbers (WT02 and WP02) shall not be applied to waste that will be land disposed within the state.

BASIS: WAC 173-303-070(5).

5. Additional Waste Designation Topics

a. Mixture rule and derived-from rule

Unless specifically excluded by regulation, any mixture involving any listed waste with other solid waste shall be managed as listed waste, regardless of the chemical concentrations or the characteristics exhibited by the resulting mixture. Mixtures of characteristic dangerous waste with other solid waste shall be designated as dangerous waste only if the resulting mixture exhibits a characteristic of a dangerous waste. De-characterized waste is still subject to Land Disposal Restrictions before disposal. Solid waste mixed with, or derived from, listed waste shall be managed as dangerous waste unless “de-listed” by the Environmental Protection Agency through petitioning in accordance with 40 CFR 260.22, as well as by Ecology in accordance with WAC 173-303-072.

NOTE: Mixing or diluting waste or waste treatment residue is prohibited if done to achieve a treatment standard specified under the Land Disposal Restrictions or to circumvent any of the prohibitions under the Land Disposal Restrictions (40 CFR 268.3).

BASIS: WAC 173-303-081(3) and -082(3); 40 CFR 261.3; WAC 173-303-150; de-listing requirements.

Unless specifically excluded by regulation, any RCRA solid waste derived from the treatment, storage, or disposal of a listed waste shall be managed as a listed waste.

BASIS: WAC 173-303-070(2).

b. Contaminated environmental media and debris (contained-in policy)

Environmental media and debris contaminated with a listed dangerous waste shall be managed as a dangerous waste until the media has:

- Been de-listed by the Environmental Protection Agency pursuant to 40 CFR 260.22, and by Ecology pursuant to WAC 173-303-072(1)-(4), or
- Been determined by Ecology to no longer contain a listed waste (contained- in determination) for environmental media or by the Environmental Protection Agency for hazardous debris, and,
- Does not display a characteristic or criteria.

Excavated media that cannot be returned to an excavation and is known to contain a listed waste shall be managed as a dangerous waste until Ecology makes a “contained-in” determination and/or allows alternative management methods. Contact ~~Fluor Hanford~~ Environmental Services for information pertaining to contained-in determinations. When requested to perform a contained-in determination, Ecology has historically used the “Model Toxics Control Act” residential standards to make decisions on applying the “contained-in” policy.

If environmental media contaminated with listed waste meets the definition for debris contained in WAC 173-303-040 (40 CFR 268.2), the alternative treatment standards of 40 CFR 268.45 provide another option for management. Hazardous debris treated in accordance with extraction or destruction technologies of 40 CFR 268.45 is deemed to no longer contain a listed waste.

If an organization responsible for the management of waste wants to pursue a contained-in determination, contact ~~Fluor Hanford~~ Environmental Services to begin the process to determine Ecology’s requirements for sampling before performing sampling and analysis on the contaminated media. ~~Fluor Hanford~~ Environmental Services will help the project understand Ecology’s requirements for sampling which include:

- A sampling and analysis plan
- Ecology concurrence on the testing results.

BASIS: WAC 173-303-070(2)(c) and 40 CFR 261.3(f) for debris; and “contained-in policy” set forth in Ecology memo dated February 19, 1993.

c. Using process knowledge to designate waste

Process knowledge shall be used to designate listed waste.

BASIS: 55 FR 8758.

If process knowledge is used to make a waste designation, the designator shall ensure the data and information used are sufficient to properly designate the waste. The evaluation made by the waste designator shall be to determine whether process knowledge is acceptable knowledge. Acceptable knowledge for characteristic waste number evaluation is based on whether the process knowledge can approximate the physical property or chemical constituent in a waste matrix.

BASIS: WAC 173-303-070(3)(c) and -110.

The organization responsible for the generation of a solid waste may declare the waste dangerous in lieu of testing. Declaration of a solid waste as dangerous subjects the waste to associated treatment, storage, and/or disposal requirements. The organization responsible for the management of a declared dangerous waste may obtain acceptable knowledge and reverse the declaration as long as impermissible dilution has not occurred.

When a waste is declared dangerous, designation records shall so indicate to document the quality of knowledge used to complete the waste designation.

BASIS: WAC 173-303-070(3)(c)(ii); 62 FR 62079; 40 CFR 268.3; WAC 173-303-150.

- d. Using testing results to designate waste - Testing results shall not be used to designate a listed waste.

BASIS: 55 FR 8758.

If process knowledge is insufficient to designate waste under the characteristics, additional information must be obtained through testing (sampling and analysis) if the waste designation will be based on acceptable knowledge. Testing results can supplement process knowledge elevating the quality of knowledge to acceptable knowledge by using any reliable method. Testing results also can be based on testing methods prescribed by regulation.

BASIS: WAC 173-303-070(3)(c).

2.2 Land Disposal Restrictions

Land Disposal Restrictions requirements are determined for a waste based on the properties of the waste at the point of generation and must be met before disposal.

BASIS: 40 CFR 268; WAC 173-303-140.

The organization responsible for the generation activity of hazardous waste must ensure a determination is made regarding whether the waste needs to be treated before land disposal. This determination can be accomplished by testing the waste or using knowledge of the waste.

BASIS: 40 CFR 268.7(a).

Testing shall be performed on treated waste to determine whether federal treatment standards have been met for concentration based treatment standards. Process knowledge cannot be used. The testing frequency must be specified in the treatment, storage, and/or disposal unit's waste analysis plan. The organization managing a Hanford facility treatment, storage, and/or disposal unit may require that testing for Land Disposal Restrictions certification purposes be performed on Hanford Site-generated waste to meet the treatment, storage, and/or disposal unit testing requirements.

BASIS: 40 CFR 268.7(b); 268.7(c)(2).

Residues separated from hazardous debris, as defined in WAC 173-303-040, during or after treatment are subject to the waste-specific treatment standards for the waste contaminating the debris.

BASIS: 57 FR 37194

Records for hazardous waste shall be maintained in accordance with 40 CFR 268.7. Regarding meeting the subdivision information requirement in 40 CFR 268.9(a), records shall identify the subdivision made within a waste number even if the entry in the 40 CFR 268.40 table does not indicate the entry as a subcategory. "Waste analysis data" are considered broadly as meant by use of the term analysis in WAC 173-303-300(2) that includes process knowledge. Waste constituents forming the basis for assignment of a waste number shall not be identified as an underlying hazardous constituent (i.e., lead is not an underlying hazardous constituent for a D008 waste stream). Underlying hazardous constituents are defined in 40 CFR 268.2.

BASIS: 40 CFR 268.7; 62 FR 62079 (defines analysis); best management practice for identifying treatment standards and minimizing redundancy in records.

Operating record requirements for a Hanford Site treatment, storage, and/or disposal unit vary, depending on whether treatment, storage, and/or disposal are performed on-site or off-site. The organization managing a treatment, storage, and/or disposal unit may choose whether a record keeping distinction allowed for on-site waste in WAC 173-303-380(1)(k), (m), and (o) will be used.

BASIS: WAC 173-303-380(1)(j-o).

Storage of hazardous waste restricted from land disposal is prohibited unless storage is "solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal." Non-radioactive hazardous waste shall be managed in accordance with the storage prohibitions of 40 CFR 268.50(a).

BASIS: 40 CFR 268.50; Tri-Party Agreement M-26 LDR Report; and the Federal Facility Compliance Act.

Underlying hazardous constituents (as defined in 40 CFR 268.2) are determined for a characteristic hazardous waste when required by the 40 CFR 268.40 treatment standards table. Underlying hazardous constituents are defined as a constituent that reasonably can be expected to be present at the point of generation of the hazardous waste at a concentration above the treatment standard in 40 CFR 268.48. The organization responsible for the waste generation activity should consider obtaining testing results on the waste the first time the waste is generated to properly determine underlying hazardous constituents, except for mixed waste. For mixed waste, as low as reasonably achievable (ALARA) considerations are a factor in deciding whether testing results should be obtained or whether underlying hazardous constituents are declared.

BASIS: 40 CFR 268.2(i); 40 CR 268.40; 62 FR 62079.

Underlying hazardous constituents shall be determined for characteristic hazardous waste subject to 40 CFR 268.40 treatment standards at the point of generation, except when the management pathway for the waste is known and consists of the following:

- Transuranic waste destined for the Waste Isolation Pilot Plant
- Hazardous waste destined for treatment and disposal at the Liquid Effluent Retention Facility(LERF)/200 Area Effluent Treatment Facility (ETF)

- Hazardous waste treated at the 310 Treated Effluent Disposal Facility.

BASIS: 61 FR 60704; 40 CFR 268.38; LERF/ETF Waste Analysis Plan (DOE/RL-97-03); WAC 173-303-071(3)(b); 40 CFR 268.1(c)(4)(i).

Dilution of restricted waste shall not occur as a substitute for treatment of the waste. Dilution of ignitable, corrosive, or reactive waste with the treatment standard of deactivation (DEACT) in 40 CFR 268.40 is not considered impermissible dilution. Dilution of waste to facilitate centralized aggregation of wastes (wastes destined for double-shell tanks) is not considered impermissible dilution.

BASIS: 40 CFR 268.3; 55 FR 22666; EPA letter dated September 28, 1990.

Surface impoundments meeting minimum technological standards (groundwater monitoring and double liner and leachate collection systems) may be used to treat restricted waste based on the Environmental Protection Agency's approval if such treatment is in compliance with the requirements of 40 CFR 268.4. LERF is operating in accordance with 40 CFR 268.4.

BASIS: 40 CFR 268.4

State-only Land Disposal Restrictions requirements do not in any way associate with the federal Land Disposal Restrictions requirements. Determinations of compliance with state and federal Land Disposal Restrictions requirements are made independently when addressing WAC 173-303-140(2)(a). Refer to Table 1 for a summary of the state-only Land Disposal Restrictions.

3.0 SOURCES

3.1 Requirements

Waste designation and Land Disposal Restrictions requirements are discussed in the following sections. Identified references should be used in conjunction with this procedure to ascertain specific details of these requirements.

1. WAC 173-303, "Dangerous Waste Regulations."
2. 40 CFR 268, "Land Disposal Restrictions."
3. Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement).
4. Federal Facility Compliance Act.

3.2 References

1. DOE/RL-94-97, "Selection of Analytical Methods for Mixed Waste Analysis at the Hanford Site."
2. DOE/RL-97-03 Appendix 3A, "Waste Analysis Plan for Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility," July 1997.
3. 55 FR 8758, "National Oil and Hazardous Substances Pollution Contingency Plan," dated March 8, 1990.
4. 55 FR 22666, "Final Rule, Land Disposal Restrictions for Third-Third Scheduled Wastes," dated June 1, 1990.
5. 57 FR 37194, "Land Disposal Restrictions for Newly Listed Waste and Hazardous Debris," August 18, 1992, (Commonly known as the Debris Rule).
6. 60 FR 3092, "Hazardous Waste Management System: Testing and Monitoring Activities," January 13, 1995.
7. 61 FR 60704, "Termination of Review of Department of Energy petition to EPA for a No-Migration Determination for the Waste Isolation Pilot Plant (WIPP) Under the Resource Conservation and Recovery Act," November 29, 1996.
8. 62 FR 62079, "Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste," dated November 20, 1997.
9. EPA, SW-846, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods."
10. EPA Letter, "Guidance on the Land Disposal Restrictions Effects on Storage and Disposal of Commercial Mixed Waste," OSWER Directive #9555.00-01, dated September 28, 1990.
11. EPA Letter, "Regarding the Regulatory Status of Lead Shielding and Waste Lead," Compendium #9444.1991(02), dated April 30, 1991.
12. EPA Hotline Summary, "Comparative Definitions of F001 and F002," May 1991, #9444.1991(03).
13. EPA Hotline Summary, "Use of Total Waste Analysis in Toxicity Characteristic Determination," January 1994, Compendium #9445.1004(01).

14. EPA Letter, "Withdrawal of Cyanide and Sulfide Reactivity Guidance," fax back 14177, April 21, 1998.
15. NIOSH, "Registry of Toxic Effects of Chemical Substances," published by the National Institute for Occupational Safety and Health.
16. Ecology Letter, "Submarine Reactor Compartment Management," Roger Stanley, Ecology, to Jim Mangero, Naval Sea Systems Command, October 10, 1989.
17. Ecology letter, "USDOD/USDOE Recognition of CH. 173-303 WAC 'state only'," Compendium #3010.910304, dated March 4, 1991.
18. Ecology Letter, "Regarding Frequently Asked Questions About Tanks, Compendium #3640.910828, dated August 28, 1991.
19. Ecology TIM 82-5 (Revised 10/93), "Effective Date of the 90-day Storage (Accumulation) Requirement."
20. Ecology Letter, "State Only Dangerous Wastes and Federal Land Disposal Restrictions," Compendium letter #3140.940301, March 1, 1994.
21. "Contained-in policy," Compendium Letter 3610.930219, Ecology Letter dated February 19, 1993.
22. Ecology, "Chemical Testing Methods for Designating Dangerous Waste," Pub #97-407, February 1998.
23. Ecology, "Responsiveness Summary - Amendments to the Dangerous Waste Regulations Chapter 173-303," Pub #97-439, January 1998.
24. RL Letter to FH, 98-WPD-004, January 7, 1998 directing compliance with "Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste," 62 FR 62079.
25. HNF-IP-0842, RPP Administration.
 - Volume 3, Section 1.4, "Environmental Training."
 - Volume 6, Section 1.6, "Water Quality Program."
26. WHC Letter, "Discontinuing use of Greater Than Reporting Values Used in Designating Washington State Waste," A. G. Miskho to N. P. Willis, 81140-92-014, March 6, 1992.
27. WHC Letter, "Changes to Waste Designation Process for Evaluating Inhalation Toxicity Data," M. J. Stephenson to C. K. Girres, 88410-95-002, January 4, 1994.
28. WHC Letter, "Changes to Waste Designation Process," B. G. Erlandson to R. D. Pierce, 88400-94-012, May 20, 1994 (Containing inhalation data conversion equation as attachment).

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29. WHC Letter, "Reestablishing an Interim Nondangerous Waste Designation for Fluorescent Light Tubes," E. M. Greager to C. K. Girres, 018B0-95-068, April 27, 1995 (Containing Ecology January 30, 1995 Letter and Ecology signed March 24, 1995 Telephone Conference Memorandum as attachments).
30. WHC Letter, "Empty Container Residues and Rinsates May be Regulated as a State-Only Dangerous Waste if Separated from an Empty Container," 01841-96-AGM, dated June 28, 1996.

**Table 1. State-Only Land Disposal Restrictions for
Dangerous Waste Disposed on the Hanford Site.**

State Restricted Waste	Treatment Standard
Liquid dangerous waste	Solidification followed by Paint Filter Test SW-846 Method 9095. NOTE: This is also a federal requirement in 40 CFR 265.314 and 264.314. Must be tested before land disposal.
Extremely hazardous waste (non-radioactive)*	Treatment to non-extremely hazardous waste designation. No testing required.
Extremely hazardous waste (radioactive)*	Treatment requirement determined on a case-by-base basis to meet RCW 70.105.050(2) disposal requirements at DOE facilities. No testing required.
Solid acid waste (WSC2) with pH equal to or less than 2.0	Treatment to non-acidic designation. No testing required.
Organic/carbonaceous waste	Incineration as a minimum management method unless treatment is not available within 1,000 miles of the Washington border. No testing required.

*Based on waste designation. Extremely hazardous waste number must apply as part of the proper waste designation.

BASIS: WAC 173-303-140(2) and -140(4).