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TO: DEBRA A ISOM H6-08 0413	DOCUMENT NO.: WHC-CM-7-5 TITLE: <i>Environmental Compliance</i> Release No.: 80 PAGE 1 OF 3 Date Prepared: February 13, 1996
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I have entered this release into the document per instructions. <u>DA ISOM</u> Signature	<u>3/1/96</u> Date	If you have any questions about this release contact: Tara Shearer Phone: 373-9312
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7.0, Managing Solid Waste	i - 112	1	various dates	i - 69	2	2/27/96
11.0, Environmental Training CHANGE 4	i - 42	2	12/15/94	i - 44	2	2/27/96

Route a copy of the implementation notice to all users of this copy of the manual.

IMPLEMENTATION NOTICE

7.0, Rev. 2, "Solid Waste Management"

Summary of Changes: Section 7.0 has gone through a rewrite to bring the section up to requirements and regulations currently in effect. The organizational names have been changed to reflect current names, and the section has been shortened.

Impact of Changes: There are no impacts seen to the user of this manual. The rewrite was completed to bring the section up to standards on requirements and regulations.

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11.0, Rev. 2, Change 4, "Environmental Training"**Summary of Changes:**

1. A caution statement was added to subsection 11.2 to ensure those that use the definitions of Hanford Facility Personnel, visitors, and subcontractors defined herein do not use them inappropriately when describing other training requirements.
2. Information was added to subsection 11.3.2 to indicate Environmental Services has the authority to issue waivers in accordance with subsection 1.4(9).
3. Information pertaining to the Hazardous Evaluation Workshop was deleted from subsections 11.3.3 and 11.8.2 because funding and resources are not available to develop the information, and alternate avenues can be used to ensure that unit/building specific training programs are in compliance with WAC 173-303.
4. A statement was added to subsection 11.4.1.1 to indicate that unit/building specific training may be met through classroom or on-the-job training.
5. Reference to the Solid Waste Disposal Division (SWDD) Training Plan was deleted because SWDD is uncertain whether they will use this document to maintain RCRA compliance at their TSD units.
6. A sentence was added to subsection 11.4.1.3(c) to indicate that generator activities are not subject to the Hanford Facility RCRA Permit.
7. A new requirement to include unit/building specific training forums such as procedure reviews and pre-job safety meetings in the RCRA training Plan was added to subsections 11.4.1.4(b) and 11.8.2 as a basis to avoid maintaining a RCRA training record for these types of training forums.
8. Subsection 11.4.2 was modified throughout to update source documents for non-RCRA training requirements and to indicate whether training that is interpreted by Environmental Services is mandated or directed training. The target audience for EPCRA training in 11.4.2.4.2 was updated to be consistent with section 5, and a new subsection on "manager training" was added because this training was moved from the RCRA training program to the non-RCRA training program.
9. The Environmental Regulations at Hanford course (035040) was moved from the RCRA training program at subsection 11.6.2.3 to the non-RCRA training program at subsection 11.4.2.4.5. The Environmental Compliance at Hanford course was deleted and the course number is being used as a second Environmental Regulations at Hanford course. One Environmental Regulations at Hanford course is a classroom course and the other is a self-study forum.
10. Subsections 11.5.2 and 11.5.3 were modified to change the way General Workers and Advanced General Workers are categorized.
11. Training courses in subsection 11.6 under the RCRA Training Program have been identified as mandated or directed training as defined by WHC-CM-2-15.
12. Training requirements for Hanford Facility Personnel, visitors, and subcontractors have been modified to reflect the current company policy regarding access and security requirements in subsections 11.6.2.1 and 11.6.2.2.
13. Clarification on the proper categorization of General Managers was made in subsection 11.6.2.3.

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14. Throughout section 11, DOE Order 5480.20 was updated to 5480.20A.
15. A statement was added in subsection 11.7.3 to indicate training HAMMER provides to meet HAZWOPER requirements in 29 CFR 1910.120 is not equivalent to the 02006G course.
16. Table 11.0-1 was updated to be consistent with the text in section 11.
17. Appendix A was changed as follows:
 - a. Course number 000090 was updated to state that the video presentation is equivalent to reading the brochure. The retraining frequency was also changed from "annual" to "none unless badge expires". The concept pertaining to the new self-expiring badges was also included (i.e., 7 day cutoff period).
 - b. Course number 02006G information was updated to indicate mandated documents for satellite accumulation areas, 90-day accumulation areas, and TSD unit storage locations.
 - c. Course number 035020 information was updated to indicate what additional topics need to be covered in this training course.
 - d. Course numbers 035040 and 035050 have been deleted from the RCRA training program.
 - e. A note was placed with course number 03Exxx to instruct RCRA training plan writers that they need to replace xxx with three numbers.
 - f. A note was added to the end of the section so that RCRA training plan writers understand that they may need to develop their own unit/building specific course description tables.

Impact of Changes: Some of the changes described above will impact certain programs that maintain RCRA training plans. Most all RCRA training plans and TMX information will have to be revised as a result of these changes.

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Managing Solid Waste**7.0 SOLID WASTE MANAGEMENT****7.1 Purpose**

This section (7.0) presents the requirements and responsibilities for the Westinghouse Hanford Company (WHC) solid waste management program. These are imposed to ensure full compliance with the State of Washington Dangerous Waste Regulations, the U.S. Environmental Protection Agency (EPA) RCRA regulations, and the U.S. Department of Energy (DOE) requirements for managing solid radioactive wastes.

This section primarily identifies general requirements and provides reference to more detailed requirements. Solid waste management requirements are complex and extensive. Since references are readily available, many individual requirements are not given in this section. So while this section is *not*, by itself, a complete guide to managing solid waste, it is the place to start when seeking answers to questions about solid waste management.

First consult your Environmental Compliance Officer regarding solid waste management issues. You may also consult the Environmental Policy group for help in interpreting these requirements and to request guidance for ensuring that all solid wastes are managed properly. Other organizations in Environmental Services which can also provide support include RCRA Field Services, RCRA Permitting, and Environmental Reporting.

7.2 Scope

This section (7.0) gives requirements and responsibilities for managing solid waste that falls into any of the following waste categories:

1. Nondangerous nonradioactive wastes (solids only)
2. Nondangerous radioactive wastes (solids only)
3. Dangerous wastes (all physical forms)
4. Mixed wastes (all physical forms).

This section also specifies WHC policy for certain waste management activities and specifies requirements for used oil management.

7.2.1 Exceptions

1. Section 1.0 of this manual contains requirements for addressing situations where compliance with any requirement of this section is impractical or unattainable.
2. Certain waste management requirements have been incorporated into the Hanford Facility RCRA Permit; for activities subject to the Hanford Facility RCRA Permit, the permit requirements shall supersede requirements found in this manual.
3. Use of the word "should" in this section denotes a recommendation, not a requirement. Use of the word "may" denotes permissiveness.

Managing Solid Waste**7.2.2 Application to nondangerous wastes**

For nondangerous (both nonradioactive and radioactive) wastes, the requirements of this section only apply to those wastes in solid form. Manage nondangerous liquid wastes according to Section 8.0 of this manual and nondangerous air emissions according to Section 2.0.

7.2.3 Application to dangerous and mixed wastes

Requirements in this section (7.0) apply to dangerous and mixed wastes in any form (solid, liquid, or gas). This is because RCRA defines a *solid waste* as any solid, semisolid, liquid, or contained gaseous waste.

However, the RCRA solid waste definition excludes materials defined in the Atomic Energy Act (AEA) as source, special nuclear, or byproduct materials (See RCRA, Subtitle A, Section 1004(27) and 40 CFR 261.4) and the DOE defines byproduct materials as only the radionuclides themselves. Therefore, an AEA radionuclide waste in a RCRA solid waste matrix must be defined and managed as mixed waste if the solid waste portion designates as a dangerous waste.

See Section 3.0 of this manual for additional requirements for managing asbestos and polychlorinated biphenyls (PCBs) containing wastes.

7.2.4 Solid waste management program scope

The solid waste management program requires support from various organizations to perform the eight major elements discussed below.

1. Regulatory analysis, interpretation, and policy making. Environmental Services, with guidance as necessary from legal counsel, is responsible for interpreting environmental requirements and DOE orders. Environmental Services is responsible and accountable for establishing environmental policy for all crosscutting WHC operations and activities.

Environmental Policy is also responsible and accountable for providing support to Solid Waste Disposal and waste generators to clarify environmental policies and regulatory requirements and for helping to develop compliance strategies that these organizations can use to achieve and maintain environmental compliance.

2. Waste Acceptance Criteria. Facility managers will set requirements for waste acceptance at their treatment, storage, and disposal (TSD) units and any nondangerous disposal facilities that are consistent with environmental requirements and established environmental policy. Facility managers are also responsible and accountable for accepting all wastes that meet the acceptance criteria and for helping generators resolve discrepancies so wastes can be shipped in a timely manner.
3. Control of Waste by Generators. Waste generators will establish programs for managing wastes from the point of generation through transfer to the TSD unit. The

Managing Solid Waste

manager of each generating activity is responsible and accountable for proper management of all regulated waste generated by personnel under his/her control.

4. Management of Waste by TSD Units. The TSD unit personnel are responsible and accountable for the receipt and handling of wastes at their TSD units. This includes meeting regulatory requirements, permitting requirements, and maintaining facility operating records.
5. Participation of Environmental Compliance Officer (ECO). Each ECO is responsible for ensuring environmental compliance and for identifying issues and concerns (including programmatic deficiencies and funding shortfalls) and initiating the process for obtaining waivers, agreements, or both if necessary for his or her activities to achieve compliance.
6. Independent Oversight. Environmental Services will implement a program for independent oversight of waste management activities and environmental compliance. The program will verify the environmental compliance status of all waste generating and management units.
7. Self-Assessment. Programs must implement a self-assessment program and RCRA Field Services can support the program as requested.
8. Recordkeeping. Generators, TSD unit managers, Solid Waste Disposal, and Environmental Services personnel all must share responsibilities to ensure the appropriate records are kept on the Hanford Facility to comply with regulations and Hanford Facility RCRA Permit conditions.

7.3 Standards for Disposing of Nonradioactive, Nondangerous Solid Wastes

This subsection (7.3) lists requirements and guidelines for managing nonradioactive and nondangerous solid wastes. These apply to:

- General requirements for all nondangerous, nonradioactive disposal facilities
- Additional solid waste landfill requirements (WAC 173-304-460)
- Additional inert and demolition waste landfill requirements (WAC 173-304-461)
- Additional steam plant ash pile requirements.

Washington law [Revised Code of Washington (RCW) 70.95.240] allows a person without a permit to dump or deposit "solid waste resulting from his own activities onto or under the surface of ground owned or leased by him when such action does not violate statutes or ordinances, or create a nuisance." Onsite solid waste disposal from the DOE activities is considered to fall under this provision. However, all WHC nonradioactive, nondangerous solid waste disposal at Hanford shall be in accordance with the substantive requirements of the Washington Administrative Code (WAC) 173-304, "Minimum Functional Standards for Solid Waste Handling." WAC 173-351 does not apply to onsite DOE activities since the DOE is not a municipality.

7.3.1 Responsibilities

1. Waste generators are responsible for ensuring that radioactive and dangerous wastes (as defined in the glossary of this manual) are not disposed of at nonradioactive, nonhazardous solid waste disposal facilities.
2. The facility management for every solid waste disposal facility shall:
 - a. Develop, maintain, and implement plans of operation, closure, and post closure
 - b. Maintain a daily operating log
 - c. Perform and keep records of facility inspections
 - d. Obtain operating permits required by WAC 173-304-600, "Minimum Functional Standards for Solid Waste Handling", or negotiate a schedule for closure.

NOTE: RL notified Ecology on May 10, 1995 of the intent to close the central landfill by March 31, 1996.
 - e. By March 1 of each year, submit information required for annual reports to Effluent Monitoring.
3. Hanford Technical Services shall be responsible for groundwater monitoring.

7.3.2 General requirements for all onsite nondangerous, nonradioactive waste disposal facilities

NOTE: With the closure of the Central Landfill, it is expected that disposal fees will increase. Everyone will be encouraged to enact more effective waste minimization requirements to help keep disposal costs down.

7.3.2.1 Radioactive and dangerous wastes prohibited

Radioactive, dangerous, and/or mixed wastes (see Appendix A of this manual) shall not be disposed of at the nonhazardous, nonradioactive disposal facilities. Such wastes must be managed according to the requirements of Section 7.0 of this manual.

7.3.2.2 Wastes from contractors require approval

Facility management must approve disposal of all wastes generated by Hanford contractors or subcontractors before these wastes are accepted at disposal facilities. Facility management shall determine what wastes shall be accepted and shall identify any special handling required.

BASIS: 40 CFR 241.200-1

Managing Solid Waste**7.3.2.3 Written operations plan required**

Facility management shall develop, maintain, and implement a plan of operation for each disposal facility. The operations plan shall be available for inspection at the request of the regulator and must contain the elements required by WAC 173-304-405(2), including:

- Waste handling procedures
- Inspection and monitoring provisions
- Actions to be taken for leaks, fire, explosion, groundwater contamination, or other releases;
- Leachate/gas collection system maintenance
- Safety procedures.

7.3.2.4 Maintain a daily operations log

Facility management shall ensure a daily operating log is maintained as required by WAC 173-304-405(3). This log shall include:

1. Weights (or volumes) of each waste disposed
2. Number of vehicles entering
3. Types of waste received
4. Major deviations from the plan of operation.

7.3.2.5 Submit annual operations reports by March 1

By March 1 each year, disposal facility operations management shall submit annual operations reports to the Department of Energy, Richland Operations Office (RL) and provide copies to Effluent Monitoring. (RL submits copies of these reports to EPA, Benton-Franklin District Health Department, and Ecology.) The annual operations reports shall cover disposal facility activities during the previous year and shall include such information as:

1. The location of the disposal facility
2. Calendar year covered by the report
3. Annual quantity or volume and estimated in-place density (by waste type if available)
4. Results of groundwater tests required by WAC 173-304-405(4).

In addition, the reports shall contain the results of the groundwater monitoring required by WAC 173-304-490.

7.3.2.6 Make and document facility inspections

Disposal facility operations management shall inspect the disposal facility in accordance with WAC 173-304-405(5) at least weekly (minimum). The results of the inspections shall be logged and the inspection records maintained for three years. The inspection log shall include:

- The date and time of inspection
- The printed name and handwritten signature of the inspector
- Notations of observations made
- The date and nature of repairs or corrective action.

7.3.2.7 Groundwater monitoring required

Groundwater monitoring shall be performed in accordance with WAC 173-304-490(2).

7.3.2.8 Closure and post-closure requirements specified

Disposal facilities shall be closed according to the requirements of WAC 173-304-407(2) through (5). Closure includes grading, seeding, landscaping, contouring, and/or screening. The post-closure activities in WAC 173-304-407(6) through (8) shall be performed for solid waste landfills, surface impoundments, wood waste landfills, and land spreading disposal facilities.

7.3.2.9 Closed sites must be marked on deed

Within three months after closure, maps and a statement concerning the location of the site shall be recorded as a part of the deed with the county auditor. Records and plans specifying solid waste amounts, location, and periods of waste site operation shall also be submitted. See WAC 173-304-405(6).

7.3.2.10 EPA management practices

EPA has codified landfilling requirements and recommendations in regulation at 40 CFR 241 Subpart B. Certain wastes (bulky wastes, wastewater treatment plant sludges, incinerator and air pollution control residues) accepted for disposal should be disposed of according to the recommendations of 40 CFR 241.200-3.

Wastes prohibited from being disposed at nonradioactive, nonhazardous landfills shall be identified in appropriate plans. A list of these prohibited wastes should be provided to regular users and displayed prominently at the entrance to the landfill site.

7.3.2.11 Certified landfill operator required onsite

An onsite certified landfill operator shall be in responsible charge of the landfill operation in accordance with WAC 173-300-060.

Managing Solid Waste**7.3.2.12 Disposing of unconditionally released and very low concentration soils onsite**

IF soil or a soil/waste matrix (such as soil containing trash, broken sheetrock, or concrete rubble)

- a. Is unconditionally released by Health Physics, or
- b. Only contains radionuclides below the concentrations limits in Table 6-1 (Section 6.0), and
- c. Does not designate as a dangerous waste,

THEN the controls required to dispose of the waste in the low level waste (LLW) burial grounds are not required. The waste may be disposed of on the Hanford Site as nonradioactive waste.

7.3.3 Additional disposal unit specific requirements**7.3.3.1 Additional solid waste landfill requirements**

1. Except for inert and demolition or wood waste landfills, solid waste landfills shall comply with the minimum functional standards for performance in WAC 173-304-460(2). These include limitations on contamination to groundwater, ambient air, and surface waters.
2. The landfill shall be designed in accordance with the minimum functional standards for design as required by WAC 173-304-460(3). These standards include requirements for:
 - Minimizing liquids admitted to active areas
 - Leachate systems
 - Liner designs
 - Floodplains
 - Closure
 - Gas control
 - Certain other requirements as enumerated in WAC 173-304-460(3)(g).
3. Solid waste landfills shall comply with the minimum functional standards for maintenance and operation as required by WAC 173-304-460(4). These standards include requirements pertaining to operating plans and operating details; boundary posts; compaction and daily cover; and monitoring systems (such systems shall be maintained in accordance with WAC 173-304-460(3)(g)(ii).

7.3.3.2 Additional inert and demolition waste landfill requirements

1. Inert and demolition waste landfill operators shall comply with the requirements of WAC 173-304-461, as applicable. Only materials that meet the definition of WAC 173-304-100 may be placed in inert and demolition waste landfills (See Appendix A for definitions). Inert and/or demolition waste material is to be disposed of only at approved inert waste landfills or at permitted landfills.

Managing Solid Waste

2. Inert and demolition waste landfills are approved by being listed in this manual. The following sites are authorized to receive inert and demolition waste:

Approved Inert and Demolition Waste Landfills		
<u>100-B Area</u> 183-B Clearwells	<u>100-F Area</u> 183-F Clearwells	<u>100-D Area</u> 190-DR Clearwell Tank Pit
<u>600 Area</u> Pit 9 Pit 6	<u>100-H Area</u> 183-H Clearwells	<u>100-K Area</u> Gravel Pit (East of Burial Grounds) 183-KW Clearwells

NOTE: The 183-KE, 183-KW, 183-B clearwells, and the gravel pit in the 100 Areas have been used for inert and demolition waste disposal. They are not currently in use, but will be used in the future. Notify Environmental Reports (ER) when these disposal areas are reopened. Pits 9 and 6 are controlled by ICF KH. All others are controlled by BHI.

7.3.3.3 Additional ash pile steam plant requirements

In addition to the requirements for nonradioactive, nonhazardous waste disposal facilities (7.3.2.1-7.3.2.12), ash piles shall comply with the facility standards of WAC 173-304-420, as applicable.

1. Ash piles shall comply with the facility standards of WAC 173-304-420(2) and (3), as applicable. These standards include requirements pertaining to:
 - Liners
 - Liquid run-off and run-on control
 - Removal at closure.
2. The management of an ash disposal facility may seek a "Certificate of Designation" that certifies that the ash is not regulated under WAC 173-303. WAC-173-303-075(4) provides references to guidelines that shall be used to request the certificate.

7.3.4 Additional waste stream specific requirements

7.3.4.1 Additional requirements for asbestos wastes

The requirements below shall be observed to dispose of asbestos to BDI Transfer in Pasco, WA, (See the additional asbestos requirements in Subsection 3.7 of this manual). Asbestos shall not be disposed of onsite.

1. Asbestos waste shall be segregated from the rest of the solid waste going to the City of Richland landfill:
 - a. The asbestos waste shall not exceed dimensions of 20 feet long and four feet in diameter

Managing Solid Waste

- b. Friable asbestos shall be wetted and sealed in a leak-tight container that is labelled as follows:

DANGER

Contains Asbestos Fibers

Avoid Creating Dust

Cancer and Lung Disease Hazard

Avoid Breathing Airborne Asbestos Fibers

- c. Nonfriable asbestos shall be wetted and covered before being taken to a disposal site. Nonfriable asbestos is not required to be bagged or put in a container.
2. Within 24 hours from the time of disposal, friable asbestos waste shall be covered with at least 6 inches of compacted, nonasbestos-containing material.
3. Asbestos waste shall be delivered to the BDI transfer station, one mile north of the Pasco-Kahlotus highway on Dietrich road by WHC and/or ICF KH personnel.

BASIS: WHC Purchase Order MJW-SBV-452799, Statement of Work No. SOW-452799-CDE, WAC 173-303-395(3), and 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," Subpart M.

7.3.4.2 Medical wastes

Facility managers shall ensure that all medical waste is managed to meet offsite disposal requirements through Waste Management of Kennewick. Medical waste acceptable for disposal through Waste Management of Kennewick include (a) animal waste, (b) biosafety level four disease waste, (c) cultures and stocks, (d) human blood and blood products, (e) pathological wastes, and (f) sharps waste.

Medical wastes shall be handled in a manner protective of human health and the environment. The waste shall be packaged into marked boxes. Boxes containing sharps waste are clearly labelled, but may contain non-sharps waste. WHC/ICF KH/BSCR personnel must deliver this waste to HEHF, 3080 George Washington Way, Hanford Square 1 for pickup by Waste Management of Kennewick (Bev Anderson 376-7013).

NOTE 1: Medical waste regulations are derived from the Occupational Safety and Health Act (see 29 CFR 1910.1030, Bloodborne Pathogens) required by WHC-CM-4-40 Section 4.1. OSHA guidelines direct that articles contaminated with blood (such as bandages, pads, feminine hygiene products, etc.) be disposed of in special, red, plastic bags marked with the universal "BIOHAZARD" mark. Blood-contaminated "sharps" (needles, scalpels, glass, etc.) must be placed in puncture-resistant containers with the universal "BIOHAZARD" mark.

NOTE 2: There are special training requirements for janitorial personnel. See WHC-CM-4-40, 4.1, "Occupational Exposure to Bloodborne Pathogens."

BASIS: WHC Purchase Order WJW-SBV-451919, Statement of Work No. SOW-452799-CDE, and WHC-CM-4-40.

7.3.4.3 Non-dangerous containerized wastes

Facility management shall ensure that nondangerous, nonradioactive containerized waste is properly designated in accordance with Subsection 7.6 of this manual. Containers of this waste are to be sent for disposal through Waste Management of Kennewick. Facility Management shall ensure that disposal analysis paperwork can be provided by the Hanford Site generator upon request by Waste Management of Kennewick. Disposal analysis paperwork may include waste designation procedure results, process knowledge, and any applicable sampling and analysis data.

1. The containers shall not hold free liquids.
2. Drums and containers shall not exceed 1,000 pounds in weight.

Waste Management of Kennewick is required to render all containers unusable upon disposal/burial of the accepted waste. WHC and/or ICF KH personnel will deliver this waste to the 27th and Ely transfer station in Kennewick, WA.

BASIS: WHC Purchase Order WJW-SBV-451919, and Statement of Work No. SOW-452799-CDE

7.3.4.4 Special procedure for pesticide and herbicide containers

Applicable procedures found in WAC 173-303-160 shall be followed before disposing of empty pesticide or herbicide containers in a solid waste landfill. Empty pesticide or herbicide containers may not be placed into the Hanford Site dumpsters destined for the Richland Landfill.

7.4 Radioactive Waste, Storage, and Disposal

This subsection (7.4) sets WHC environmental standards for generating, managing, and disposing of radioactive wastes. These requirements apply to all WHC radioactive waste management activities. The requirements of Subsections 7.7 and 8.4 for managing mixed wastes and liquid effluents shall also be observed.

7.4.1 Responsibilities

1. Waste generating facility manager. The manager of facilities that generate radioactive waste is responsible for ensuring that radioactive waste management activities are in compliance with the applicable requirements of this subsection (7.4). These managers are also responsible for:
 - a. Making all required release notifications
 - b. Obtaining and maintaining data that demonstrates compliance
 - c. Obtaining any approvals required to dispose of unusual waste forms.

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2. Solid Waste Disposal. Solid Waste Disposal is responsible for meeting requirements for treatment, storage and disposal of radioactive wastes accepted from generators and for obtaining/maintaining data that demonstrates compliance.
3. Employees. Each employee is responsible for promptly notifying management of events and conditions that could have adverse environmental implications. This includes notifying management of releases that exceed the requirements of this subsection and releases that result in detectable radiological ground contamination.

7.4.2 Performance objectives and requirements for radioactive waste disposal facilities**7.4.2.1 Radiation exposure performance objective**

All routine waste management activities at WHC (including the handling, packaging, transport, storage, and disposal of all wastes from certain sources and pathways) shall not cause members of the public to receive, in one year, a total effective dose equivalent (EDE) greater than 25 mrem from radioactive material released to the environment and direct radiation.

NOTE: The 25 mrem/yr limit may be applied towards the 100 mrem/yr limit to the public contained in DOE Order 5400.5, Chapter II.1(a) that addresses all sources and pathways.

BASIS: DOE 5820.2A Chapter III.3(a)(2) and RLID 5820.2A Chapter III.3(a)(1).

7.4.2.2 Reports required for exposures or violations involving radioactive wastes

IF any waste management or storage activity is found to either

- a. Contribute a substantial portion of an actual or potential EDE exceeding 10 mrem or more (reflecting realistic exposure conditions) to members of the public, or
- b. Exceed any other DOE requirement of this subsection.

THEN, the responsible facility manager shall report the waste management or storage activity to the responsible DOE Field Office Manager in a timely manner so the Program Office can notify the Deputy Assistant Secretary for the Environment.

BASIS: DOE 5400.5

7.4.2.3 Drinking water performance standard

WHC site operations shall not affect public drinking water supply systems operated by DOE, its contractor(s), or a public or private entity in a manner to cause persons consuming the water to receive an EDE greater than the Ecology primary radiological drinking water criteria provided in WAC 246-290. RL has similar requirements in RLID 5820.2A Chapter III.3 (a)(2).

7.4.2.4 Air quality performance standard

Emissions to the ambient air from all site activities, including waste management and disposal, shall be in accordance with Section 2.0 of this manual.

7.4.2.5 Special requirement for SNF, HLW, and TRU

Spent nuclear fuel (SNF), high-level waste (HLW), and transuranic waste (TRU) waste management shall conform to the applicable standards of 40 CFR 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes*.

7.4.2.6 Mixed wastes (combination radioactive/dangerous wastes)

All radioactive waste shall be assessed to determine if it contains a dangerous waste component (as defined in WAC 173-303) in addition to the requirements of DOE Order 5820.2A, "Radioactive Waste Management". If the radioactive waste contains a dangerous waste component so that the waste designates as a dangerous waste, the mixture shall be managed according to the requirements of Subsection 7.7 of this manual.

7.4.2.7 Disposing of nondangerous soils and debris

Disposal of these radioactive matrices shall be accomplished in accordance with WHC-EP-0063-4 maintained by Solid Waste Disposal.

7.4.2.8 ALARA program plan applies to all radioactive waste operations

All operations involving radioactive wastes (including handling, disposing, storing, transporting, and packaging) shall conform to the WHC program plan for maintaining exposure as low as reasonably achievable (ALARA) and the Hanford Site Radiological Control Manual (HSRCM-1).

7.5 Lead and other shielding management and designation

7.5.1 Shielding is not classed as dangerous waste

Materials under this subsection are discussed because if these materials were wastes, they would designate as a dangerous or mixed waste. Lead and other materials that is or will be used as shielding (that is, where a future use as shielding has been identified) is NOT a dangerous or mixed waste during storage and transport. Therefore, requirements (such as labeling, manifesting, and 90-day accumulation times) do NOT apply to such shielding during storage or transport. For lead shielding, documentation should be kept for the quantity of lead that is not in use that identifies planned use of the lead in accordance with WAC 173-303-017(2)(a)(ii).

During storage or transport, shielding that is or will be used to shield personnel from exposure to radiation shall NOT be reported on the Hanford Site Annual Dangerous Waste Report.

7.5.2 Requirements for handling lead wastes

7.5.2.1 WAC applies to lead when identified as waste or at time of backfilled disposal

1. All lead identified as waste shall be managed according to all applicable provisions of WAC 173-303.
2. Lead that serves a storage or transport shielding function as part of the waste package or waste matrix is NOT considered part of the waste for designation purposes until backfilled in a disposal location. As soon as disposal of the matrix occurs this lead:
 - a. Is classified as state-only dangerous waste (D008) that meets all applicable land disposal restriction requirements
 - b. Is subject to waste disposal recordkeeping requirements
 - c. Must be included on the Hanford Site Annual Dangerous Waste Report.

NOTE: Part B Permits issued for the Central Waste Complex, 224-T TRUJSAF, or the Low Level Burial Grounds (LLBG) may impose additional requirements when they are issued.

BASIS: Monthly RCRA Hotline Summary (May 1992), and Ecology Submarine Reactor Compartment Disposal Policy.

7.5.2.2 Decontaminating lead materials

Whenever economically feasible and justified, radioactively-contaminated lead waste should be decontaminated to levels below that requiring control as radioactive materials. Release of radioactive lead for onsite or offsite use or disposal shall be according to the requirements of WHC-EP-0063-4 and/or DOE 5400.5.

7.6 Designating Wastes

Organizations handling wastes must apply the correct management and disposal controls to the waste. This means organizations that generate the waste must properly designate the waste (assign applicable waste codes and determine applicable land disposal restrictions (LDR) requirements), based on the requirements and criteria in this subsection (7.6). For more information on the training requirements for performing waste designations, see Section 11.

This subsection explains how to designate a RCRA solid waste, environmental media, or debris. You must use these procedures if you perform dangerous waste designations at WHC or its subcontractors.

NOTE: Although the Hanford Site is, technically, a single generator, the requirements of this subsection apply to each Hanford waste-generating organization. In this section (7.0) the term "generator" refers to the Hanford Site personnel associated with a given generating activity on the Hanford Site who have

responsibilities for proper identification and management of wastes that are subject to the Dangerous Waste Regulations, WAC 173-303.

7.6.1 Responsibilities

1. Generators. Waste generators shall
 - a. Designate waste in accordance with applicable federal and state requirements. In order to complete a waste designation, the generator may complete the waste designation with their own resources, may ask for assistance from other organizations such as Solid Waste Disposal or Environmental Services, or may ask Generator and Waste acceptance Services to perform the designation for them.
 - b. Offer completed waste designations to receiving TSD unit and/or offsite disposal facility personnel when requested. For direct offsite shipments of nonradioactive dangerous waste (milk runs) and movements of dangerous or mixed waste into Solid Waste Disposal TSD units (i.e., 616, CWC, LLBG, TRUSAF, T Plant, and WRAP), supply waste designations to Solid Waste Disposal prior to shipment or movement for verification. For nondangerous containerized waste, see Subsection 7.3.4.3.
 - c. Develop sampling and analysis plans and/or waste analysis plans, as appropriate.
2. Environmental Policy or RCRA Field Services shall
 - a. Provide guidance and review information on waste designation issues when requested, and
 - b. Maintain the waste designation training course described in Section 11.0.
3. Sample Data and Laboratory Administration shall
 - a. Provide requested guidance, including validation and verification, concerning the sampling and analysis of waste.
 - b. Co-review, with Solid Waste Disposal, sample and analysis plans, when requested.
4. Solid Waste Disposal shall
 - a. Offer waste designation services to generators in order to answer waste designation related questions and complete waste designations. Waste designations will be completed by Solid Waste Disposal when requested by the generator.
 - b. Verify completed waste designations for waste shipment on direct offsite shipments and movements into Solid Waste Disposal TSD units.

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- b. Co-review, with Sample Data and Laboratory Administration, sample and analysis plans, when requested.
- c. Compile the Hanford Site's Annual Dangerous Waste Report.

7.6.2 Generators responsible for waste designations

1. Each generator must properly identify the physical and chemical characteristics of wastes they generate to ensure the proper waste codes are assigned in accordance with WAC 173-303-070(3) and (5).
2. Generators may contact Solid Waste Disposal (Generator and Waste Acceptance Services) for waste designation assistance but it remains the generators' responsibility to ensure that wastes designations are correct.

The remaining information in this subsection is provided to help generators determine what information is required to designate waste properly.

7.6.3 Identifying a solid waste

First, determine if the waste is a RCRA solid waste, discarded environmental media, or debris. For the purposes of the RCRA, the term "solid waste" means any discarded solid, semisolid, liquid or contained gaseous material that is not exempted or excluded from regulation per Subsection 7.6.4. See Appendix A of this manual for definitions of environmental media and debris.

As shown in Table 7-2 at the end of this section, materials are solid wastes unless exempted or excluded, if they are:

- a. Abandoned by being disposed of, burned or incinerated, or accumulated, stored or treated before (or in lieu of) disposal, burning, or incineration in accordance with WAC 173-303-016(4), or
- b. Used in a manner constituting disposal, burned for energy recovery, reclaimed, or speculatively accumulated in accordance with WAC 173-303-016(5), or
- c. Inherently waste-like, as defined in WAC 173-303-016(6).

7.6.4 Exemptions and exclusions

All materials identified as a RCRA solid waste in accordance with the definition of solid waste in WAC 173-303-016 are potentially subject to WAC 173-303. Certain wastes are exempt from regulation by WAC 173-303-017(2). Certain recycled wastes are subject to limited requirements as described in WAC 173-303-120.

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Once a material is classified as a RCRA solid waste, discarded environmental media, or debris, determine if it designates as a dangerous waste. Dangerous waste is solid waste that designates in accordance with WAC 173-303-070(3) and (5) based on the procedures in -080 through -100. There are three categories of dangerous wastes to consider: listed waste, characteristic waste, or state criteria waste. A RCRA solid waste is a dangerous waste if it meets any of the three, as applicable. An outline for designating follows.

7.6.5.1 Using dangerous waste lists (WAC 173-303-080) to designate dangerous waste

The first category of dangerous waste to consider is called listed waste. "Listed" refers to solid waste that is designated as dangerous waste because it meets the listing criteria requirements and it appears on any of two specific waste lists:

- Discarded chemical products
- Dangerous Waste Sources

NOTE 1: Solid wastes mixed with, or derived from, listed wastes must also be managed as dangerous waste unless they are "delisted" by the EPA through petitioning in accordance with 40 CFR 260.22. Discarded Environmental media or debris that contain a listed waste must be managed as a dangerous waste unless and until delisted, allowed to exit RCRA via a contained-in determination by Ecology (media or debris) or by extraction or destruction treatment per 40 CFR 268.45 (debris only) (See Subsection 7.6.7).

NOTE 2: Listed wastes are source-dependent. The mere existence of a particular constituent in a waste stream does not invoke a requirement to designate the waste as listed waste; knowledge about the constituent's source must be used to establish that listed waste is present. It should not be presumed that a listed constituent is present when there is a lack of knowledge.

1. Discarded chemical products (WAC 173-303-081 and -9903, "Discarded Chemical Products List").

These wastes are also called the "P" and "U" listed wastes. This list consists of specific commercial chemical products and manufacturing chemical intermediates.

This list includes

- chemicals (such as chloroform and creosote)
- pesticides (such as DDT and kepone).

This list applies to unused, discarded (or 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. (However, chemicals with more than one active ingredient must be evaluated against other applicable dangerous waste designation procedures.)

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2. Dangerous Waste Sources (WAC 173-303-082 and -9904, "Dangerous Waste Sources List").

a. Non-Specific Sources

These are generic wastes, commonly produced by manufacturing and industrial processes. These wastes are called "F-listed" because their dangerous waste codes begin with "F."

The most common wastes from this list at Hanford are the F001 through F005 wastes, which include various spent halogenated solvents used in degreasing and other spent halogenated and nonhalogenated solvents.

b. Specific sources

This list consists of wastes from specifically identified industries such as wood preserving, petroleum refining, organic chemical manufacturing, and PCB-containing equipment salvaging. These wastes are called "K-listed" and their generation at Hanford has not occurred.

c. State sources.

There is also a situation where state-only regulated wastes have been promulgated (W001), as well as situations where a federal waste code must be used to denote a state-only waste. An example includes laboratory wastewaters discharged to Publically Owned Treatment Works (POTWs).

7.6.5.2 Characteristic dangerous waste

Wastes that are not listed wastes may still be dangerous wastes. Federal LDR requirements require that each RCRA solid waste be evaluated for the federal characteristics. Solid wastes, discarded environmental media, or debris must be designated as dangerous wastes if they exhibit any one or more of the these characteristics:

- Ignitability
- Corrosivity
- Reactivity
- Toxicity.

NOTE: Ecology has promulgated a state-only characteristic for corrosivity (WSC2). Ecology policy also regulates lead shielding under the toxicity characteristic when disposed (see Subsection 7.5). In accordance with WAC 173-303-070(3)(a)(iii), if a RCRA solid waste has been designated as a listed waste, these two state-only characteristics do not require evaluation. These requirements are addressed below.

1. Ignitability (waste code D001; WAC 173-303-090(5)). Ignitable dangerous waste is waste that, in solid, semisolid, liquid, or gaseous form, exhibits any of the applicable properties described in WAC 173-303-090(5).

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Examples of ignitable wastes include:

- Liquids with flashpoints below 60°C (140°F)
 - Certain nonliquids that are capable under normal conditions of spontaneous and sustained combustion
 - DOT ignitable compressed gases and oxidizers.
2. Corrosivity (waste codes D002 and WSC2; WAC 173-303-090(6)). A corrosive dangerous waste is waste that, in solid, semisolid, or liquid form, exhibits any of the applicable properties described in WAC 173-303-090(6).

Examples of corrosive wastes include:

- Aqueous wastes that exhibit a pH ≤ 2.0 (strongly acidic) or ≥ 12.5 (strongly basic).
- Liquids that corrode SAE 1020 steel at a rate greater than 0.250 inch per year at 55°C.
- A solid or semisolid and when mixed with an equal weight of water results in a solution, the liquid portion of which exhibits a pH of ≤ 2.0 or ≥ 12.5 .

NOTE: This is a state-only characteristic and Ecology uses the waste code WSC2. This waste code is not assigned to wastes that have been designated as a listed waste (see WAC 173-303-070(3)(a)(iii)).

3. Reactivity (waste code D003; WAC 173-303-090(7)). A reactive dangerous waste is one that, in any physical state, exhibits any of the properties of WAC 173-303-090(7).

Examples of reactive wastes include wastes that

- Are unstable and readily undergo violent change without detonating
- React violently with water
- Form potentially explosive mixtures with water
- When mixed with water, generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health and the environment.
- Are certain cyanide or sulfide-bearing wastes.

NOTE: Chapter 7 of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, provides guidance for designating cyanide and sulfide wastes. Cyanides are regulated at concentrations greater than 250 mg HCN/kg waste as total releasable cyanides. Sulfides are regulated at concentrations greater than 500 mg H₂S/kg waste as total releasable sulfides.

- Are defined as explosives by DOT
 - Are capable of detonation or explosive reaction under certain circumstances
4. Toxicity (waste codes D004-D043; WAC 173-303-090(8)). Toxic dangerous waste is any waste that, when an extract of a waste is obtained and analyzed pursuant to the Toxicity Characteristic Leaching Procedure (TCLP, found in SW-846), is found to contain concentrations of relevant constituents that equal or exceed the threshold concentrations of WAC 173-303-090(8). See Table 7-3 for these threshold concentrations. A waste may also be designated under the toxicity characteristics if process knowledge is sufficient to correctly designate the waste. Process knowledge can include using "totals" analysis in lieu of TCLP.

NOTE: State-only lead shielded waste must utilize a federal waste code (D008) when disposed. See Subsection 7.5. This waste code is not assigned to wastes that have been designated as a listed waste (see WAC 173-303-070(3)(a)(iii)).

7.6.5.3 Criteria dangerous waste

Most of the listed and characteristic waste designations are based on federal law. Once you evaluate a waste against the federal lists and characteristics, you should be able to determine all the federal land disposal requirements for the waste. See Subsection 7.11.

However, Ecology regulates wastes under two additional state-developed criteria: toxicity, and persistence. A waste that is regulated only under these criteria is a state-only dangerous waste in accordance with WAC 173-303-100. Generators are required to designate a waste under the criteria as follows:

- a. If the waste does not designate as a listed and as a characteristic waste,
- b. Ecology requires testing against the criteria in accordance with WAC 173-303-070(4), OR
- c. Additional designation is required in accordance with WAC 173-303-070(5).

In item a and c above, only existing knowledge need be applied to evaluate the criteria and the generator is not obligated to generate additional knowledge through sampling and analysis. A waste that is regulated only under these criteria is a state-only dangerous waste.

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1. Toxicity criteria (WAC 173-303-100(5): waste codes WT02 and WT01).
If knowledge is available that a waste will designate under the toxicity criteria, the procedures of WAC 173-303-100(5) must be followed.

NOTE: Toxicity criteria can be determined either via the book designation procedure of WAC 173-303-100(5)(b), or via biological testing methods referenced in WAC 173-303-100(5)(c).

2. Persistence criteria (WAC 173-303-100(6): waste codes WP01, WP02, and WP03).
If knowledge is available that a waste will designate under the persistence criteria, the procedures of WAC 173-303-100(6) must be followed.

NOTE: Extremely Hazardous Waste is identified in these procedures when waste codes WT01, WP01, or WP03 are assigned. See Subsection 7.6.13 for more information.

7.6.5.4 Additional Designation Required

After completing the waste designation procedure in Subsections 7.6.5.1 through 7.6.5.3, additional designation may be required. In accordance with WAC 173-303-070(5), additional designation is required for some wastes because designation under the criteria (WAC 173-303-100) may change how the waste must be managed. For large quantity generators such as the Hanford Facility, the following wastes are subject to WAC 173-303-070(5):

- a. Dangerous waste discharged to a POTWs operated under WAC 173-303-802(4), or
- b. State-only dangerous waste that is burned for energy recovery, or land disposed within the state.

7.6.6 Identifying land disposal restrictions

These are mentioned here because part of designating waste is identifying appropriate LDRs. LDRs "attach" (become applicable to the waste) at the original point of generation for as-generated wastes. As-generated waste are defined by EPA as the point where materials become a waste. Treatment residues on the other hand become generated as a result of treating a dangerous or mixed waste and a new point of generation is established. Therefore, generators are responsible for identifying the LDRs that apply to the wastes they generate. See Subsection 7.11 for more details concerning LDR requirements.

7.6.7 Designating "mixtures" and "derived-from" wastes**7.6.7.1 Mixtures involving listed wastes are listed waste**

Unless specifically excluded by regulation, any mixture involving any listed waste with other solid wastes must be managed as listed waste, regardless of the chemical concentrations or the characteristics exhibited by the resulting mixture. See WAC 173-303-081(3) and -082(3).

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Mixtures of characteristic dangerous wastes with other solid wastes are designated as dangerous wastes only if the resulting mixture exhibits a characteristic of a dangerous waste.

NOTE: Mixing or diluting wastes or waste treatment residues 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)

7.6.7.3 Derived-from wastes

Unless specifically excluded by regulation, any RCRA Solid Waste derived from the treatment, storage, or disposal of a listed waste must be managed as a listed waste. See WAC 173-303-070(2).

7.6.8 Managing contaminated environmental media (soil, groundwater, etc.) and debris**7.6.8.1 Dangerous waste contaminated media and debris is also dangerous waste**

The "contained-in" policy requires that environmental media and debris contaminated with a listed dangerous waste be managed as a dangerous waste until the media has either

- a. Been delisted by the EPA pursuant to 40 CFR 260.22, or
- b. Has been determined by Ecology to no longer contain a listed waste via a "contained-in" determination, and,
- c. Does not display a characteristic and/or criteria as applicable.

7.6.8.2 Manage contaminated media and debris as dangerous waste until Ecology approves otherwise

1. Excavated media that cannot be returned to an excavation and is known to contain a listed waste must be managed as a dangerous waste until Ecology makes a "contained-in" determination and/or allows alternative management methods.

NOTE 1: Ecology will use the Model Toxics Control Act residential standards to make decisions on applying the contained-in policy.

NOTE 2: If environmental media contaminated with listed waste meets the definition for debris contained in WAC 173-303-040 and 40 CFR 268.2 (solid material exceeding a 60 millimeter particle size), then the alternative treatment standards of 40 CFR 268.45 provide another option for management. Hazardous debris that is treated in accordance with extraction or destruction technologies of 40 CFR 268.45 is deemed to no longer contain a listed waste.

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2. If Ecology will make a written contained-in determination, then before sampling the contaminated media, contact Ecology to determine Ecology's requirements for sampling. Ecology may require:
 - a. Ecology concurrence for the sampling
 - b. A sampling and analysis plan (SAP).

7.6.8.3 Procedure for responding to potentially-contaminated environmental media and debris

If a generator has reason to believe that environmental media (soil, groundwater, etc.) is contaminated with a listed waste, then the generator shall take the following steps to manage the material:

1. Contact RCRA Field Services for help obtaining an Ecology "contained-in" determination.
2. Develop and submit a SAP describing the sampling and analysis methods to Ecology for approval, if necessary.
3. Acquire analytical data that, at a minimum, considers the concentration and risk of each constituent for which the hazardous waste was listed and any possible decomposition products.
4. Submit data and/or process knowledge to Ecology for a "contained-in" determination based upon statistically adequate site specific data.

BASIS: WAC 173-303-070(2)(c) and 40 CFR 261.3(f) for debris. Ecology memo dated February 19, 1993 for environmental media.

7.6.9 Using process knowledge to designate wastes

1. Process knowledge must be used to designate listed wastes. Other waste stream designations may be based on process knowledge, analytical data, or both.
2. If process knowledge is used to make a waste designation then the generator must ensure that the data and information used is sufficient to properly designate the waste.

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

7.6.10 Using analytical data to designate wastes

If process knowledge is insufficient to designate wastes under the lists and characteristics, then representative sampling methods of WAC 173-303-110(2) are required to obtain a sample of the waste for analysis. On the other hand, flexibility exists on how to select the appropriate laboratory analytical technique. In some cases, a less rigorous sampling and testing approach can be used than those described in WAC 173-303-090 and -110(3) to obtain data that provides an adequate basis for process knowledge. Contact Environmental Policy to request clarification of sampling and analysis requirements.

7.6.11 Samples exempt from waste management requirements

Samples collected solely for testing to determine their characteristics or composition are exempt from the storage and treatment dangerous waste requirements of WAC 173-303 when managed according to the provisions of WAC 173-303-071(3)(l).

NOTE: This exemption does not apply to samples that are no longer being managed under the provisions of the exemption, or the wastes generated from laboratory operations performed on the sample.

BASIS: Letter from Ecology dated March 7, 1995, "Listed Waste From Hanford Laboratories", and 46 FR 47426.

7.6.12 Acute hazardous waste

Although acute hazardous waste determinations do not affect the land disposal restrictions, this designation affects certain management requirements (e.g. empty container and satellite accumulation area volumes). Acute hazardous wastes are defined in WAC 173-303-040 and are assigned to certain listed wastes.

7.6.13 Extremely hazardous waste

Extremely hazardous waste (EHW) may be designated based on state-only toxicity and persistence procedures in WAC 173-303-100. Toxic EHW and Persistent EHW can result in stricter management requirements. For example, containers holding Toxic EHW require triple rinsing in accordance with WAC 173-303-160(2). Any EHW is subject to RCW 70.105.050 and may require treatment to meet the state only LDR requirements in WAC 173-303-140 described in Subsection 7.11.

7.7 Mixed Waste

There are requirements for managing mixed waste from generation through disposal. Mixed waste is defined as AEA radioactive waste that exists in a dangerous waste matrix. These requirements apply to all facilities and operations that generate, handle, treat, store or dispose of mixed waste.

See WHC-EP-0063-4 for Hanford Site radioactive solid waste and mixed waste acceptance criteria. See Subsection 7.3.3.2 and Section 3.0 of this manual for additional requirements pertaining to managing radioactive asbestos-containing material and radioactive polychlorinated biphenyls (PCBs).

7.7.1 Responsibilities for managing mixed waste

1. Waste generators shall
 - a. Designate the dangerous component of mixed waste according to Subsection 7.6
 - b. Characterize the radioactive component of mixed waste according to WHC-EP-0063-4.

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- c. Manage mixed waste according to the applicable requirements of Subsections 7.8 or 7.10.
 - d. Identify the land disposal restrictions that apply to the dangerous component of mixed waste in Subsection 7.11.
 - e. Ensure that any offsite mixed waste shipments as defined by WAC 173-303 are packaged, marked, labeled, and that a manifest is prepared according to the applicable requirements of WAC 173-303-180 and -190.
 - f. Ensure that onsite mixed waste transport is performed according to the applicable requirements in WHC-CM-2-14.
 - g. Ensure that, to the extent economically practicable, source reduction, recycling, and segregation techniques are used to minimize the amount of mixed waste generated in accordance with Section 12.0.
2. Solid Waste Disposal is responsible for providing a service, when requested, to Hanford Site generators with:
- Completing waste designations
 - Identifying waste packaging information
 - Identifying shipping instructions for handling mixed waste
 - Managing waste at an onsite treatment, storage, or disposal (TSD) unit
 - Coordinating waste disposal by contracting offsite TSD facilities.
3. Transportation and Packaging is responsible for helping generators determine and comply with the requirements for packaging and shipping mixed waste.

7.7.2 Requirements for managing mixed waste**7.7.2.1 Mixed waste managers must follow both RCRA and AEA**

Mixed waste shall be managed in accordance with all applicable requirements of RCRA, Subtitle C (as implemented in WAC 173-303) and of the AEA. RCRA applies to the extent that it is not inconsistent with the AEA.

NOTE: To date, there has been no formal recognition by EPA or DOE of inconsistencies between the two acts. Although many differences exist in the two regulatory schemes, both sets of requirements apply concurrently.

7.7.2.2 Use process knowledge to designate mixed waste

To the fullest extent possible, the dangerous component of mixed waste shall be designated using process knowledge. Process knowledge may be used instead of testing to designate waste when the process knowledge is adequate to designate the waste properly. Process knowledge could also consist of using an analytical technique other than what is identified in WAC 173-303-110(3) when radiological matrix effects must be considered.

7.7.2.3 Follow the rules for each component in mixed waste

Mixed wastes shall be managed in accordance with all applicable portions of Section 7.0, including those subsections for managing radioactive wastes and dangerous wastes.

7.7.2.4 Minimize the amount of mixed waste generated

Mixed waste generation shall be minimized in accordance with, WHC-CM-1-3, *Management Requirements and Procedures*, 5.44, "Waste Minimization Program," *Waste Minimization and Pollution Prevention Awareness Plan*, and applicable facility waste minimization plans.

7.7.2.5 Storage/accumulation requirements for mixed waste

NOTE: Storage implies permitted/interim status activities. Accumulation implies generator activities.

1. All containerized mixed waste (except for remote-handled waste) generated by WHC-operated facilities shall be consolidated for storage at the WHC Central Waste Complex in the 200 West Area or other permitted storage facilities. (See Subsections 7.8 and 7.10)
2. Mixed waste shall not be accumulated longer than 90 days from assignment of its accumulation date.

BASIS: Federal Facility Compliance Act, TPA, and WAC 173-303-200.

7.7.2.7 Storage of mixed wastes

Storage/disposal acceptance criteria for the radioactive component of mixed waste are delineated in WHC-EP-0063-4.

7.7.2.8 Special requirement for SNF, HLW, and TRU

Spent nuclear fuel (SNF), high-level waste (HLW), and transuranic waste (TRU) mixed waste management shall conform to the applicable standards of 40 CFR 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes*.

7.7.2.9 Treatment of TRU before disposal as practical

1. Where feasible and practical, mixed TRU waste shall be treated to destroy the hazardous (dangerous) waste component. (Feasible and practical refer to technology availability and the cost-effective use of such technology.)
2. TRU waste that is classified for security reasons shall be treated to remove or destroy the classified characteristic(s) before certification to the Waste Isolation Pilot Plant.

BASIS: DOE Order 5820.2A Chapter II Section 3.6

7.7.2.10 Mixed Waste Disposal

Mixed waste can only be disposed of at landfills meeting minimum technological requirements of 40 CFR 265.301(a) for interim status TSD units or WAC 173-303-665(2) for final status TSD units. The disposal of mixed waste will meet all applicable treatment standards and land disposal restrictions. Disposal of mixed waste to existing trenches in the Low Level Burial Grounds (trenches that do not meet minimum technological requirements) because of radiation exposure safety issues described in previous correspondence with Ecology was discontinued based upon landfill capacity that is now available.

BASIS: Letter RL to Ecology dated January 11, 1996 "Strategy Letter for the Disposal of Mixed Waste Low-Level Burial Grounds (LLBG)"

7.8 Generators

This subsection (7.8) defines the dangerous and mixed waste control program for WHC generators and applies to all dangerous and mixed waste generators on the Hanford Site. Generators refer to the organization associated with a given generating facility on the Hanford Site that have responsibilities for proper identification and management of wastes that are subject to the Dangerous Waste Regulations, WAC 173-303.

The requirements are intended to ensure proper management of dangerous waste, from its point of generation to its final disposition. This program is designed to ensure WHC compliance with Ecology's Dangerous Waste Regulations contained in WAC 173-303, and the applicable requirements of 40 CFR 260-270. Management of polychlorinated biphenyls (PCB) waste is addressed in Section 3.0. Asbestos wastes are addressed in Section 3.0 and Subsection 7.3.3.2. Non-leaking PCB small capacitors may be managed as a dangerous waste.

7.8.1 Responsibilities

7.8.1.1 Facility managers

7.8.1.1.1 Managing dangerous and mixed waste according to these requirements

Facility managers shall ensure that all dangerous and mixed waste generation and certain treatment activities are managed in compliance with the applicable requirements of this subsection (7.8). All media and debris that designates by virtue of the contained-in policy must also be managed in accordance with this subsection.

7.8.1.1.2 Ensuring organizational responsibilities are defined clearly and documented

If organizational responsibilities overlap or are unclear, facility managers shall develop a memorandum of understanding, operational procedure, or other written document identifying the organizational responsibilities for waste handling and material management.

7.8.1.1.3 Packaging and shipping of all solid waste generated by facility

Each facility manager shall ensure that all solid waste, environmental media, or debris that is (or is to be) generated at his or her facility is properly designated and packaged.

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If process knowledge is insufficient to designate waste, facility managers shall ensure that samples of generated waste are acquired and analyzed so that the waste is designated properly. To obtain the samples, facility managers may need to develop sampling and analysis plans, and/or waste analysis plans. Contact RCRA Field Services or Environmental Policy for further guidance on whether one of these plans should be developed.

7.8.1.1.5 Administering waste management activities and documentation

Facility managers shall develop:

- a. Inspection schedules/logs (WAC 173-303-320, -630(6), -640(6))
- b. Training plans (WAC 173-303-330(2))
- c. Contingency plans (WAC 173-303-350(3))
- d. Emergency procedures (WAC 173-303-360(2))
- e. Generator Recordkeeping (WAC 173-303-210.)

Facility managers shall also conduct required inspections, maintain required records and reports, and ensure that personnel are trained.

7.8.1.1.6 Designating a coordinator for facility wastes

Facility managers shall identify an individual(s) to track dangerous waste from the point of generation through permitted treatment, storage, and/or disposal (unless another facility manager takes responsibility for the waste at this point). Facility managers shall ensure this individual receives applicable training to perform this task.

NOTE: This individual's duties will usually involve signing shipping documentation. Shipping requirements are contained in WHC-CM-2-14, *Hazardous Material Packaging and Shipping*. Training requirements are identified in Section 11.0 of this manual.

7.8.1.1.7 Oversee facility dangerous waste program

Facility managers shall:

1. Develop an understanding of the facility's dangerous waste control program
2. Ensure that personnel submit waste information to receiving TSD unit
3. Ensure that a certification is completed in connection with the Annual Dangerous Waste Report.

7.8.1.1.8 Preplanning and waste minimization

Facility managers shall conduct a program to ensure that all dangerous and mixed waste generating activities incorporate the elements of WHC waste generating (preplanning) policy,

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including minimizing the amount of dangerous waste generated in compliance with WHC and DOE policy.

7.8.1.1.9 Complete dangerous waste permits

Facility managers shall ensure that dangerous waste permits are developed for their facility, as appropriate. See Section 10.0 of this manual for more information.

7.8.1.1.10 Initiate and complete notifications and occurrence reports after spills and releases

Facility managers shall promptly notify Environmental Reports (ER) of any spills or releases of dangerous waste according to WHC-CM-1-5, Subsection 7.1 and as required by Section 5.0 of this manual.

Contact the manager of Environmental Reports, to obtain current names and telephone numbers of personnel for spill reporting.

7.8.1.1.11 Maintain facility waste management equipment

Facility managers shall maintain equipment used to manage dangerous waste according to the requirements of this section (7.0).

7.8.1.2 RCRA Field Services

RCRA Field Services shall:

1. Help facility personnel conduct assessments to ensure compliance with this section (7.0) as requested by ECOs.
2. Issue annual call letter relating to annual ignitable/reactive inspections.
3. Coordinate data gathering and transmit quarterly reports to PNL on treatability sample activities with WHC.
4. Provide regulatory guidance with concurrence of Environmental Policy.
5. Coordinate regulatory inspections.

7.8.1.3 Environmental Policy

Environmental Policy shall provide regulatory guidance to dangerous waste generators.

7.8.2 Requirements for solid waste generators**7.8.2.1 Only DOE wastes allowed**

Only wastes generated as a result of WHC or DOE authorized activities shall be managed on the Hanford Site.

7.8.2.2 "Small Quantity Generator" credit not allowed

Because the entire Hanford Site is technically one generator, individual generators may NOT receive credit as small quantity generators. Any quantity of dangerous waste generated on the Hanford Site or in DOE leased buildings on noncontiguous property shall be managed according to the applicable large quantity generator EPA and Washington State Dangerous Waste Regulations.

7.8.2.3 Generators must designate wastes

Generators shall ensure that all RCRA solid wastes, discarded environmental media and debris, including solid wastes that contain a radioactive component, are designated according to WAC 173-303-070, as outlined in Subsection 7.6.

7.8.2.4 Most dangerous waste must be stored in 90-day accumulation areas or TSD units

1. Unless the waste is placed in a permitted TSD unit, dangerous waste shall only be accumulated in units/location identified in WAC 173-303-200(1).
2. Exception: dangerous wastes (including mixed wastes) may be placed in containers and managed in satellite accumulation areas according to WAC 173-303-200(2).

7.8.2.5 Generators must provide personnel training program

Generators shall provide personnel training in accordance with WAC 173-303-330, as applicable.

- a. A written training plan shall be developed in accordance with WAC 173-303-330 for a 90-day accumulation area, tank system, or containment building.
- b. Satellite accumulation areas need not be included in a training plan pursuant to WAC 173-303-330 but personnel with satellite accumulation responsibilities must undergo appropriate training to ensure safe and proper operations.

NOTE: WHC Training Services is responsible for developing the program of classroom instruction. Facility managers are responsible for developing a program for unit/building specific training to supplement the classroom program. See Section 11.0 of this manual for additional information on dangerous waste training and training plan requirements.

7.8.2.6 Minimize the amount of waste generated

Generators shall comply with the pollution prevention waste minimization requirements in Section 14.0 of this manual.

7.8.2.7 Manage "unknown" waste as dangerous waste

Ecology's intent is that generators should manage unknown waste as dangerous waste.

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Unknown waste is defined in Ecology's TIM 82-5 as any waste that cannot be designated (that is, one or more dangerous waste codes cannot be assigned) upon discovery due to a lack of adequate process knowledge or existing analytical data. Examples of unknown waste are orphan containers and newly generated waste for which adequate process knowledge is lacking (such as may be generated during a facility cleanout activity).

NOTE: In Technical Information Memorandum (TIM) 82-5 (Revised 10/93), Ecology provides guidance concerning unknown wastes. Although allowing for generators of unknown waste to delay the start of the 90-day clock for such waste until receipt of positive test results, the intent of TIM 82-5 is for generators to manage unknown waste as if it were a dangerous waste. A copy of TIM 82-5 or any other Ecology TIM may be obtained by contacting Environmental Policy.

7.8.2.7.1 What to do if unknown waste is discovered

1. Any person who finds abandoned or improperly-managed containers of unknown waste is to contact facility management.
2. Facility management shall report the occurrence in accordance with WHC-CM-1-5, Subsection 7.1.
3. Facility management shall review such reports and, if warranted, conduct an investigation. Any waste that can be designated (that is, for which adequate process knowledge or analytical data exists to assign one or more dangerous waste codes) shall NOT be managed as unknown waste. For example, if simple field testing determines that a waste is dangerous waste, the waste shall not be managed as unknown waste.
4. To manage unknown waste under TIM 82-5, the unknown waste must be sampled within 24 hours following discovery. It must also be placed in a 90-day accumulation area and labelled in accordance with TIM 82-5.
5. If the initial sample taken to address the characteristics in Subsection 7.6.5.2 results in a nondangerous waste, a second sampling event to test for the state-only criteria may be pursued to continue managing the unknown waste under TIM 82-5.

BASIS: TIM 82-5 and Ecology responsiveness summary to the Dangerous Waste Regulation amendments, comment 25.

7.8.2.8 Manage generator records properly

Generators shall maintain records (WAC 173-303-210). All generator records shall be managed in accordance with WHC-CM-3-5, *Document Control and Record Management*. Facility management determines whether these records are quality assurance records. All records required by WAC 173-303-210 must be located on the Hanford Site and shall be readily accessible. Records and plans do not have to be kept at the generator unit, but can instead be maintained at offices/other locations as appropriate.

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1. Generators shall keep copies of any documentation generated for designating a solid waste (such as test results, waste analyses, and inventory sheets) for at least five years from the date of transport from the generating facility.
2. Inspection records must be maintained by the generator and kept for at least five years.
3. Records that demonstrate cradle-to-grave tracking of waste shall be readily accessible to the generating unit personnel.
4. Training records must be kept for at least three years for former employees, and until closure for current employees. See Section 11.0 for a discussion of training record locations.
5. Environmental Reports shall keep spill records (the checklist completed following an occurrence). The generator shall maintain all documentation concerning management of the recovered spill as specified in this section (7.0).
6. See Subsection 7.11 for additional recordkeeping requirements associated with the land disposal requirements (LDR).
7. See Subsection 7.14 for regulatory file requirements.

7.8.2.9 Report spills and discharges to Environmental Reports

Generators shall report dangerous waste spills and discharges to Environmental Reports according to Section 5.0 of this manual.

7.8.2.10 Preplanning required before waste is generated

WHC policy is to ensure that WHC-generated wastes are managed according to all applicable requirements "from cradle-to-grave." Therefore, solid wastes shall not be generated without appropriate preplanning to ensure for proper designation and management.

BASIS: Letter from WHC President's office dated November 25, 1992, "Waste Generating Policy".

7.8.3 Satellite accumulation area requirements**7.8.3.1 WAC requirements specified for satellite accumulation requirements**

Dangerous wastes and mixed wastes that are managed in containers at satellite accumulation areas shall be managed according to WAC 173-303-200(2), which requires that wastes in satellite accumulation areas be in containers that are

1. "At or near" any point of generation where waste initially accumulates;
2. Under the control of the operator of the process generating the waste or secured at all times to prevent improper additions of wastes.

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3. In good condition
4. Made of or lined with materials compatible with the waste accumulated
5. Closed, except when necessary to add or remove waste
6. Managed in a manner that will not result in rupture or leakage
7. Managed according to the special requirements of WAC 173-303-630(8)(a) for reactive wastes, and WAC 173-303-630(9)(a) & (b) for incompatible wastes
8. Managed according to the labeling and marking requirements of WAC 173-303-200(1)(d).

7.8.3.2 Move waste to permitted storage or 90-day accumulation area promptly

IF either

- 55 gallons of dangerous waste, or
- One quart of acute hazardous waste

accumulates (per waste stream), **THEN**

1. Immediately mark the container(s) with the accumulation date.
2. Within three days, move the container(s) to a permitted storage or 90-day accumulation area.

7.8.3.3 Setting up satellite waste accumulation areas

In addition to the requirements of WAC 173-303-200(2), satellite accumulation areas used for managing dangerous waste shall comply with the requirements of Subsection 7.8.2 and the WHC policy provisions below. Satellite accumulation areas are only subject to the recordkeeping requirements of 7.8.2.7(1), (3), (5), and (6).

7.8.3.3.1 Maintain lists of satellite accumulation areas .

Satellite accumulation area locations associated with TSD unit operations where the TSD unit has been incorporated into the Hanford Facility RCRA Permit must be maintained on a list at the TSD unit.

BASIS: Hanford Facility RCRA Permit, Condition II.I.I.a.

7.8.3.3.2 Make provisions for responding to spills and emergencies

Although contingency plans are not required for satellite accumulation areas, generators must address and make provisions for adequate spill response and emergency response considerations for satellite accumulation areas. (See Appendix J of this manual for more information on the contingency program for satellite accumulation areas.)

7.8.3.3.3 Locating the area "at or near" the waste source

Satellite waste accumulation containers are required to be "at or near" waste sources. "At or near" is normally defined as in the same room as the waste-generating process. There are exceptions for field maintenance organizations and for operational restrictions:

1. Field maintenance organizations. For field maintenance organizations whose personnel (such as painters and electricians) perform work in the field that generates dangerous wastes, satellite containers located at the maintenance organization's main work station where wastes initially accumulate will be considered "at or near."
2. Operational restrictions. If a satellite container cannot be in the same room as the waste-generating process because of operational restrictions (such as waste minimization rules, radiological controls, fire protection requirements), then the container should be placed as near as possible to the waste source. The generator must understand the operational restriction(s) involved and be able to justify the container placement to an inspector.

7.8.3.3.4 Use inventory sheets if necessary to help designate waste

If wastes are aggregated to facilitate future treatment, then container inventory sheets are normally required. However, if the waste designation paperwork can be completed without a container inventory sheet, then the generator may elect whether or not to use container inventory sheets.

1. If container inventory sheets are used, entries on the sheets must be dated and either initialled or signed.
2. To correct an error on an inventory sheet, draw a single line through the incorrect entry and enter the correct information. Indicate the change by dating and either initially or signing the correction.

7.8.4 Starting the 90-day accumulation period; Requesting extensions

7.8.4.1 Satellite areas: 90-day period begins after collecting defined waste volume

1. For wastes accumulated in a satellite accumulation area, the 90-day accumulation period begins when, for each waste stream the process generates, the quantity of waste reaches
 - 55 gallons of dangerous waste, or
 - One quart of acute hazardous waste.
2. If 30-gallon or smaller containers are used for accumulation, the 90-day accumulation period begins as soon as either
 - The container is removed from the satellite accumulation area, or
 - The quantity limits in (1) are reached.

7.8.4.2 Unknown wastes: Start of 90-day period may be delayed

See Subsection 7.8.2.7 for information on the start of the 90-day accumulation period for "unknown" wastes.

7.8.4.3 Waste collected outside satellite areas: 90-day period begins immediately

For wastes that are not being accumulated in a satellite accumulation area, the 90-day accumulation period shall begin on the date that the generator first generates a dangerous waste.

BASIS: WAC 173-303-200(3)

7.8.4.4 Ecology may grant 30-day extensions in special situations

On request, Ecology may grant a 30-day extension to the 90-day accumulation period if there is a temporary, unforeseen, and uncontrollable circumstance that will be resolved within the 30-day extension period.

To request an extension, contact RCRA Field Services well before the 90-day accumulation period expires. RCRA Field Services will assist the generator in preparation of the documentation necessary to request the extension from Ecology before the 90-day accumulation period expires. In certain cases verbal approvals from Ecology can be obtained with the written request to follow.

Once the container is transferred to a TSD unit, the organization that requested the 30-day extension shall inform Ecology that the issue was resolved.

BASIS: WAC 173-303-200(1)(a) and the RL/WHC prime contract No. DE-A106-87RL1030 as modified on August 14, 1995.

7.8.5 90-day container accumulation areas**7.8.5.1 Waste can be accumulated for up to 90 days without a storage permit**

A generator may accumulate dangerous waste at the management unit for up to 90 days as allowed by WAC 173-303-200. Requirements for 90-day accumulation in tanks are identified in Subsections 7.8.6 and in 7.8.7 for containment buildings.

7.8.5.2 General solid waste management requirements specified

Generators responsible for accumulation areas shall comply with the requirements in Subsection 7.8.2 which includes development of a regulatory file as stated in Section 7.14.

7.8.5.3 Maintain list of certain 90-day accumulation areas

Any 90-day accumulation areas associated with TSD unit operations where a TSD unit has been incorporated into the Hanford Facility RCRA Permit must be maintained on a list at the TSD unit.

BASIS: Hanford Facility RCRA Permit, General Condition II.I.1.a.

7.8.5.4 90-day accumulation area inspection requirements

Generators shall develop, maintain, and follow a written inspection schedule and log for 90-day accumulation areas that is in accordance with the requirements of WAC 173-303-630(6) and WAC 173-303-320 (except that WAC 173-303-320(2)(c) is not applicable).

7.8.5.4.1 Inspect 90-day accumulation areas at least weekly

At least once each week, all 90-day accumulation areas shall be inspected for leaking containers and for deterioration of containers and the containment systems.

If a 90-day accumulation area is active, it shall be inspected weekly, even if no waste is being accumulated. If no waste is being accumulated, the inspector shall enter "No waste on pad" or equivalent language next to the criteria for containers on the inspection record.

7.8.5.4.2 Document deficiencies and observations on inspection record

1. Inspectors shall record observations and deficiencies noted during inspections on the inspection record.
2. When applicable (and as corrective action information becomes available), document the corrective actions taken in response to observations and deficiencies in the record next to the observation or deficiency. If corrective action information is not entered on the log, the inspection record, enter a reference to the information concerning the corrective action.
3. The inspection record shall include the date, time, printed name, and handwritten signature of the inspector.

7.8.5.4.3. Inspect monitoring and safety equipment on appropriate schedule

Monitoring equipment, safety and emergency equipment, security devices, and equipment that prevent, detect, or respond to hazards shall be inspected according to the frequency stated in the facility inspection log and may be other than weekly. The frequency of inspection (if not weekly) shall be based upon the rate of possible deterioration of the equipment and the probability of an environmental or human health incident. Inspection shall be in accordance with a written schedule that includes the provisions of WAC 173-303-320(2). Problems shall be remedied in accordance with WAC 173-303-320(3).

7.8.5.4.4 Special inspections required for ignitable and reactive waste

90-day accumulation areas where ignitable or reactive wastes (waste codes D001 and D003, respectively) are stored shall be designed, operated, and managed according to WAC 173-303-630(8).

In addition, the Hanford Fire Department (HFD) and facility personnel shall inspect these areas annually in accordance with WAC 173-303-395(1)(d).

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1. The HFD shall schedule the inspections.
2. Generators shall supply related information to the HFD each year to prepare for the inspection.
3. WHC Fire Protection shall provide direction to the HFD by designating the applicable code to be followed for inspection criteria.

7.8.5.4.5 Marking and labelling containers

1. The generator shall mark the date that the 90-day accumulation period begins (as specified in Subsection 7.8.4) on each container. The date shall be clearly visible for inspection.
2. The generator shall mark or label the container with the words "hazardous waste" or "dangerous waste".
3. The generator shall mark or label the container which identifies the major risk(s).
 - a. State only dangerous wastes: The words hazardous waste or dangerous waste are sufficient.
 - b. Federal hazardous wastes: The DOT hazard class label is sufficient except for radioactive labels. When the waste is radioactive, a second major risk label must be present to indicate the chemical hazard. In addition, when the waste is a class 9 waste, a TOXIC label shall be used while accumulating and storing the waste onsite. Derived from listed waste and toxicity characteristic waste usually fall into the class 9 division.

NOTE: The 616 NRDWSF Part B Permit imposes additional major risk requirements when waste is stored in that TSD unit. When other Solid Waste Disposal TSD units obtain their Part B Permits, these TSD unit acceptance requirements may also impose additional marking/labelling requirements.

BASIS: Ecology memo dated January 28, 1994 Jim Sachet to DW Unit Supervisors, "Risk Labelling", and Ecology memo dated March 17, 1994 Scott McKenney to Steve Moore "Risk Labelling Requirements for Drums Containing State-only Wastes".

7.8.5.4.6 Container arrangement requirements

1. Aisles that are at least 30 inches wide shall be maintained between rows of containers holding dangerous waste.
2. Rows of dangerous waste containers shall be not more than two drums wide.
3. If waste drums are not configured in rows, the container separation must allow for inspection and unobstructed movement of personnel and emergency equipment.

BASIS: WAC 173-303-630(5)(c) and -340(3).

7.8.5.4.7 Segregate incompatible materials completely

1. Incompatible waste streams in an accumulation area shall be separated by a dike, berm, wall, or other device.
2. Incompatible wastes or materials (solid and liquid) shall not be stored within the same containment system.
3. Wastes or materials shall not be placed in the same containers as incompatible wastes, except in accordance with WAC 173-303-395(1)(b).
4. Dangerous waste shall not be placed in an unwashed container that previously held incompatible waste or material.

BASIS: WAC 173-303-630(9)

7.8.5.4.8 WAC requirements for emergency preparations specified

Generators shall comply with the requirements for generator preparedness and prevention for 90-day container accumulation areas in WAC 173-303-340.

1. Equipment as required by WAC 173-303-340(1) shall be provided unless it can be demonstrated to Ecology that none of the hazards posed by the waste handled would require the equipment.
2. Access to communications or alarms shall be maintained as required by WAC 173-303-340(2).

7.8.5.5 Continuation of 90-day accumulation period

A waste may be moved onsite from one 90-day accumulation area to another without affecting the accumulation start date.

A waste may not be transported to a 90-day accumulation area when the shipment is an offsite shipment as defined in WAC 173-303-040.

7.8.5.6 Contingency plans, emergency procedures, and reporting

1. A generator shall develop and maintain a contingency plan and emergency procedures, in accordance with WAC 173-303-350 and -360 that supplements the Hanford Facility Contingency Plan (DOE-RL-93-75). An up-to-date version of the contingency plan and the Hanford Facility Contingency Plan shall be kept together in offices at:
 - a. The onsite emergency control center (ECC) serving the area
 - b. In the offices of those who can act as the RCRA Emergency Coordinator
 - c. In unit/building regulatory files (operating record) (see Subsection 7.14).

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See Appendix J for discussion on the contingency planning program.

2. The contingency plan shall be implemented in emergencies of sudden or nonsudden releases which threaten the public health and the environment.
3. Within 15 days of any incident that requires implementation of the contingency plan, the generator shall ensure the incident is reported to Ecology according to WAC 173-303-360(2)(k).
4. As a result of expanding the concept of the Hanford Facility Permit, condition II.A.4 to generator units for sitewide consistency, names and home phone numbers of those who can act as the RCRA Emergency Coordination are maintained by 90-day accumulation area personnel on a list separately from the contingency plan and with the ONC.

7.8.5.7 Waste Analysis Plans

Waste Analysis Plans (WAPs) are usually not required to manage a 90-day accumulation area. When a generator performs treatment by generator (TBG), WAPs are required in accordance with 40 CFR 268.7(a)(4) as referenced by WAC 173-303-200(1)(f).

7.8.6 90-day Tank Systems

1. Recordkeeping and management plans (ie. Inspection, Contingency, and Training requirements) are described under Subsection 7.8.5. These requirements apply to tank systems to the extent they are consistent with tank system requirements.
2. Additional 90-day tank system requirements are identified in WAC 173-303-200(1). These can include, but are not limited to tank system inspections, secondary containment, and integrity assessments.

7.8.7 90-day Containment Buildings

1. Recordkeeping and management plans (ie. Inspection, Contingency, and Training requirements) are described under Subsection 7.8.5. These requirements apply to containment buildings to the extent they are consistent with containment building requirements.
2. Additional 90-day containment building requirements are identified in WAC 173-303-200(1). These can include, but are not limited to containment building inspections, secondary containment, and integrity assessments.

7.8.8 Requirements for on-site generator activities that do not require permitting

The following activities are not subject to permitting requirements and, unless Ecology dictates otherwise, are only subject to certain requirements.

- Treating waste in an elementary neutralization unit, totally enclosed treatment unit, or wastewater treatment unit (See WAC 173-303-802(5).)

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- Treating waste in a tank, container, or containment building under TBG rules (See WAC 173-303-170(3)(b) and 40 CFR 268.7(e)(4).)
- Adding absorbents in containers under limited circumstances (See WAC 173-303-400(2)(c)(vi) and -600(3)(k)).
- Repackaging and sorting wastes (See WAC 173-303-400(2)(c)(vii) and -600(3)(l)).
- Reclamation of wastes (See WAC 173-303-120).
- Treatability studies and laboratory requirements (See WAC 173-303-071(3)(r)&(s)).

7.8.8.1 Treatability Studies

1. Samples generated or collected for treatability studies are not subject to the manifesting, labeling, packaging, marking, placarding, or accumulation standards (90-day storage) of WAC 173-303-180, -190, and -200 when managed in compliance with WAC 173-303-071(3)(r)&(s) and Ecology's 1989 letter.
2. Ecology must be notified 45 days prior to beginning a treatability study when the treatment technology does not appear on the approved list.
3. Information required by WAC 173-303-071(3)(r)(s) must be submitted to Ecology on a quarterly basis.
4. Contact RCRA Field Services before conducting any treatment studies.

7.9 Transporters

This subsection (7.9) identifies transportation requirements for compliance with the applicable State of Washington Dangerous Waste Regulations contained in WAC 173-303. Although, onsite movements are not subject to manifesting and transporter requirements of WAC 173-303, certain requirements are imposed by the Hanford Facility RCRA Permit.

NOTE: The Hanford Facility RCRA Permit includes conditions that impose additional recordkeeping requirements. See Hanford Facility RCRA Permit, General Condition II.Q.

7.9.1 Responsibilities**7.9.1.1 Facility managers**

1. Ensure that all dangerous waste transportation activities are managed in compliance with the applicable requirements of this subsection (7.9).
2. Promptly notify Environmental Reports of any spills or releases of dangerous waste in accordance with WHC-CM-1-5, Subsection 7.1 and Section 5.0 of this manual.

7.9.1.2 Hazardous Material Operations

Inspect dangerous waste packages to be transported on an offsite shipment, and ensure proper manifesting of the shipment where applicable in accordance with WHC-CM-2-14 requirements.

7.9.1.3 Transportation

1. Ensure that onsite movement of dangerous waste is done in a safe, compliant manner and offsite shipments of dangerous waste are manifested in accordance with all applicable transport requirements.
2. For onsite movement, ensure that the entire quantity of dangerous waste is delivered to the receiving facility.
3. Promptly notify Environmental Reports of any spills or releases during onsite movement of dangerous waste, in accordance with this manual and WHC-CM-1-5, Subsection 7.1.

7.9.2 Transportation Requirements

Transporter regulations are developed jointly by EPA and the DOT to avoid contradictory requirements between the two agencies. Although the regulations are integrated, they are not contained in the same part of the Code of Federal Regulations. A transporter must comply with the regulations under 49 CFR Parts 171-179 and WAC 173-303 (Dangerous Waste Regulations).

7.9.2.1 Comply with WHC Packaging and Shipping Manual

All material shipping shall be performed in compliance with WHC-CM-2-14, *Hazardous Material Packaging and Shipping*.

7.9.2.2 Additional requirements for PCBs and asbestos

Shipments of PCB material shall comply with the requirements specified in Subsection 3.6. Shipments of asbestos waste shall comply with the requirements specified in Subsection 3.5.

7.9.2.3 Special approval required to ship dangerous waste offsite

No dangerous waste shall be delivered for offsite transportation unless the transporter complies with the requirements of WAC 173-303-060 and WAC 173-303-240 through 270 and has been approved by Transportation and Packaging.

7.9.2.4 Manifest requirements for shipment depend on waste type and destination

As defined in WAC 173-303:

1. All offsite transportation of dangerous waste: a *Uniform Hazardous Waste Manifest* from Ecology shall be used.

2. Onsite transfers of dangerous waste:
 - a. All onsite dangerous waste transfers (except by rail or by pipeline) shall be made according to Condition II.Q of the Hanford Facility Permit, as applicable. This condition has very limited applicability as it only pertains to certain transfers to and from TSD units that have been incorporated into the Hanford Facility RCRA Permit.
 - b. Other methods used to identify the waste being transferred (such as a *Radioactive Shipping Record*) must contain all information to properly identify the material or waste (including dangerous waste codes) as required by WHC-CM-2-14 *Hazardous Material Packaging and Shipping*.
 - c. All onsite transfers must be conducted to meet the receiving TSD units acceptance criteria.

7.10 Treatment, Storage, and Disposal (TSD) Units

This subsection (7.10) requires WHC compliance with WAC 173-303, and the applicable requirements of 40 CFR 260-270. These requirements are intended to ensure proper management of dangerous waste from its point of generation to its final disposition. These requirements apply to all dangerous and mixed waste TSD unit operators on the Hanford Site.

NOTE: For final status TSD units, the Hanford Facility Permit shall supersede any conflicting or less stringent requirements contained in this section (7.0).

7.10.1 Responsibilities

7.10.1.1 TSD unit facility managers

7.10.1.1.1 Managing waste according to these requirements

Facility managers shall ensure that all dangerous waste treatment, storage, and disposal are managed according to the applicable requirements of this subsection (7.10).

7.10.1.1.2 Sampling when required to confirm waste

Facility managers shall authorize sampling and analysis as necessary to ensure that waste can be properly treated, stored, and disposed. At a minimum, sampling and analysis shall be in accordance with the TSD unit's waste analysis plan.

7.10.1.1.3 Administering waste management activities and documentation

Facility managers shall

1. Conduct inspections and document corrected deficiencies
2. Maintain required records and reports

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3. Develop program documentation
4. Ensure personnel are trained
5. Implement TSD unit closure plans as required by this subsection (7.10), and for final status TSD units, implement applicable conditions of the Hanford Facility RCRA Permit.

7.10.1.1.4 Designating individual(s) to track and ship waste

Facility managers shall identify an individual(s) to: (1) track dangerous waste from receipt at the TSD unit through permitted treatment, storage, and/or disposal (unless another facility manager takes responsibility for the waste at this point), and (2) ship waste from the TSD unit offsite or to another onsite TSD unit.

NOTE: Some individuals are required to receive applicable training in accordance with Section 11.0. Certain individual's name and qualifications must also be submitted to HazMat Operations for approval as certified hazardous waste shipper in accordance with WHC-CM-2-14.

7.10.1.1.5 Oversee facility dangerous waste program

The facility manager shall

1. Understand the facility's dangerous waste control program
2. Submit waste information
3. Sign a certification completed in connection with the Annual Dangerous Waste Report.

NOTE: There are legal penalties for providing false information on this report.

7.10.1.1.6 Implement the waste minimization program

Facility managers shall conduct a program to minimize the volume and toxicity generated to the maximum extent economically practical as required by Section 14.0 of this manual, and WHC and RL policy.

7.10.1.1.7 Complete dangerous waste permits

Facility managers shall ensure that appropriate dangerous waste permitting is developed for their facility, as required by Section 10.0 of this manual, the Tri-Party Agreement (TPA), and WAC 173-303-806. Contact RCRA Permitting for additional assistance.

7.10.1.1.8 Initiate and complete notifications and occurrence reports after spills and releases

Facility managers shall promptly notify Environmental Reports of any spills or releases of dangerous waste, as required by WHC-CM-1-5, Subsection 7.1 and Section 5.0 of this manual.

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Facility managers shall ensure that

1. New equipment used to store, treat, or dispose of dangerous waste is designed according to the requirements of this section (7.0).
2. Existing equipment used to store, treat, or dispose of dangerous waste is maintained according to the requirements of this section (7.0).

BASIS: WAC 173-303-320(1)

7.10.1.1.10 Monitor groundwater

Groundwater monitoring is required for all landfills, surface impoundments, and land treatment units. Facility managers shall ensure that groundwater monitoring activities are conducted according to the requirements of 40 CFR 265, Subpart F for interim status TSD units, and the Hanford Facility RCRA Permit, Condition II.F for final status TSD units.

7.10.1.1.11 Maintain regulatory files

Facility managers shall assign a file custodian, as needed, to maintain regulatory file documentation in accordance with Subsection 7.14.

7.10.1.2 Generator and Waste Acceptance Services

Prepare appropriate paperwork to accompany nonradioactive offsite shipments.

7.10.1.3 Systems Engineering and Data Management

Compile the Annual Dangerous Waste Report.

7.10.1.4 Environmental Reports

1. Determine nonradioactive dangerous waste release reporting and notification requirements (as defined in Subsection 5.3).
2. Help identify remedial actions required to respond to dangerous waste releases.
3. Prepare the Annual Dangerous Waste Report RL draft for review and ensure the final report is submitted to Ecology.

7.10.1.5 Environmental Policy

Provide regulatory guidance to TSD unit operators.

7.10.1.6 RCRA Field Services

1. Provide programmatic self-assessment support at the request of ECO's.
2. Coordinate regulatory inspections.
3. Provide guidance with concurrence of Environmental Policy.

7.10.1.7 RCRA Permitting

1. Maintain Part A Form 3 Permit Applications at ECO direction.
2. Prepare Part B permit applications and closure plans at request of ECO's.
3. Coordinate permit modifications.

7.10.2 Requirements for TSD units

This subsection (7.10) is intended to address management of dangerous and mixed waste under the interim status requirements of WAC 173-303-400(3). Although, many regulatory requirements are the same for both interim and final status TSD units, the Hanford Facility RCRA Permit must be consulted as the source for final status requirements.

7.10.2.1 Store LDR waste according to federal standards

Nonradioactive federally regulated LDR waste shall be managed in accordance with the storage prohibitions of 40 CFR 268.50(a).

7.10.2.2 Permit or other approval required to handle dangerous waste

1. Dangerous waste may not be treated, stored or disposed except in accordance with the provisions of interim status or a final facility permit issued by Ecology or as otherwise allowed through TBG or other Ecology provisions.

NOTE: When a Part A, Form 3 Permit Application is approved by Ecology, a TSD unit is deemed to have a permit to operate under interim status.

2. For activities that require permitting but which cannot qualify under the provisions for changes under interim status, an approved final facility permit must be in place before construction and operation.
3. Interim status. Only TSD units listed on the Hanford Facility Part A Permit Application qualify for operation under interim status.
 - a. All TSD units operating under interim status must be operated in compliance with WAC 173-303-400, unless alternate agreements have been reached with Ecology and those agreements have been properly documented.

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- b. Increases in design capacity, the addition of new dangerous wastes or changes in processes under interim status must be pursued according to WAC 173-303-805(7).

NOTE: Units operating under interim status will be incorporated into the Hanford Facility Permit in accordance with Tri-Party Agreement schedules. See Section 10.0 of this manual for specific permitting procedures.

4. Final facility permit. TSD units incorporated into the Hanford Facility Permit for operation under final status will be subject to the applicable conditions of that permit.

7.10.2.3 TSD units that generate waste must comply with generator regulations

TSD units that generate dangerous or mixed waste are generators and, for such wastes, shall comply with applicable generator requirements specified in Subsections 7.6, 7.7, 7.8 and the land disposal restrictions specified in Subsection 7.11.

7.10.2.4 Waste analysis plan required for all TSD units

1. All TSD unit operators shall develop, maintain and adhere to a written waste analysis plan that describes the procedures that are used to confirm knowledge about a waste prior to treatment, storage, or disposal.
2. The required detailed analysis must contain the information necessary to manage the waste in accordance with the requirements of WAC 173-303.
3. Waste analysis plans must include all applicable elements of WAC 173-303-300.

7.10.2.5 Security requirements for TSD units

All TSD unit operators shall post warning signs and by using either a 24-hour surveillance system or a barrier that controls entry, as required in WAC 173-303-310, and 395(1).

7.10.2.6 Operators must schedule and perform regular TSD unit inspections

All TSD unit operators shall develop and follow a written inspection schedule to assess the status of the facility and detect potential problem areas in accordance with WAC 173-303-320. These areas can include monitoring equipment, safety and emergency equipment, security devices, operating and structural equipment, area subject to spills on a daily basis, and any unit-specific inspection requirements.

1. Any observations made during the inspections shall be recorded in the facility's operating log and kept on file for a minimum of five years.
2. All problems found during the facility inspections shall be remedied.
3. Inspection schedules/logs shall be developed as specified in WAC 173-303-320.

7.10.2.7 TSD units must maintain contingency plans and operating records

1. All TSD unit operators must maintain their unit specific portion of the contingency plan. Refer to Appendix J of this manual to determine the correct type of contingency plan.
2. All TSD unit operators shall maintain detailed, auditable operating records, as specified in WAC 173-303-380. Regulatory file requirements in Section 7.14 are intended to help meet operating record requirements for TSD units.

7.10.2.8 Training required for all TSD unit personnel

1. All TSD unit personnel shall receive training as specified in WAC 173-303-330 and Hanford Facility RCRA Permit Condition II.C. See Section 11.0 for more information on training.
2. Personnel shall successfully complete the training program within 6 months of being assigned to the facility or to a new position at the facility (whichever is later).
3. Personnel shall be supervised until their training program is complete.

7.10.2.9 Written training plan required for TSD units

1. All TSD units shall ensure that a written training plan is developed and kept at the unit.
2. The TSD unit training plan shall contain the documents and records specified in WAC 173-303-330.

NOTE: TSD units that will pursue final status and submit a Part B Permit Application may have to develop a training plan in a format acceptable for Part B Permit Applications. See Section 11.0 for more information.

7.10.2.10 Take precautions for ignitable, reactive, or incompatible wastes

All TSD units shall take precautions for ignitable, reactive and incompatible wastes as required by WAC 173-303-395(1) and any unit-specific requirements.

7.10.3 General interim status requirements

Treatment, Storage, and Disposal of dangerous and mixed waste under interim status must comply with WAC 173-303-400(3) requirements. Some of these requirements are unit-specific and apply only to a single type of TSD unit (e.g. containers, tanks, landfills) while others are general and apply to all TSD units.

In accordance with WAC 173-303-400(3)(a)(i), all TSD units must comply with:

- LDR requirements of WAC 173-303-140,
- General TSD units requirements in WAC 173-303-280 through -440,

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- Corrective Action requirements in WAC 173-303-646(2), and
- Interim status requirements in WAC 173-303-805.

In addition, all TSD units must be closed in accordance with WAC 173-303-610 based upon requirements in the TPA. TSD units under interim status will either obtain a Part B Permit to continue operations, or will be closed under interim status. Interim status will end when

- a. The TSD unit obtains a Part B Permit,
- b. The TSD unit's closure plan has been approved by Ecology through incorporation into the Hanford Facility RCRA Permit, or
- c. Has the Part A Form 3 Permit Application withdrawn in accordance with TPA, Action Plan, Section 6.3.3.

7.10.4 Interim status container storage facilities

In addition to the general TSD unit requirements in Subsection 7.10.3, WAC 173-303-400(3)(a) requires compliance with 40 CFR 265, Subpart I, WAC 173-303-630(3), and in some cases, WAC 173-303-630(7) by reference.

7.10.5 Interim status tank system requirements

In addition to the general TSD unit requirements in Subsection 7.10.3, interim status tank systems shall be managed in accordance with 40 CFR 265 Subpart J and WAC 173-303-640(5)(d).

7.10.6 Interim status surface impoundment requirements

In addition to the general TSD unit requirements in Subsection 7.10.3,

1. Interim status surface impoundments shall be managed in accordance with 40 CFR 265, Subpart K and 40 CFR 268.4. (See Subsection 7.11.3.7)
2. Design requirements for new, replacement of existing, or lateral expansions of existing surface impoundments units:
 - a. Units shall be designed with two or more liners and leachate collection systems for waste received after May 8, 1985, unless an alternative design is approved by Ecology.
 - b. Ecology must concur that any alternative design, location characteristics, and operating practices will prevent the migration of any hazardous constituents to the ground or surface water at least as effectively as the liner/leachate collection system.
 - c. Notify Ecology at least 60 days before receipt of waste and file a Part B Permit Application within six months of the receipt of such notice.

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In addition to the general TSD unit requirements in Subsection 7.10.3, interim status waste piles shall be managed according to 40 CFR 265, Subpart L.

7.10.8 Interim Status Landfill Requirements

1. In addition to the general TSD unit requirements in Subsection 7.10.3, interim status landfills shall be managed according to the requirements of 40 CFR 265, Subpart N.
2. Design requirements for new, replacement of existing, or lateral expansions of existing units receiving waste after May 8, 1985:
 - a. Two or more liners and leachate collection systems above and between the liners shall be constructed unless it can be demonstrated that alternative design, operating practices, and location characteristics will prevent the migration of any hazardous constituent into groundwater or surface water at least as effectively as the liners/leachate collection system.
 - b. Notify Ecology at least 60 days before receiving waste, and file a Part B Permit Application within six months of the receipt of such notice.
3. Land disposal of liquid wastes, wastes that contain free liquids, or wastes that are in liquid form are prohibited except as allowed by Section 8.0 of this manual. [40 CFR 265.314(c) and WAC 173-303-140(4)(b)].

7.10.9 Detonation or burning dangerous wastes and explosives requirements

In addition to the general TSD unit requirements in Subsection 7.10.3,

1. Open burning of dangerous waste is prohibited except for detonation of waste explosives under emergency provisions of WAC 173-303-800(7)(c) or -804.
2. Waste explosives include waste that have the potential to detonate and bulk military propellants that cannot safely be disposed of through other modes of treatment. Detonation shall occur according to the following (40 CFR, Subpart P):

Pounds of Waste	Minimum Distance From Property Line
0 to 100	240 meters
101 to 1,000	380 meters
1,001 to 10,000	530 meters
10,001 to 30,000	690 meters

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In addition to the general TSD unit requirements in Subsection 7.10.3, interim status chemical, physical, and biological treatment units shall be managed according to the requirements in 40 CFR 265, Subpart Q.

7.10.11 Interim status containment buildings requirements

In addition to the general TSD unit requirements in Subsection 7.10.3, the requirements of 40 CFR 265, Subpart DD shall be met for interim status hazardous waste containment buildings, including the aspects below:

- Design and operation
- Controls to ensure containment
- Prompt repairs of conditions that could lead to a release
- Appropriate certifications
- Maintenance of the facility operating record.

NOTE: The rules for containment buildings were promulgated by the EPA pursuant to the HSWA. Ecology has not yet obtained authority to regulate containment buildings although Ecology has adopted these requirements in WAC 173-303-400(3)(a). Nevertheless, Part A, Form 3, Permit Applications have been modified to incorporate containment buildings.

7.10.12 Monitoring Groundwater

In the TPA, RL made a commitment to clean close TSD units according to WAC 173-303-610, regardless of permit status. Therefore,

1. Interim status units shall comply with groundwater monitoring requirements in 40 CFR 265, Subpart F and for units incorporated into the Hanford Facility RCRA Permit, WAC 173-303-645.
2. TSD unit management shall ensure that information on monitoring, testing, analytical data, and any corrective actions taken as a result of groundwater monitoring is recorded as it becomes available and is maintained in the TSD unit operating record as required by WAC 173-303-380(1)(f).

7.10.13 Closing and maintaining TSD units after closure (Post-Closure)**7.10.13.1 Some TSD unit requirements may be waived under specified conditions**

Within 180 days after an interim status unit receives its last quantity of waste, the facility operator must normally submit a closure plan for the unit. However, the TPA sets a schedule for closure plan submissions; therefore, for an interim status TSD unit that

1. Is not managing waste, and
2. Is not going to receive a Part B permit, and
3. Is awaiting a scheduled closure

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the operator may request a reprieve from some of the requirements of WAC 173-303 contained in this subsection (7.10) from Ecology. All situations that may warrant a reprieve from these requirements must be documented to Ecology. Contact RCRA Field Services or RCRA Permitting for guidance.

For example, there is no need for an inoperable TSD unit that is awaiting closure and that is not managing wastes to inspect waste containers (there are none) or maintain a waste analysis plan.

7.10.13.2 Other TSD unit closure and post-closure requirements

1. All WHC TSD units at the Hanford Facility shall be closed according to the applicable requirements of WAC 173-303-610. Clean closure of TSD units shall (where achievable) be according to the closure performance standards of WAC 173-303-610(2).
2. All WHC TSD units at the Hanford Facility shall have a written closure plan that contains all applicable information required by WAC 173-303-610(3)(a). Closure plans shall be submitted with unit specific Part B Permit Applications and will become part of the permit.
3. TSD units that cannot be clean closed will be subject to the post-closure care requirements of WAC 173-303-610(7).

7.11 Land Disposal Restrictions (LDRs)

This subsection (7.11) applies to all dangerous and mixed waste generators and treatment, storage, and disposal (TSD) unit operators on the Hanford Site.

This program is designed to ensure WHC compliance with the LDRs contained in 40 CFR 268 and WAC 173-303-140, and implement the Universal Treatment Standards (UTS) which are designed to reduce toxicity and/or mobility of hazardous waste that is land disposed.

7.11.1 Responsibilities**7.11.1.1 Facility managers**

1. Ensure that all dangerous waste generation, treatment, storage, and disposal is managed in compliance with the applicable requirements of this subsection (7.11).
2. Obtain appropriate samples, analyses (or process knowledge for generators) of generated and/or treated waste in order to obtain proper designations, determine whether treatment standards have been met, and approve analytical requests for all unknown wastes.
3. Maintain required records and reports as required by this section (7.0).

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1. Verify dangerous waste designations for those wastes to be managed in Solid Waste Disposal TSD units and on request, perform generator waste designations.
2. Provide required notifications, certifications, or both to offsite TSD facilities receiving wastes shipped from Hanford.

7.11.1.3 Environmental Policy

Interpret LDR requirements and provide regulatory guidance to waste generators and TSD unit operators.

7.11.2 Requirements**7.11.2.1 Identifying the LDRs**

For each hazardous waste generated, the generator shall identify all applicable LDR treatment standards according to the requirements of 40 CFR 268 and state only LDRs in WAC 173-303-140(2)(b). For a simplified summary of the state only LDRs see Table 7-1. The following information is generally necessary to properly determine federally codified treatment standards:

- All applicable EPA hazardous waste codes necessary to accurately determine the applicable treatment standards.
- The appropriate treatment standards from 40 CFR 268.40, *Treatment Standards*, based upon the hazardous waste codes assigned to the waste.

NOTE 1: Establishing appropriate treatment standards requires a determination of whether the waste is classified as a "wastewater" or "nonwastewater," as defined in 40 CFR 268.2.

NOTE 2: 40 CFR 268.40 requires that, for certain D001, D002, and D012-D043 coded wastes, "underlying hazardous constituents" must be determined at the original point of generation in accordance with 40 CFR 268.40 and 268.9. Before land disposal, all such underlying hazardous constituents must be treated to the applicable levels of 40 CFR 268.48.

NOTE 3: The so-called "California List" waste requirements have been superseded by the underlying hazardous constituents requirements (60 FR 43677).

NOTE 4: Hazardous wastes designated solely because they exhibit toxicity characteristic (TC) for the presence of one or more metals (D004-D011) are currently not subject to the 40 CFR 268.48 standards for underlying hazardous constituents. The required treatment levels for such metal-bearing wastes are less stringent than treatment levels for the same constituents in 40 CFR 268.48. Future LDR rulemakings will likely result in more stringent standards for TC metal wastes.

7.11.2.2 Methods for identifying LDRs

1. Land disposal restrictions may be determined by a generator
 - Based on knowledge of the waste, or
 - By conducting a total waste analysis, or
 - By testing the waste extract resulting from the TCLP (see 40 CFR 268, Appendix I which references SW-846 Method 1311).

BASIS: 40 CFR 268.7(a)
2. **IF** knowledge about the waste is used to determine whether the waste is restricted from land disposal, **THEN** the generator shall maintain records of all supporting data used to make the determination (40 CFR 268.7(a)(5)).
 - a. **IF** the generator has properly designated a waste **AND** can use process knowledge to conclude that the waste does **NOT** meet the applicable treatment standards, **THEN** testing of the waste is not required (because the waste will require further assessment, possibly including testing, to confirm proper treatment before disposal).
3. Treatment TSD units and TBG units must determine whether treatment standards have been met for concentration based treatment standards through testing. Process knowledge may not be used in accordance with 40 CFR 268.7(b). The Hanford Facility TSD unit personnel may require that LDR analytical testing be performed on Hanford Site generated wastes in order to meet the disposal TSD unit testing requirements in 40 CFR 268.7(c)(2).

7.11.2.3 Hazardous debris LDRs

Hazardous debris as defined in WAC 173-303-040 is debris that is contaminated with a listed waste, or debris for which the entire matrix exhibits a characteristic of hazardous waste. There are three basic treatment options available to generators of hazardous debris:

1. The debris may be subjected to the treatment standards applicable to the waste contaminating the debris
2. The debris may be subjected to the alternative performance-based standards of 40 CFR 268.45
3. A "contained-in" determination may be sought for the debris in accordance with WAC 173-303-070(2)(c) and 40 CFR 261.3(f).

Residues separated from debris during or after treatment are subject to the waste-specific treatment standards for the waste contaminating the debris.

Contact Environmental Policy for guidance on proper treatment for hazardous debris.

7.11.3 Additional LDR requirements

7.11.3.1 Testing or process knowledge acceptable

Generators are allowed to determine LDR status of waste through either testing or process knowledge. See Subsection 7.11.2.2.

7.11.3.2 Waste analysis plan required in advance for certain treatment operations

Generators who treat waste in 90-day accumulation tanks, containers, or containment buildings to meet applicable treatment standards must

1. Develop and follow a written waste analysis plan in accordance with 40 CFR 268.7(a)(4) and WAC 173-303-200(1)(f).
2. Submit and verify delivery of a copy of the plan to the EPA Regional Administrator and/or Ecology at least 30 days before treating waste in the unit.

NOTE: Debris is excluded from this requirement.

7.11.3.3 LDR waste analysis and recordkeeping

Generators and treatment/disposal facilities must generate and maintain certain records in accordance with 40 CFR 268.7, which contains requirements for federal hazardous wastes based on the following:

- Wastes that do not meet LDR standards and will require further treatment,
- Wastes that do meet LDR standards and may be land disposed,
- Wastes subject to an exemption from an LDR prohibition,
- Wastes that are treated to meet LDR standards by generators in accumulation units, and
- Other specific waste streams (e.g. lab packs, and hazardous debris).

NOTE: Operating record requirements vary depending whether treatment, storage, and disposal is performed onsite or offsite. See 40 CFR 265.73(b)(8) through (14) and WAC 173-303-380(1)(i-o).

7.11.3.4 Storage of restricted wastes limited

The EPA prohibits storage of hazardous wastes restricted from land disposal 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." See 40 CFR 268.50.

NOTE: The Tri-Party Agreement (TPA) and the Federal Facility Compliance Act address Hanford's requirements for management of mixed waste in storage.

7.11.3.5 Dilution only permitted in specified instances

Dilution of restricted waste cannot occur instead of proper treatment of the waste, with the exception of the following waste types:

1. Reactive waste (D003) (except for cyanide- and sulfide-bearing waste)
2. Any waste going to a publicly-owned treatment works or a waste-water treatment unit, in compliance with the Clean Water Act. See Subsection 7.8.8 for more information on these units.
3. To facilitate centralized aggregation of radioactive wastes (Double-Shell Tank waste).

7.11.3.6 Requesting approval to dispose of above-level wastes

IF no-migration petitions or treatability variances will be sought for Hanford Facility wastes, contact Environmental Policy for guidance.

NOTE: The federal LDR program includes mechanisms for getting approval to dispose of restricted waste at levels above specified treatment standards.

7.11.3.7 Treatment in surface impoundments

Surface impoundments that meet minimum technological standards (groundwater monitoring and double liner and leachate collection systems) may be used to treat restricted waste if such treatment is in compliance with the requirements of 40 CFR 268.4.

7.11.3.8 State LDR requirements applied

Generators and TSD unit operators shall comply with the state only LDR of WAC 173-303-140.

NOTE 1: Limited regulations applicable to the state program are contained in WAC 173-303-140. The state may apply for authorization of the Federal Land Disposal Restriction Program in the future. See Table 7-1 for a simplified summary of state only LDR requirements.

NOTE 2: State only LDR requirements do not in any way associate with the federal LDR requirements. Compliance determinations to state and federal requirements are made independently when addressing WAC 173-303-140(2)(a).

NOTE 3: State only waste codes typically do not have a corresponding treatment standard but must be evaluated towards WAC 173-303-140(3) through (7).

7.12 Recycling and reclamation

This subsection (7.13) defines the WHC recycling portion of the Dangerous Waste Control Program. This program ensures WHC compliance with the applicable State of Washington

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Dangerous Waste Regulations (WAC 173-303) and the EPA regulations in 40 CFR 260-270, 247-250, and 252-253.

These requirements apply to all WHC nonradioactive dangerous waste generators and to TSD unit operators on the Hanford Site and are intended to ensure dangerous waste is managed properly from the point it is generated to final disposition.

NOTE: The actual reclamation stage of activities (a treatment step) generically called "recycling" are not regulated under dangerous waste regulations. However, requirements pertaining to the accumulation and storage of dangerous waste to be reclaimed must be carefully evaluated to determine compliance. See WAC 173-303-016, -017, and -120 or contact Environmental Policy for further guidance.

7.12.1 Responsibilities**7.12.1.1 Facility managers**

1. Ensure that all dangerous waste generation, treatment, storage, and disposal is managed in compliance with the applicable requirements of this section (7.0).
2. Conduct a program to minimize the volume and toxicity of dangerous waste generated through the use of source reduction and recycling, in compliance with WHC and DOE policy as required by Section 14.0.
3. When economically practical, give preference to the purchase of recycled materials (as mandated by Executive Order 12780), especially to those items in 40 CFR 247-250, and 252-253 (such as lubricating oils containing re-refined oil, retread tires, paper and paper products, building insulation, and cement and concrete containing flyash).

7.12.2 Requirements for recycling dangerous wastes**7.12.2.1 Manage dangerous wastes as waste until recycled**

Certain dangerous materials destined for recycling (use, reuse, or reclamation) are subject to regulation as dangerous waste under certain circumstances that are summarized in Table 7-2. These materials shall be managed as a dangerous waste until the waste is reclaimed or reused.

7.12.2.2 Special requirements for precious metals and lead-acid batteries

Spent lead-acid batteries (WAC 173-303-520) and precious metals to be recycled (WAC 173-303-525) have specific exclusions from certain portions of the dangerous waste regulations. In addition to the requirements in WAC 173-303-120(3), these dangerous wastes shall be managed according to the requirements below:

1. Facilities that reclaim spent lead-acid batteries shall comply with the requirements specified in WAC 173-303-520.

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2. Facilities that generate, transport, or store spent lead-acid batteries but do not reclaim them shall:
 - a. Recycle spent lead-acid batteries whenever possible as a method of sitewide waste minimization.
 - b. Ensure that accumulated spent batteries do not freeze.
 - c. Promptly report and clean all spills.
 - d. Ensure that reclaimers have the appropriate permits and can accept the spent batteries.
3. Facilities that generate, transport, or store materials for recycling gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these metals shall keep records as specified in WAC 173-303-525.

7.12.2.3 Requirements for using the 400 Area consolidation center

In April 1995, Ecology approved the proposal to open the Centralized Consolidation/Recycling Center (consolidation center) in the 400 Area, which began operations on May 1, 1995. The consolidation center provides an alternate approach to management of:

- All dangerous waste batteries (lead-acid and non lead-acid)
- Aerosol cans, both empty and partially full
- Non-PCB light ballasts
- Spent fluorescent light tubes.

The batteries and aerosols are designated as dangerous wastes, while the Non-PCB light ballasts and fluorescent light tubes are not. Additional waste streams will continue to be evaluated for management at the consolidation center. If waste streams proposed for management at the consolidation center designate as dangerous waste, written approval will be obtained from Ecology before this waste stream is accepted at the consolidation center in accordance with the plan approved by Ecology (WHC-EP-0843).

Generators are not required to manage approved waste streams being handled at the consolidation center as dangerous wastes at the generating location. The "point of generation" for these streams will be the consolidation center. In some cases, personnel at the consolidation center will make a determination as to whether the material is a waste or can be reused. Consolidation center personnel will report these waste streams for WHC/ICFKH on the Annual Dangerous Waste Report.

Generators are required to have some controls over these recyclable wastes and/or materials destined for the consolidation center. The containers used to collect these wastes/materials shall be labeled as "[insert waste stream ID] for recycling". Consolidation center personnel will provide labels, as well as transportation instructions. Guidelines on the proper collection of these wastes/materials before transporting them to the consolidation center also are available. Contact RCRA Field Services for more information on the consolidation center.

Managing Solid Waste**7.13 Managing Used Oil****7.13.1 Used oil defined**

In accordance with WAC 173-303-040, used oil means any oil that

- Has been refined from crude oil, or
- Has been used, and
- As a result of use, is contaminated by physical or chemical impurities.

7.13.2 Classifying mixtures containing used oil

1. Mixtures of used oil with nondangerous solid wastes or with products (except diesel fuel) are classified as used oil.
2. Used oil separated from rags or sorbent materials is classified as used oil; however, the rags or sorbent material must be separately characterized and designated.
3. Used oils mixed with dangerous wastes
 - a. **IF** a used oil mixture exhibits a characteristic of a dangerous waste,

THEN the mixture is regulated as a dangerous waste unless burned for energy recovery in accordance with WAC 173-303-515. This specifically covers mixtures of used oil with ignitable solvents (such as mineral spirits).
 - b. **IF** used oil designates as EHW, or has been mixed with one or more listed dangerous wastes,

THEN the oil is regulated as a dangerous waste under WAC 173-303, unless burned for energy recovery in accordance with WAC 173-303-510.

7.13.3 Presumptions for managing used oil that will be burned for energy recovery

Used oil that contains more than 1,000 ppm total halogens is presumed to be a dangerous waste because it is presumed to have been mixed with halogenated dangerous waste listed in WAC 173-303-9904.

NOTE: This presumption may be rebutted by demonstrating that the used oil does not contain dangerous waste. If this presumption is not rebutted, WAC 173-303-515 cannot be utilized for the oil. See WAC 173-303-515(1)(b)(ii).

7.13.4 Composition specifications for used oil burned for energy

Before submitting the used oil for further recycling (including energy recovery) or disposal, the operator at the used oil aggregation point operator shall determine specifications for the used oil.

Off-specification is defined as oil that exceeds the specification levels of Table 1 below:

Table 1. Used Oil Fuel Specifications.

Constituent/property	Allowable level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100° F minimum
Total halogens	4000 ppm maximum
PCB	2 ppm maximum

7.13.5 Prohibited uses for used oil

1. Used oil shall not be used as a dust suppressant.
2. Off-specification used oil shall not be marketed for energy recovery except to burners or other marketers as authorized by WAC 173-303-515(2)(a) for burning in accordance with WAC 173-303-515(2)(b).

7.13.6 Handling used oil that is classified as dangerous waste

1. Used oil fuel that designates as EHW or has been mixed with listed waste must be managed as a dangerous waste or in compliance with WAC 173-303-510(4), as applicable.
2. Used oil that is marketed directly to a burner must be managed in accordance with WAC 173-303-515(4).
3. Used oil that is burned by generators for energy recovery is subject to WAC 173-303-515(5).
4. Used oil storage is subject to spill prevention control and countermeasure plans (SPCC) and underground storage tank standards as applicable.

7.13.7 Disposing of used oil

7.13.7.1 Generators must designate used oil

Generators shall determine (by process knowledge, laboratory analysis, or both), whether used oil is radioactive, designates as a dangerous waste, or both. See Subsection 7.6 for more information on waste designation procedures.

7.13.7.2 Approval required to dispose of used oil

Before disposing of used oil, the generator shall complete a proper waste designation and determine the appropriate management requirements based on the receiving facility's acceptance requirements.

1. Solid Waste Disposal shall coordinate the offsite shipments of used oil.
2. Solid Waste Disposal shall notify the appropriate recycle/disposal offsite organizations of scheduled shipments in a timely manner.

7.13.7.3 Recordkeeping requirements for offsite used oil shipments

The recycle/disposal organization is responsible for maintaining all records associated with the offsite management of used oil.

1. Records shall be kept in accordance with WAC 173-303-515(4)(b)(vi) for used oil delivered directly to a burner.
2. For shipment of off-specification used oil fuel to a burner, the used oil recycle/disposal organization shall keep additional records as required by WAC 173-303-515(4)(b)(vi)(B).

7.13.7.4 Used oil shipping requirements

All used oil shipments shall comply with applicable DOT requirements. Shipping requirements are found in WHC-CM-2-14, *Hazardous Material Packaging and Shipping*.

7.13.8 Management of used oil filters

Used oil filters that are recycled as scrap metal and used oil do not need to be managed as dangerous waste, provided the filters have been punctured and drained for 24 hours.

BASIS: Ecology Hazardous Waste Regulatory Alert "Update on used oil filters", dated October 1991.

7.14 Recordkeeping and Regulatory Files

7.14.1 Responsibilities

1. RCRA Field Services shall
 - a. Collect copies of each waste management unit's regulatory file checklist to facilitate regulatory compliance inspections.
 - b. Help waste management units ensure that regulatory file documentation has been cleared for public release. When required, initiate clearance forms to obtain technical and legal reviews required for public release.
2. Facility management shall
 - a. Assign a record specialist, as needed, to maintain regulatory file documentation and the regulatory file checklist.
 - b. Ensure the accuracy of the regulatory file checklist and provide RCRA Field Services updated checklists.
 - c. Ensure that all operating records and supporting documentation are cleared for regulator access.
 - d. Ensure identification of records comprising the Regulatory File on the Record Inventory Disposition Schedule (RIDS), in accordance with WHC-CM-3-5, *Document Control and Record Management*.

7.14.2 Recordkeeping requirements

7.14.2.1 Each waste management unit must establish a regulatory file

An up-to-date regulatory file shall be maintained for each waste management unit except for satellite accumulation areas. The regulatory file shall contain information, such as operating records and supporting documentation, to demonstrate compliance with WAC 173-303.

NOTE: Timely environmental recordkeeping and reporting is required to demonstrate regulatory compliance. The ability to present cleared documents to an inspector in the field is vital to accommodate regulatory requests by agency inspectors. Accessibility to environmental compliance documentation is essential to satisfy these requests.

7.14.2.2 Managing regulatory files

1. Regulatory file documentation may be stored in various locations but a regulatory file checklist shall be maintained at each waste management unit.
 - a. The regulatory file checklist shall be an index to the location of each piece of documentation identified in the regulatory file.

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- b. The regulatory file checklist shall include
- The description of the document/data
 - Its location at the facility
 - The name and telephone number of the record custodian.
2. The regulatory file checklist shall be developed for TSD units, and 90-day accumulation areas. The three types of 90-day accumulation areas include containers, tanks, and containment buildings.
3. Each waste management unit shall assign a file custodian to maintain the regulatory file checklist. In addition, each waste management unit shall identify each record listed within the regulatory file on the responsible individual's RIDS in accordance with WHC-CM-3-5.
4. *Before* being placed in a regulatory file, all documentation shall be cleared for release, as directed by RL Directive 91-EPB-018, dated June 14, 1991.

7.15 Special Waste Requirements

Special waste, as defined in WAC 173-303-040 may be managed in accordance with the reduced requirements of WAC 173-303-073.

7.16 Designated Reviewing Organizations

Organizations listed below are responsible for this process. If you have any questions about this procedure, please contact the process owner.

<u>Designated Reviewing Organizations</u>	<u>CMPOC</u>
Environmental Services (process owner)	PSO/ES
Solid Waste Disposal	PSS/SWD
Tank Waste Remediation System	TWR
Spent Nuclear Fuel	SNF

7.17 References

NOTE: For additional references, see Appendix B of this manual.

ASTM D-93-79, "Test Methods for Flashpoint by Penskey-Martens Closed Cup Tester."

ASTM D-3278-78, "Test Methods for Flashpoint of Liquids by Setaflash-Closed-Cup Apparatus."

DOE 5400.5, *Radiation Protection of the Public and the Environment*

DOE, 1988, Letter from R. D. Izatt and R. E. Lerch to Roger Stanley and Janet O'Hara, *Hanford Site Radioactive Solid Waste Acceptance Criteria*, January 26, 1988.

DOE, 1991, Letter from RL/WHC to Ecology, *Mixed Waste Disposal*, June 19, 1991.

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DOE/EM-0089T, "DOE Method Evaluating Environment and Waste Management Samples."

DOE/RL-93-75, "Hanford Facility Contingency Plan."

DOE/RL-94-02, "Hanford Emergency Response Plan."

DOE/RL-94-55, "Hanford Analytical Services Quality Assurance Plan."

DOE/RL-94-97, "Selection of Analytical Methods for Mixed Waste Analysis at the Hanford Site."

DOE/RL-95-70, "Hanford Sampling Quality Management Plan."

Ecology, Hazardous Waste Regulatory Alert "Update on used oil filters", dated October 1991.

Ecology, Technical Information Memorandum No. 86-3, Treatment-by Generator.

Ecology and EPA, Hanford Facility RCRA Permit, September 28, 1994, as amended.

Ecology, Dangerous Waste Permit Application Requirements, February 1995, Pub 95-402

EPA, SW-846, "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", the most current promulgated version.

NACE Standard TM-01-069, "Laboratory Corrosion Testing of Metals for the Process Industries."

NIOSH, *Registry of Toxic Effects of Chemical Substances*, published by the National Institute for Occupational Safety and Health.

WHC-CM-1-3, *Management Requirements and Procedures*, 5.44, "Waste Minimization Program."

WHC-CM-1-5, *Standard Operating Procedures*, 7.1, "Reporting Occurrences and Processing Operations Information."

WHC-CM-2-14, *Hazardous Materials Packaging and Shipping*.

WHC-CM-3-5, *Document Control and Record Management*.

WHC-CM-4-40, *Industrial Hygiene Manual*.

WHC-EP-0063-4, *Hanford Site Solid Waste Acceptance Criteria*.

WHC-EP-0843, *Centralized Consolidation/Recycling Center*

Table 7-1. State-Only Land Disposal Restricted Wastes Potentially Generated At Hanford.

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).
Extremely hazardous waste (EHW) (Nonradioactive)	Treatment to non-EHW designation
Extremely hazardous waste (EHW) (Radioactive)	As specified in the Low Level Burial Ground acceptance criteria that meets RCW 70.105.050(2) disposal requirements at DOE facilities.
Solid acid waste (WSC2) pH \leq 2.0	Treatment to nonacidic designation
Organic/carbonaceous waste	Incineration unless treatment is not available within 1000 miles of WA border

NOTE: This table provides a quick reference to the state only LDR requirements. Consult Subsection 7.11 and WAC 173-303-140(2) and (4) for more detailed information.

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Table 7-2. Designation of Recyclable Materials.

	Use Constituting Disposal WAC 173-303-016 (5)(a)	Energy Recovery/fuel WAC 173-303-016 (5)(b)	Reclamation WAC 173-303-016 (5)(c)	Speculative Accumulation WAC 173-303-016 (5)(d)
Spent materials	Yes	Yes	Yes	Yes
Commercial chemical products	Yes	Yes	No	No
Byproducts listed in WAC 173-303-9904	Yes	Yes	Yes	Yes
Sludges listed in WAC 173-303-9904	Yes	Yes	Yes	Yes
Byproducts exhibiting a characteristic or criteria	Yes	Yes	No	Yes
Sludges exhibiting a characteristic or criteria	Yes	Yes	No	Yes
Scrap metal	Yes	Yes	Yes	Yes

NOTE: Yes signifies that the material in question qualifies as a solid waste for the specified categories, and if the material is also designated as dangerous waste pursuant to WAC 173-303-070, then it must be managed as such prior to recycling.

NOTE: See Glossary (Appendix A) for meanings of spent materials, commercial chemical product, byproducts, sludge, and scrap metal.

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Table 7-3. Toxicity Characteristic List.

Dangerous Waste Number	Contaminant	DW* (mg/l)
D004	Arsenic	5.0
D005	Barium	100.0
D018	Benzene	0.5
D006	Cadmium	1.0
D019	Carbon tetrachloride	0.5
D020	Chlordane	0.03
D021	Chlorobenzene	100.0
D022	Chloroform	6.0
D007	Chromium	5.0
D023#	o-Cresol	200.0
D024#	m-Cresol	200.0
D025#	p-Cresol	200.0
D026	Cresol	200.0
D016	2,4-D	10.0
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13
D012	Endrin	0.02
D031	Heptachlor (and its hydroxides)	0.008
D032	Hexachlorobenzene	0.13
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3.0
D008	Lead	5.0
D013	Lindane	0.4
D009	Mercury	0.2
D014	Methoxychlor	10.0
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenol	100.0
D038	Pyridine	5.0
D010	Selenium	1.0
D011	Silver	5.0
D039	Tetrachloroethylene	0.7
D015	Toxaphene	0.5
D040	Trichloroethylene	0.5
D041	2,4,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
D017	2,4,5-TP (Silvex)	1.0
D043	Vinyl Chloride	0.2

#If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used.

Table 7-4. Regulatory Bases/Drivers.

Regulatory Drivers		Other Drivers	WHC-CM-7-5 Implementing Subsection	Comments
Federal	State/Local			
N/A	WAC 173-304	RCW 70.95.240	7.3	Standards for disposing of nonradioactive, nondangerous solid waste
N/A	WAC 173-304-600	N/A	7.3.1	Responsibilities for Disposal
N/A	WAC 173-304-405	N/A	7.3.2.3	Written plans for nondangerous, nonradioactive disposal facilities
N/A	WAC 173-304-405 and -490	N/A	7.3.2.5	Annual operations report for groundwater tests
N/A	WAC 173-304-405	N/A	7.3.2.6	Disposal facility inspections
N/A	WAC 173-304-407 and -405	N/A	7.3.2.8	Closure/Post Closure requirements
N/A	WAC 173-304	N/A	7.3.2.10	Landfill requirements
40 CFR 241.200- 203	N/A	N/A	7.3.2.11	Rules for certain wastes
N/A	WAC 173-304-060	N/A	7.3.2.12	Certified landfill operator
N/A	WAC 173-304-460	N/A	7.3.3.1	Solid waste landfills
40 CFR 61 Subpart M	WAC 173-303-071 and -395	N/A	7.3.3.2	Disposal of asbestos
N/A	WAC 173-304-461 WAC 173-304-100	N/A	7.3.4	Inert and demolition waste landfills
N/A	WAC 173-304-420 WAC 173-303-075	N/A	7.3.5	Ash piles
N/A	N/A	DOE 5820.2A	7.4.2.1	Radiation exposure
40 CFR 61.92 Subpart H	N/A	N/A	7.4.2.4	Air emissions
40 CFR 191	N/A	N/A	7.4.2.5	High level waste
N/A	WAC 173-303	DOE 5480.2A	7.4.2.6	Mixed waste
N/A	N/A	WHC-EP-0063-4	7.4.2.7	Disposal of radioactive matrices
N/A	WAC 173-303-017 and -070	RCRA/Superfund hotline summary May 1992	7.5.1	Shielding materials
N/A	WAC 173-303	N/A	7.5.2	Lead waste
N/A	N/A	DOE 5400.5	7.5.2.2	Release of radioactive lead onsite and offsite
N/A	WAC 173-303-070	N/A	7.6	Designation of waste
N/A	WAC 173-303-016	N/A	7.6.3	Identification of solid waste
N/A	WAC 173-303-016 -017 and -120	N/A	7.6.4	Exemptions and exclusions

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Regulatory Drivers		Other Drivers	WHC-CM-7-5 Implementing Subsection	Comments
Federal	State/Local			
N/A	WAC 173-303-080 through -100	N/A	7.6.5	Identification of dangerous waste
N/A	WAC 173-303-070 -081 and -082	N/A	7.6.7	Mixtures with listed waste
40 CFR 260.22	N/A	N/A	7.6.8.1	Delisting environmental media or debris contaminated with listed waste
40 CFR 268.2 40 CFR 268.45	WAC 173-303-040 and -070	N/A	7.6.8.2	Management of contaminated media and debris as dangerous waste
N/A	WAC 173-303-110	N/A	7.6.10	Insufficient process knowledge to designate
N/A	WAC 173-303-040	N/A	7.6.12	Acute hazardous waste
N/A	N/A	WHC-EP-0063-4	7.7	Radioactive solid waste and mixed waste acceptance criteria
N/A	N/A	RCRA Subtitle C Atomic Energy Act	7.7.2.1	Management of mixed waste
N/A	N/A	WHC-CM-1-3, 5.44	7.7.2.4	Generation of mixed waste
N/A	N/A	FFCA and TPA	7.7.2.7	Storage of mixed waste
40 CFR 191	N/A	N/A	7.7.2.8	Mixed waste management of SNF, HLW, TRU
40 CFR 260-270	WAC 173-303-200	N/A	7.8	Dangerous waste regulations
N/A	WAC 173-303-200	N/A	7.8.2.4	Dangerous waste accumulated in designated units or locations
N/A	WAC 173-303-330	N/A	7.8.2.5	Personnel training
N/A	N/A	Ecology TIM 82-5	7.8.2.7	Discovery of unknown wastes
N/A	WAC 173-303-210	WHC-CM-3-5	7.8.2.8	Maintaining records
N/A	WAC 173-303-200	N/A	7.8.3.1	Management of waste in satellite accumulation areas
N/A	WAC 173-303-200	N/A	7.8.5.1	Accumulation of dangerous waste up to 90 days at management unit
N/A	WAC 173-303-630 WAC 173-303-320	N/A	7.8.5.4	Inspection requirements for 90-day accumulation areas
N/A	WAC 173-303-320	N/A	7.8.5.4.3	Inspection of monitoring and safety equipment
N/A	WAC 173-303-395	N/A	7.8.5.4.7	Segregation of incompatible wastes
N/A	WAC 173-303-340	N/A	7.8.5.4.8	Emergency preparedness and prevention
N/A	WAC 173-303-350	N/A	7.8.5.6	Develop and maintain contingency plan and emergency procedures
N/A	WAC 173-303-200	N/A	7.8.6	90-day tank systems
40 CFR 265 Subpart DD	WAC 173-303-200	N/A	7.8.7	90-day containment buildings

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Regulatory Drivers		Other Drivers	WHC-CM-7-5 Implementing Subsection	Comments
Federal	State/Local			
40 CFR 268.7	WAC 173-303-802 -170, -400, -600, -071, -120	N/A	7.8.8	Activities not subject to permitting
N/A	N/A	WHC-CM-1-5, 7.1	7.9.1.3	Transportation - Notification of spills or releases onsite
49 CFR 171-179	WAC 173-303	N/A	7.9.2	Transportation requirements
N/A	N/A	WHC-CM-2-14	7.9.2.1	Compliance with packaging and shipping requirements
N/A	WAC 173-303-060 and -240 through -270	N/A	7.9.2.3	Offsite transportation requirements
40 CFR 260-270	WAC 173-303-400 and -600	N/A	7.10	Proper management of TSD units
N/A	WAC 173-303-806	N/A	7.10.1.1.7	Dangerous waste permits
40 CFR 265 Subpart F	N/A	Hanford Facility Permit, Condition II.F	7.10.1.1.10	Groundwater monitoring activities
N/A	WAC 173-303-400	N/A	7.10.2	Management of dangerous waste and mixed waste under interim status
40 CFR 268.50	N/A	N/A	7.10.2.1	Management of LDR waste - nonradioactive
N/A	WAC 173-303-400 WAC 173-303-805	N/A	7.10.2.2	Interim status permit approval
N/A	WAC 173-303-300	N/A	7.10.2.5	Waste analysis plan
N/A	WAC 173-303-310	N/A	7.10.2.6	Security requirements
N/A	WAC 173-303-320	N/A	7.10.2.7	Inspection schedules/logs
N/A	WAC 173-303-380	N/A	7.10.2.8	Operating records
N/A	WAC 173-303-330	N/A	7.10.2.9	Training for TSD personnel
N/A	WAC 173-303-330 and -380	N/A	7.10.2.10	Regulatory records and documents in training plan
N/A	WAC 173-303-395	N/A	7.10.2.11	Precautions for ignitable, reactive, and incompatible wastes
N/A	WAC 173-303-400 -140, -610, -646, -805, and -280 through -440	N/A	7.10.3	Treatment, storage and disposal of dangerous waste and mixed waste under interim status
40 CFR 265, Subpart I	WAC 173-303-400	N/A	7.10.4	Interim status container storage facilities
40 CFR 265, Subpart J	WAC 173-303-400	N/A	7.10.5	Interim status tank system
40 CFR Subpart K 40 CFR 268.4	WAC 173-303-400	N/A	7.10.6	Surface impoundments
40 CFR 265, Subpart L	WAC 173-303-400	N/A	7.10.7	Waste piles

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Regulatory Drivers		Other Drivers	WHC-CM-7-5 Implementing Subsection	Comments
Federal	State/Local			
40 CFR 265, Subpart N 40 CFR 265.314	WAC 173-303-400	N/A	7.10.8	Landfills
40 CFR 270.1 40 CFR 265 Subpart P	WAC 173-303-400	N/A	7.10.9	Burning dangerous wastes and explosives
40 CFR Subpart Q	WAC 173-303-400	N/A	7.10.10	Chemical, physical, biological treatments
40 CFR 265, Subpart DD	WAC 173-303-400	N/A	7.10.11	Containment buildings
40 CFR 265, Subpart F	WAC 173-303-610 -380	N/A	7.10.12	Groundwater monitoring
N/A	WAC 173-303-610	N/A	7.10.13.2	Closure and post closure of TSD units at Hanford
40 CFR 268	WAC 173-303-140	N/A	7.11	LDRs
40 CFR 268	WAC 173-303-140	N/A	7.11.2.2	Identification of LDRs
40 CFR 268.45	N/A	N/A	7.11.2.4	Hazardous debris LDRs
40 CFR 268.7	WAC 173-303-200	N/A	7.11.3.2	Waste analysis plan for 90-day treatment units
40 CFR 268.7 40 CFR 265.73	WAC 173-303-200	N/A	7.11.3.3	Waste analysis and recordkeeping for LDRs
40 CFR 268.50	N/A	N/A	7.11.3.4	Storage of restricted waste
40 CFR 268.4	N/A	N/A	7.11.3.7	Surface impoundments treatments
N/A	WAC 173-303-140	N/A	7.11.3.8	Compliance with state-only LDR
40 CFR 260-270 40 CFR 247-250 40 CFR 252-253	WAC 173-303-016 -017, and -120	EO 12780	7.12	Solid waste recycling
N/A	WAC 173-303-520 WAC 173-303-525	N/A	7.12.2.2	Requirements for precious metals and lead-acid batteries
N/A	WAC 173-303-515	N/A	7.13.2	Classifying mixtures with used oil
40 CFR 279	WAC 173-303-9904 WAC 173-303-515	N/A	7.13.3	Used oil burned for energy recovery
40 CFR 279	WAC 173-303-515	N/A	7.13.5	Uses prohibited of used oil
40 CFR 279	N/A	N/A	7.13.6	Handling used oil
N/A	WAC 173-303-515	WHC-CM-2-14	7.13.7.4	Shipping requirements for used oil
N/A	WAC 173-303-210 and -380	N/A	7.14.2.1	Regulatory file for each waste management unit
N/A	N/A	RL Directive 91-EPB-018	7.14.2.2	Managing files

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Environmental Training**11.1 PURPOSE**

This section (11.0) establishes the training required to comply with environmental training requirements in the WHC training program. This section also distinguishes what environmental training is considered to be Resource Conservation and Recovery Act (RCRA) training so that the Ecology compliance inspectors and permit writers can distinguish which training they have authority over. RCRA training implies that training is received in accordance with: (1) Washington Administrative Code (WAC), Chapter 173-303, Dangerous Waste Regulations, (2) The Hanford Facility RCRA Permit, or (3) correspondence between RL and Ecology on training commitments. This section also identifies non-RCRA environmental training requirements and indicates whether Environmental Services or another WHC organization has been chartered to interpret those requirements for WHC.

11.2 SCOPE

The provisions of this section (11.0) apply to all personnel employed by WHC, the visitors that WHC and its subcontractors bring onto the Hanford Facility, and the subcontractors conducting work on behalf of WHC. (e.g., BCSR, ICF KH). The Hanford Facility means the Hanford Site as defined by the Hanford Facility RCRA Permit issued by Ecology. Most of the RCRA training program elements described in this section are not applicable to operations involving CERCLA or RCRA-Past Practice activities as defined by the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) as these activities do not require compliance with WAC 173-303-330, Personnel Training.

Terms used in this section include Hanford Facility personnel, visitors, and subcontractors. These terms are used by Ecology in the Hanford Facility RCRA Permit, General Condition II.C, Personnel Training. The definitions of these terms have not been agreed upon between Ecology and the Hanford Facility RCRA permittees. For purposes of implementing the RCRA training program, WHC will use the following definitions until the terms are further refined through the Hanford Facility RCRA Permit steering committee and documented in the Permit Implementation Guidance Manual to the Hanford Facility RCRA Permit.

CAUTION: These definitions were developed in order to meet RCRA training requirements based on the Hanford Facility RCRA Permit. Exercise caution when applying these definitions to other non-RCRA training programs.

Hanford Facility personnel include employees of the RL, and employees of the Hanford Facility dangerous waste permittees (i.e., WHC, PNNL, BHI).

Visitors include personnel who do not have a contract in place with RL or the Hanford Facility dangerous waste permittees, and regulatory agency personnel who conduct regulatory compliance inspections.

Subcontractors refer to any contractor working for the RL not defined as Hanford Facility personnel, or any contractors working for the Hanford Facility dangerous waste permittees.

These definitions could differ from other definitions used on the Hanford Facility to describe training requirements (e.g., visitors are defined differently for radiological area access). In addition, when subcontractors must manage generator waste management units such as 90-day

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accumulation areas, the subcontractor will apply Hanford Facility personnel training requirements to the operation of the generator waste management unit to ensure compliance with WAC 173-303.

11.3 RESPONSIBILITIES**11.3.1 Unit/building management**

To implement training program requirements, unit/building management, including immediate managers or others who have been delegated authority by unit/building management must:

1. Identify training requirements for their personnel based on worker categories and program areas described in this Section (11.0).
2. Ensure personnel discovering incidents or process upsets involving dangerous or mixed waste can properly respond to those incidents or process upsets.
3. Ensure that personnel assigned the RCRA title of Emergency Coordinator and alternates to this position carrying the responsibilities of WAC 173-303-360 (e.g., Building Emergency Directors, Building Wardens) become thoroughly familiar with applicable contingency plans, operations, activities, location and properties of all wastes handled, location of all records, and the unit/building layout.
4. Ensure that annual refresher training is provided in sufficient detail to ensure each employee is properly trained to safely handle hazardous materials/dangerous waste within the scope of his/her job.
5. Ensure that targeted personnel are trained within 6 months of the date of hire, within 6 months of assignment to a work place, or within 6 months of assignment to a new position, whichever is later. WHC strongly recommends that targeted personnel be trained immediately, according to best management practices. For those courses where training has been identified but not yet developed, management shall train their targeted personnel within 6 months of notification by Training Services that a training program is available.
6. Ensure that no personnel perform a task for which they are not properly trained, except to gain required experience while under the direct supervision of a supervisor or coworker who is properly trained.
7. Submit all hard copy training records defined as a RCRA training record to Training Services for entry into the Training Records Information System.
8. Ensure training plans as described in Subsection 11.4.1.2 are developed and maintained, as applicable.

Environmental Training**11.3.2 Environmental services**

1. Interprets training requirements pertaining to the regulations within the Environmental Services charter and provides necessary personnel resources to Training Services on general training course content issue resolution and course development needs.
2. Provides a subject matter expert to approve all general training program courses that provide instruction on regulations within the Environmental Services charter.
3. Determines equivalency according to the procedure outlined in Subsection 11.7 or issues waivers in accordance with Subsection 1.4(9).

11.3.3 Training Services

1. Develops, presents, and maintains the general classroom program for all Hanford Facility-wide training (general training). Maintains documentation of general training in accordance with WHC-CM-2-15.
2. Supports use of the training matrix (TMX) and the implementation of the Integrated Training Administration System by providing current environmental course information. Course information includes a description of the enabling objectives and the regulatory basis for the course.
3. Initiates the process to develop a training course in accordance with WHC-CM-2-15 and develops training courses based on direction received from Environmental Services regarding Hanford Facility training needs.
4. Notifies all applicable personnel when RCRA training courses have been developed, and establishes a date 6 months from the notification when all targeted personnel must be trained.
5. Gains approval from Environmental Services to change course titles, course content, or course numbers that are delineated in training plans subject to the Hanford Facility RCRA Permit.
6. Accepts and processes hard copy training records.
7. Generates the electronic data storage training record on the Training Record Information System and downloads course completion information to the Soft Reporting System and the TMX.

11.4 REQUIREMENTS

This Subsection (11.4) outlines the requirements of the RCRA training program and provides a discussion on the non-RCRA environmental training requirements and which WHC organization has been chartered or delegated interpretive authority.

Environmental Training**11.4.1 RCRA training program**

The RCRA training program was developed using a graded approach to training after reviewing DOE orders and federal and state regulations. Duties and responsibilities assigned to all personnel were identified and evaluated to determine training requirements. In addition, training needs are continually reevaluated in relation to changes pertaining to applicable DOE orders, federal and state regulations.

11.4.1.1 Training program

Managers whose personnel generate, treat, store, or dispose of dangerous or mixed waste shall provide personnel training as directed by WAC 173-303-330. Training Services is responsible for developing the program of general training to meet Hanford Facility-wide classroom instruction needs. Unit/building management are responsible for developing a unit/building-specific training program that supplements the Hanford Facility-wide program. The unit/building specific training program may be classroom or on-the-job based curriculum. General requirements of the RCRA training program include:

- a. The program must teach personnel to perform their duties in a way that ensures the unit/building's compliance with WAC 173-303, must teach unit/building personnel dangerous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed, and must ensure that facility personnel are able to respond effectively to emergencies. Training evaluation will be accomplished in accordance with WHC-CM-2-15.
- b. The training program shall be directed by a person knowledgeable in dangerous waste management procedures, and must include training relevant to the positions in which the facility personnel are employed. Qualification of instructors which deliver RCRA based training will be accomplished in accordance with WHC-CM-2-15.
- c. Personnel must participate in an annual review of the training provided in the training program.
- d. The program must be successfully completed by unit/building personnel: (1) Within six months after regulations become effective, or (2) Within six months after their employment at or assignment to the unit/building, or to a new position at the unit/building, whichever is later. Employees hired after the effective date of the regulations must be supervised until they complete the training program.
- e. At a minimum, the training program shall familiarize unit/building personnel with emergency equipment and systems, and emergency procedures. The program shall include other parameters as set forth by Ecology, but at a minimum shall include, where applicable: (1) Procedures for using, inspecting, repairing, and replacing unit/building emergency and monitoring equipment; (2) Key parameters for automatic waste feed cut-off systems; (3) Communications or alarm systems; (4) Response to fires or explosions; (5) Response to ground-water contamination incidents; and (6) Shutdown of operations.

Environmental Training**11.4.1.2 Training plan**

A training plan that complies with the requirements in WAC 173-303-330(2) shall be developed and maintained for each 90-day accumulation area, 90-day tank system, and TSD unit. The training plan must be updated when courses change, training requirements change, or when personnel change. Verbal direction from Ecology compliance inspectors has been provided to Tank Farms regarding the frequency by which names are to be updated. The frequency provided during the verbal direction was quarterly. Questions regarding interpretations or deviations pertaining to the requirements found in WAC 173-303-330 should be directed to Environmental Services.

All training plans developed under this section (11.0) must be cleared for public release and maintained in the unit/building's Regulatory File as required by Section 7.15 of this manual. A training plan must contain the following:

- a. The job title, job description, and name of the employee filling each job. The job description must include requisite skills, education, other qualifications, and duties for each position.

Discussion: The specific personnel names that must be maintained in a training plan are determined by the six worker categories (defined later in Subsection 11.5) by which all personnel are categorized. Hanford Facility personnel who perform duties and responsibilities associated with the Advanced General Worker, General Manager, and General Shipper worker categories shall be identified by employee name in the applicable unit/building specific training plan. Names of Hanford Facility personnel who perform duties and responsibilities within the All Employee or General Worker categories, as well as visitors and subcontractors need not be identified in a training plan. However, the training plan must identify the training requirements pertaining to all Hanford Facility Personnel, visitors and subcontractors. The duties and responsibilities of those unit/building personnel within the Advanced General Worker, General Manager, and General Shipper worker categories, assigned to work in or around RCRA waste management units described in the training plan must be listed under the specific job title for the employee to ensure that worker categorization has been properly accomplished.

When addressing the prerequisite skills, education, and other qualifications, general statements can be made in the training plan. Specific information concerning an individual's position need not be included in the training plan as long as it can be provided upon request.

- b. A written description of the type and amount of both introductory and continuing training required for each position.

Discussion: Courses developed to comply with the RCRA training program must be identified and discussed in the training plan. The initial (introductory) and the refresher (continuing) course(s) must be described in sufficient detail to determine the target audience and types of worker categories of personnel that need to attend the course. The frequency for retraining must be specified for each initial and refresher course as one-time only, annual, or every other year in accordance with Attachment A to this section. Non-RCRA courses may be included in the training plan as long as the training plan clearly differentiates between the RCRA and non-RCRA courses. This type of segregation helps facilitate the TSD unit training plan

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incorporation into the Part B Permit Application and helps an Ecology inspector understand which training he/she has authority to look at on inspection.

- c. Records documenting that personnel have received and completed the training required by this section. Ecology may require, on a case-by-case basis, that training records include employee initials or signature to verify that training was received.

Discussion: Training records consist of hard copy and electronic data storage training records, both of which are maintained by Training Services. Hard copy and electronic data storage training records are not physically maintained in a training plan due to the size of the Hanford Facility. The hard copy training record will provide Ecology with a training record which includes the employee initials or signature verifying training was received. Field training files are inappropriate to maintain for compliance with the RCRA training program due to a number of problems field training files have created during Ecology's compliance inspections. The training plan must discuss how training records will be produced when requested on an inspection, and how the training record will be compared to information in the training plan to determine that personnel are trained. Refer to Subsection 11.4.1.4 for additional information on training records.

BASIS: WAC 173-303-330(2), Hanford Facility RCRA Permit, General Condition II.C, and the TSD Unit Part B Permit Application language concerning training plan contents and record retention.

11.4.1.3 Hierarchy of training plans

The training plan format that is used is based on how the various RCRA waste management units manage dangerous or mixed wastes.

- a. TSD units managing dangerous or mixed waste: Training plans are developed and maintained for TSD units to meet either interim status or final status requirements. When interim status is the only concern and the plan will not be formally submitted to Ecology in an application, training plan preparers will be allowed more flexibility when formatting the document. In this case, the training plan will not be subject to the RCRA permit modification process and will only be provided to Ecology upon request.

When a training plan will be submitted to meet information requirements in Part B Permit Applications, the training plan will be placed in an appendix to Chapter 8 of the Part B Permit Application. Including the training plan in the Part B Permit Application will meet all of the training requirements described in both the RCRA Part B Permit Application Checklist and WAC 173-303-806(4) (xii). The checklist is located on the Hanford Local Area Network under Hanford Information.

When a training plan will be located in the appendix of a permit application, the training plan preparer needs to consider two important factors when writing the plan. The first factor concerns configuration control, in that changes to the document are subject to the permit modification process. In other words, the training plan and/or sections of the training plan that Ecology incorporates into the TSD unit's Part B Permit cannot be changed by WHC alone. In order to change information that has been incorporated into the permit, the proposed changes must be reviewed by the

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program Environmental Compliance Officer, the changes classified in accordance with WAC 173-303-830, Appendix I. And finally, the permit is amended through Ecology before WHC can make the changes. The second factor concerns segregating information in the document so that Ecology can select the sections from the training plan relevant to the permit. Environmental Services recommends that training plan preparers consider segregating information into: (1) RCRA training, (2) Non-RCRA training, (3) Training Course Descriptions, and (4) Example tables of training requirements listed by employee worker category and name.

- b. Other TSD units: Those TSD units that are not managing dangerous or mixed waste will only need to consider training plan requirements that pertain to the closure activities described in the TSD unit's closure plan. Section 7 and the related appendix will be where training information is placed in the closure plan. For training information that becomes part of the RCRA permit for the Hanford site (Part V TSD units) see the discussion in subsection (a) above for permit modification considerations.
- c. 90-day accumulation areas or 90-day tank systems - The format for a generator training plan is more flexible since the training plan will not be submitted to Ecology as part of any permitting process. Contact your RCRA Field Services representative to assist in the identification of the appropriate format for this type of plan.

In some cases, a TSD unit and a 90-day accumulation area or 90-day tank system may be managed by the same organization. In these cases, unit/building management can decide what types of training plans are developed and maintained. If the same personnel work within the TSD units and generating units, a single training plan in the Part B Permit Application format with generator activities segregated within the plan from TSD unit activities may be appropriate. This is because generator activities are not included in the Hanford Facility RCRA Part B Permit that Ecology and EPA issue. Unit/building management may also decide to maintain separate training plans for these activities.

- d. Satellite accumulation areas - Satellite accumulation area operations and management does not require the development of a written training plan.

BASIS: WAC 173-303-200, -400, and -600 relating to WAC 173-303-330.

11.4.1.4 Training records disposition

RCRA training records must be maintained as outlined below unless otherwise required by the Hanford Facility RCRA Permit. General condition II.I pertaining to the Facility Operating Record in the Hanford Facility RCRA Permit requires that records be kept until 10 years after postclosure or corrective action is complete and certified for the Hanford Facility. Since both the hard copy and electronic data storage record training records are maintained by the Training Services for 75 years, unit/building management need not be concerned regarding the maintenance of training records in their Regulatory File. Training records may accompany personnel transferred to another contractor that does not use the Training Records Information System. Training records may be observed or copies given to regulatory agency personnel as a routine use under the Privacy Act (59 FR 17091). Regulatory agency personnel become subject to the Privacy Act when the training record is provided to them.

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- a. General Training Classroom Instruction - Following course completion, Training Services will create the electronic data storage record.
- b. Unit/Building-Specific Training - Following course or on-the-job training completion, unit/building management will send the hard copy training records to Training Services to create the electronic data storage record. Only hard copy training records that are required to be managed as a RCRA training record will be subject to this requirement. Examples of the types of unit/building-specific forums which may provide waste management direction to personnel that are not subject to WAC 173-303-330(3) for maintenance as a RCRA training record include: (1) Project kick-off meetings, (2) Pre-job safety meetings, (3) unit manager meetings, and (4) procedure reviews. On-the-job training provided in accordance with items 1-4 above need not be maintained as a RCRA training record provided that the training is described in the written RCRA training plan for the unit/building.

BASIS: WAC 173-303-330(3)

11.4.2 Non-RCRA training

This Subsection (11.4.2) describes the non-RCRA training in the WHC environmental training program. This subsection may reference the reader to other WHC manuals when appropriate since Environmental Services is not the interpretive authority for all of the non-RCRA training identified.

11.4.2.1 Access

Gaining access to geographical areas on the Hanford Facility can involve issues pertaining to (1) Hanford Facility access, (2) Unit/building access, and (3) Radiological Area access. Access to the Hanford Facility is controlled through the issuance of badges. The type of badge that is issued will depend on the access frequency of the visitor or subcontractor. In addition, foreign national considerations will also impact the ability of personnel to gain access to the Hanford Facility. Personnel who escort foreign nationals must successfully complete Foreign National Visitor Awareness training (course number 000094) and comply with the security plan for the foreign national.

Unit/building access is evaluated on whether the visitor or subcontractor must be escorted (this does not include foreign national considerations). If the visitor or subcontractor is escorted by qualified Hanford Facility personnel assigned to the unit/building, unit/building orientation is not required unless the visitor or subcontractor will be working and not touring under a Radiation Work Permit (RWP). For example, when a regulatory inspector wants to sample a container during part of an inspection, the inspector must complete the appropriate unit/building orientation training if the sampling will be conducted under a RWP. This orientation fulfills radiological safety training considerations specific to the hazards present at the unit/building. Hanford Facility personnel being escorted by qualified unit/building personnel also fall under the same orientation considerations as do visitors and subcontractors.

In addition to the requirements for unit/building access, there are also specific requirements pertaining to Radiological Area access. For entry into Radiological Areas, visitors (e.g., regulatory agency inspectors) are allowed access when accompanied by a qualified escort

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(Hanford Facility personnel assigned to the unit/building). There are limitations, however, on the amount of radiation exposure that visitors may receive, which may impact access over time. Visitor dose limits are described in the HSRCM-1 item 214. Health physics organizations can help ascertain these limits.

In addition to escorting requirements, dosimetry and RWP specific requirements also exist. Dosimetry requirements are met through issuing temporary or permanent dosimeters, or by completing radiological visitor forms or regulatory agency personnel qualification cards to allow access. RWP specific requirements can include whole body counts, unit/building orientation, attending radiation worker training courses, bioassay testing, criticality training, and mask fit user test (pulmonary capacity). Refer to the following table to identify the organization that can answer related access questions.

Access Interpretive Authorities in WHC

Access type	WHC manual	WHC Interpretive Authority (level 2/3 organization)
Hanford Facility Access	none ¹	Safeguards And Security/Security Operations Administration
Unit/Building Access	none ¹	N/A: Decision is left up to Unit/building manager
Radiological Area Access	Hanford Site Radiological Control Manual-1	Radiological Control/Program Control and Integration

¹RL transmitted a letter to the Washington State Department of Health and the U.S. Environmental Protection Agency listing access requirements on February 23, 1994.

11.4.2.2 Occupational Safety and Health Administration

Occupational Safety and Health Administration (OSHA) regulations apply to the Hanford Facility through DOE orders and the Hanford Federal Facility Agreement and Consent Order (commonly known as the Tri-Party Agreement). The Tri-Party Agreement requires compliance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) training requirements in 40 CFR 300.150 for worker health and safety at Article XXI.82.A. The worker health and safety requirement relies on 29 CFR 1910.120 as the training standard.

OSHA training that relates to environmental training on the Hanford Facility is described in two terms: Hazard Communication (HAZCOM) training and Hazardous Waste Operations Training (24 hour/40 hour/emergency responder training or HAZWOPER). Other health and safety training under OSHA is not considered environmental training. HAZCOM training requirements stem from 29 CFR 1910.1200. The 24/40 hour HAZWOPER training requirements are promulgated under 29 CFR 1910.120. The Hanford Fire Department is an example of an organization on the Hanford Facility that receives emergency responder training under 29 CFR 1910.120. Other health and safety training stems from requirements found in 29 CFR 1910 and 29 CFR 1926 and can include, but is not limited to, confined space entry, hearing conservation, fork lift training, and construction training. Refer to the following table to identify the organization that can answer related OSHA training questions.

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OSHA Interpretive Authorities in WHC

Training Type	WHC Manual	WHC Interpretive Authority (level 2/3 org.)
Hazard Communication	WHC-CM-4-40 (WHC-CM-1-11: TBD)	Safety/Industrial Hygiene Programs
Hazardous Waste Operations Training	WHC-CM-4-3, Vol 4 (WHC-CM-1-11: TBD)	Safety/Industrial Hygiene Program
Other Health and Safety training	WHC-CM-4-40 (WHC-CM-1-10)	Safety/Industrial Hygiene Programs

11.4.2.3 U.S. Department of Transportation

U.S. Department of Transportation (DOT) training in 49 CFR 172 Subpart H, 173.1(b), and 177.816 and transportation training required by DOE orders is conducted onsite for Hanford Facility personnel who are involved with transportation, or who offer hazardous materials and wastes for transportation. The training offered pertaining to DOT requirements on the Hanford Facility is based upon job or task responsibilities and is maintained in the WHC-CM-2-14 manual Part VIII. Training pertaining to shipments of radioactive and hazardous materials will always be considered non-RCRA training.

Course number 020159: Advanced Course 2 - Hazardous Waste Shipper Certification, is the only course within the DOT program that is included in the RCRA training program. When a General Shipper (defined in Subsection 11.5.5) ships dangerous or mixed waste regardless of the road the shipment will be travelling on, the General Shipper is required to maintain current training in this course to meet RCRA training program requirements. The Hazardous Materials Operations group (the Level III organization in Transportation & Packaging) can provide additional information concerning these courses.

11.4.2.3.1 Authorized shipper

To become an "authorized shipper," Hanford Facility personnel must successfully complete training in applicable DOT courses and be delegated the authority as outlined in the WHC-CM-2-14 manual. Training courses identified in the Waste Management Administration program area (defined in Subsection 11.6.2.4) will not be included in determining whether the shipper becomes "authorized."

11.4.2.4 Other environmental training

In addition to the non-RCRA training mentioned above, other environmental training requirements exist. For example, *Toxic Substances Control Act* (TSCA) training exists on the Hanford Facility for polychlorinated biphenyl (PCB) spill response. Training also exists for compliance with reporting under the *Emergency Planning and Community Right-to-Know Act* (EPCRA). There are asbestos training requirements for workers and supervisors involved in asbestos abatement which is described in the WHC-CM-4-40 manual. Other training not associated with a specific course(es) in WHC manuals includes training concerning those who

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work in unit/buildings affected by the National Pollutant Discharge Elimination System (NPDES) permits and those who apply pesticides. The following table identifies the organization that can answer related questions pertaining to these environmental training requirements.

Other Environmental Training Interpretive Authorities in WHC

Training Type	WHC Manual	WHC Interpretive Authority (level 2/3 org)
TSCA*	WHC-CM-7-5	Environmental Services/Environmental Policy
EPCRA*	WHC-CM-7-5	Environmental Services/Environmental Reports
NPDES**	WHC-CM-7-5	Environmental Services/Environmental Policy
Pesticide Applicator Training**	WHC-CM-7-5	Environmental Services/Environmental Policy
Manager Training*	WHC-CM-7-5	Environmental Services/Environmental Policy
Asbestos	WHC-CM-4-40, Section 2.3 (WHC-CM-1-11: TBD) WHC-CM-7-5, Section 3	Safety/Industrial Hygiene Programs
Well Construction**	WHC-CM-7-5	Environmental Services/Environmental Policy

* = Training is defined as directed training in accordance with WHC-CM-2-15.

** = Training is defined as mandated training in accordance with WHC-CM-2-15.

11.4.2.4.1 TSCA training

Personnel who clean up PCB spills or who perform maintenance activities on light fixtures containing ballasts must successfully complete the following training:

- 035065 PCB Awareness - one time only
- xxxxxx PCB Spill Cleanup - training to be developed by Training Services.

This training is defined as directed training in accordance with WHC-CM-2-15.

11.4.2.4.2 EPCRA training

Personnel who have been designated by the facility manager to perform the duties of an EPCRA Reporting Representative in Subsection 5.5.1(2) of this manual must successfully complete the following training:

- 02006J EPCRA Reporting Requirements (Sections 312 and 313), self-study training -- annually.
- 02006K EPCRA 313 Toxic Chemical Release Reporting -- annually.

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Additional instruction is also available on using the Hazardous Material Inventory Database as required to implement these courses. This training is defined as directed training in accordance with WHC-CM-2-15.

11.4.2.4.3 NPDES training

Personnel engaged in activities at an NPDES permitted unit/building outlined in 40 CFR 125.102 subject to the Best Management Practices program regulations in 40 CFR 125.104 must receive training which prevents, or minimizes the potential for, the release of toxic or hazardous pollutants from ancillary activities to waters of the United States (i.e., Columbia River). This training is defined as mandated training in accordance with WHC-CM-2-15.

11.4.2.4.4 Pesticide applicator training

Personnel who use registered pesticides, herbicides, and rodenticides must obtain the Washington State Commercial Operator/Pesticide Applicator Training and subsequent licensing in the pertinent job-related pest control licensing categories in accordance with Revised Code of Washington 17.21.124, and 40 CFR 171. This training is defined as mandated training in accordance with WHC-CM-2-15.

11.4.2.4.5 Manager training

As described by a WHC President's Office memo dated March 16, 1993, all managers must successfully complete one of the following two courses:

- 035050 Environmental Regulations at Hanford (classroom) - one time only; or
- 035040 Environmental Regulations at Hanford (self-study) - one time only

Managers have the option to complete either course. The courses are equivalent to each other in context. This training is defined as directed training in accordance with WHC-CM-2-15.

11.4.2.4.6 Well construction training

Personnel supervising and/or conducting well construction, reconstruction, maintenance or decommissioning activities must obtain a Washington Water Well Construction Operator's License in accordance with the WAC 173-162. This training is defined as mandated training in accordance with WHC-CM-2-15.

11.5 RCRA TRAINING PROGRAM WORKER CATEGORIES

Six general worker categories are defined for compliance with the RCRA training program. The Six worker categories are as follows:

1. All Employee
2. General Worker
3. Advanced General Worker
4. General Manager
5. General Shipper

Environmental Training**6. Waste Designator**

In many cases on the Hanford Facility, duties and responsibilities will overlap between the Advanced General Worker, General Manager, General Shipper and Waste Designator worker categories for Hanford Facility personnel. When overlaps occur, applicable training will be completed pertaining to each category. Visitors will typically receive training based on the duties and responsibilities identified in the All Employee category however, there may be instances that visitors must also receive training based on the duties and responsibilities in the General Worker category. Subcontractors will typically receive training based upon the duties and responsibilities in the General Worker category however, they may be limited to duties and responsibilities relating to the All Employee category. Visitors and subcontractors will never be categorized as Advanced General Workers, General Managers, General Shippers or Waste Designators. Visitors on-site for 7-days or less must complete the appropriate level of training determined by unit/building management according to their job duties and the extent that Hanford Facility personnel escort visitors and subcontractors. Visitors on-site for > 7-days and subcontractors must complete general training before receiving their badge and the appropriate level of training determined by unit/building management according to their job duties and the extent that Hanford Facility personnel escort visitors and subcontractors. In accordance with the Applicability Matrix in the Hanford Facility RCRA Permit for condition II.C.4, visitors and subcontractors will only be subject to the categorization process in the RCRA training program when those visitors and subcontractors will gain access to areas on the Hanford Facility that are not accessible by the public.

The duties corresponding to these categories can be further divided between "generator" and "TSD unit" operations. The RCRA training program must recognize that there are different types of duties and responsibilities in TSD unit operations. In addition, Generator units are generally limited to containers and tank systems. The types of TSD units can include other waste management units such as waste piles, surface impoundments, and landfills. The type of waste management unit will factor into the proper identification of correct training curriculum. A brief overview of the duties and responsibilities associated with each worker category is contained in Table 11.0-1. The following subsections provide a detailed discussion of the six worker categories.

11.5.1 All employee

Hanford Facility personnel included in this category are not categorized into one of the other five worker categories. Visitors and subcontractors included within this category are those personnel not categorized as General Workers (discussed next), and that require access to portions of the Hanford Facility not accessible to the public. All personnel in the All Employees category will not perform duties or responsibilities associated with the management of waste in accumulation/storage containers on the Hanford Facility. All personnel have the responsibility to report spills and releases that they discover in addition to any evacuation or take cover actions in response to specific incidents which may occur.

Most of the Hanford Facility personnel categorized as All Employees will be administrative personnel such as secretaries, clerks and support organizations who tour or provide oversight. Most visitors will be categorized as All Employees since visitors generally tour, provide oversight, or are brought on the Hanford Facility for interviews. Subcontractors who gain

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access to the Hanford Facility to complete work in controlled areas which does not involve the management of dangerous or mixed waste will be categorized as All Employees.

11.5.2 General worker

Hanford Facility personnel or subcontractors with waste management duties and responsibilities limited to the initial generation of dangerous or mixed waste and placing that waste into a pre-approved containers are classified as General Workers. The pre-approved container can include one in a satellite accumulation area, 90-day accumulation area, or TSD storage unit. These personnel could generate dangerous or mixed waste while working on a non-RCRA system (e.g., building maintenance) or on a TSD unit conducting maintenance or modification on critical or non-critical systems. The term "critical system" is defined in the Hanford Facility RCRA Permit. The work may be unsupervised or completed under the supervision of qualified unit/building personnel (e.g., Tank Farms person-in-charge or PIC).

Hanford Facility personnel categorized as General Workers may be assigned duties and responsibilities for: (1) placing waste they generate into pre-approved containers and filling out logsheets where applicable, (2) completing radiological surveys of dangerous or mixed waste, (3) the loading of packaged containers onto trucks or movement of containers, (4) responding to a spill or release of known contents where the duties and responsibilities are limited to containing the spill/release, returning the drum to an upright position, and placing the known spilled material or waste into a pre-approved container, (5) applying advanced container markings or labels based on direction from an Advanced General Worker, General Manager, or General Shipper, and (6) responding to regulatory agency compliance inspectors questions about waste management practices. Personnel who function as General Workers may include, but are not limited to, the following:

- Maintenance personnel
- Health physics technicians
- Subcontractor supervisors of general workers
- Transporters
- Contractor crafts
- Ecology personnel acquiring samples of dangerous or mixed waste

11.5.3 Advanced general worker

Hanford Facility personnel are categorized as Advanced General Workers if their duties and responsibilities concerning dangerous or mixed waste exceed that of General Workers. Examples of these duties and responsibilities for container management can include: inspecting containers, determining advanced container markings and preparing container logsheets, completing waste inventories, sampling of waste, and responding to spills and releases of unknown materials or wastes according to approved procedures.

For RCRA waste management units other than containers, Hanford Facility personnel assigned duties and responsibilities associated with ensuring the compliant operation of that waste management unit will be categorized as Advanced General Workers. When a tank system is the waste management unit of concern, duties and responsibilities may include, but are not limited to: operators who conduct daily inspections on tank systems to ensure they are operating properly and operators who conduct daily inspections on tank system ancillary

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equipment that is not provided with secondary containment. For other types of waste units such as landfills or surface impoundments, operators monitoring leachate collection systems and receiving shipments of waste are two predominant examples. In these cases, the operator must perform an evaluation whether the waste management unit (in most cases a TSD unit) is functioning properly and operating in compliance with WAC 173-303. These personnel typically have the responsibility to act and/or notify operations management when an incident occurs that requires immediate response, such as a leaking or deteriorating container, spill or release, or process upset.

11.5.4 General manager

Various types of managers are included in this category. In addition, Hanford Facility personnel assigned to unit/buildings can be classified as General Managers if they direct General Worker or Advanced General Worker activities. Managers and those who direct General Workers and Advanced General Workers have many similar duties and responsibilities relating to dangerous or mixed waste management and are required to take the same courses.

The following managers are included within this category: (1) Emergency Coordinator and/or alternate(s) (e.g., Building Emergency Directors and some Building Wardens), (2) the Environmental Compliance Officer for the unit/building, and (3) immediate managers of Advanced General Workers (i.e., operations managers).

11.5.5 General shipper

Personnel who sign waste movement documentation for both onsite and offsite shipments of dangerous or mixed waste on roadways are categorized as General Shippers in the RCRA training program. General Shippers may also direct operational activities of General Workers and Advanced General Workers relating to transportation activities. For a discussion pertaining to radioactive material and hazardous material shipments, refer to information contained in Subsection 11.4.2.3. There is no distinction within this category based upon where a dangerous or mixed waste movement will initiate, terminate, or which road the movement will travel along.

11.5.6 Waste Designator

Personnel who perform and/or complete waste designations at unit/buildings are categorized as Waste Designators under the RCRA training program.

11.6 CORRELATING WORKER CATEGORIES TO PROGRAM AREAS**11.6.1 Relevance of duties and responsibilities**

After assigning Hanford Facility personnel, visitors, and subcontractors into a worker category, or in some cases multiple worker categories for Hanford Facility personnel, the training program must ensure those individuals receive training commensurate with their duties and responsibilities. Training provided towards these duties and responsibilities are sometimes general in nature and may be taught in a course for all personnel within a worker category. In other cases, the training is specific to a unit/building or type of waste management unit and does not readily apply elsewhere. Therefore, the RCRA training program is designed to

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address concerns on a general perspective and a unit/building or waste management unit perspective.

11.6.2 Training program area descriptions and courses

The RCRA training program is divided into five program areas. These program areas are described in this Subsection (11.6) and summarized in Table 11-2 as orientation, awareness, advanced, administration, and unit/job specific. Three of these program areas are further divided into general training and unit/building-specific training. The three areas that are subdivided are orientation, awareness, and advanced. The unit/job specific program area is designed to be used in conjunction with the advanced program area to aid in meeting the unit/building-specific training needs.

Within in each program area, training courses are identified. Based upon the duties and responsibilities of the personnel and the worker category(ies) assigned, applicable training courses can be selected for all Hanford Facility personnel, visitors, and subcontractors. Table 11-3 shows the general relationship between worker categories and program areas. For additional information concerning the individual courses pertaining to the target audiences, documents which mandate the training, and retraining frequencies, see Attachment A. All RCRA training program courses are defined as mandated training in accordance with the WHC-CM-2-15 manual except for the training identified in Subsection 11.6.4.

11.6.2.1 Waste Management Orientation.

All Hanford Facility personnel regardless of worker category are required to complete Waste Management Orientation training. Visitors and subcontractors will receive appropriate training in the Waste Management Orientation program area when accessing locations on the Hanford Facility that are not accessible to the public. When visitors and subcontractors are in these locations not accessible to the public, they will receive training based on the locations they will be at and the activities they will undertake (Hanford Facility RCRA Permit, General Condition II.C.4).

The concepts that must be covered in this program area related to those that pertain to the entire Hanford Facility and on a unit/building basis to inform personnel of the hazards in their immediate and surrounding environments. The Hanford Facility wide topics that Hanford Facility personnel and certain subcontractors must receive training on include: (1) Description of the emergency signals and appropriate personnel response, (2) Identification of contacts for information regarding dangerous waste management activities, (3) Introduction to waste minimization concepts, (4) Identification of contact(s) for emergencies involving dangerous waste and (5) Familiarization with the Hanford Facility Contingency Plan (DOE/RL-93-75). Visitors and the balance of remaining subcontractors are not subject to these five Hanford Facility RCRA Permit training requirements. Unit/building topics may include some of these to properly meet the unit/building specific requirements. When this occurs, the unit/building specific orientation (commonly known as facility orientation at many unit/buildings) is used to complete the unit/building specific training in this program area.

When unit/building specific training requirements are met through escorting, the escort must be qualified unit/building personnel. In addition, the escort is responsible for explaining and

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announcing the hazards in their immediate and surrounding environments. The following courses address training concerns within Waste Management Orientation:

NOTE: See Subsection 11.2 for definitions.

Hanford Facility personnel

- 02006A Hanford Site Orientation (HSO)
Refresher: 000001 Hanford General Employee Training (HGET)
- Unit/building-specific orientation (this requirement is waived when non-unit/building personnel are escorted by qualified unit/building personnel)
Refresher: HGET or at the unit/building. HGET can be used when the unit/building orientation course is included and maintained as part of the HGET course.

Visitors

- 000090 Visitor/Vendor Training (video or brochure) if on-site > 7 days. If visitor is on-site 7 days or less, the escort/host is responsible to determine applicable training requirements and ensure visitor successfully completes all applicable training. Self-expiring badges will be issued to visitors on-site 7 days or less.
Refresher: Same course. If badge expires for those on-site > 7 days, training must be repeated on an annual basis.
- Escorted by qualified unit/building personnel (non-RCRA radiological access considerations may require that unit/building specific orientation be taken)
Refresher: none. Escorting required upon each visit.

Subcontractors

- Hanford Site Orientation, Visitor/Vendor Training, or ICF KH subcontractor films.
Refresher: HGET or none; time dependent. When a WHC subcontractor (except ICF KH personnel) is under a short-term contract (i.e., <45-days), the subcontractor will be shown the visitor/vendor training and may be escorted according to unit/building escorting requirements. Subcontractors under a long-term contract (i.e., >45 days), ICF KH, and BCSR personnel will attend Hanford Site Orientation.
- Unit/building-specific orientation or escorted by qualified unit/building personnel
Refresher: HGET if on-site for > 1 year and corresponding unit/building orientation is included as part of HGET. Otherwise, annual unit/building orientation if unescorted.

11.6.2.2 Waste Management Awareness

In addition to the training required within the Waste Management Orientation program area, General Workers, Advanced General Workers, General Managers, and General Shippers must complete Waste Management Awareness program area training. Subcontractors will also require training within this program area when categorized as General Workers. If visitors are categorized as General Workers (Ecology compliance inspector who initiates a sampling effort

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and will not be escorted by qualified unit/building personnel), training is identified in this program area for that circumstance.

The concepts that must be covered in this program area relate to those pertaining to the entire Hanford Facility and on a unit/building basis to inform personnel of the specific waste generation procedures and requirements pertaining to segregation, initial accumulation, and recordkeeping. Hanford Facility wide topics that Hanford Facility personnel and applicable subcontractors must receive training on include: (1) Pertinent waste management issues (e.g., waste categories, initial accumulation container management requirements, and waste segregation practices), (2) proper responses to incidents pertaining to the waste in the initial accumulation/storage containers, (3) proper responses to finding waste of unknown origins, and (4) proper responses to questions posed in the field concerning the above elements. The requirements in this program area are derived from the joint RL/U.S. Army Corps of Engineers response provided to Ecology's March 9, 1994 Administrative Order No. DE 94NM-063. The general training is provided through one course for all applicable Hanford Facility personnel and subcontractors.

Unit/building specific sub-area training also is provided in this program area. This training instructs personnel relating to the unit/building specific aspects that are not discussed in the general. Hanford Facility personnel, visitors and subcontractors receive this training through a course that consists of utilizing a checklist called the Facility Emergency and Hazard Information Checklist (FEHIC). The FEHIC (A-6000-784) is a one page checklist with an instruction sheet available on Jet Forms from the Hanford Local Area Network. When the FEHIC is used to meet the unit/building specific training requirement in the awareness program area, different course numbers may be used for different Hanford Facility locations. When training is accomplished for satellite accumulation areas, course number 03E500 is throughout the Hanford Facility. When training is accomplished for the initial generation of dangerous or mixed waste and placement of that waste in 90-day accumulation area or TSD storage unit containers, the course number associated with the Building Emergency Plan (WHC-IP-0263-xxx) or the unit/specific contingency plan (WHC-IP-0603-xxx) shall be used. Note that escorting can still be used in this program area to avoid unit/building specific training for visitors and subcontractors. The escort must be qualified unit/building personnel. The training courses that are provided for this program include the following:

NOTE: See Subsection 11.2 for definitions.

Hanford Facility personnel

- 02006G Waste Management Awareness
Refresher: none
- 03E500 Unit/building-specific satellite accumulation area contingency actions and hazard communication training. (Appendix J of this manual contains additional information on the WHC contingency planning program).
Refresher: At each unit/building location where waste management practices differ pertaining to satellite accumulation area management.

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OR for 90-day accumulation area/TSD storage unit containers:

- 03Exxx Unit/building-specific contingency plan/hazard communication/emergency preparedness training - XYZ Facility.
Refresher: same course

Visitors (i.e., regulatory compliance inspector obtaining samples)

- 03E500 Unit/building-specific satellite accumulation area contingency actions and hazard communication training if not escorted by qualified unit/building personnel (non-RCRA radiological training may require that unit/building-specific orientation may be taken)
Refresher: at each unique unit/building sampling event

Subcontractors

- 02006G Waste Management Awareness
Refresher: none
- 03E500 Unit/building-specific satellite accumulation area contingency actions and hazard communication training if not escorted by qualified unit/building personnel (non-RCRA radiological training may require that unit/building-specific orientation may be taken)

Refresher: At each unit/building location where waste management practices differ pertaining to satellite accumulation area management.

OR for 90-day accumulation area/TSD storage unit containers:

- 03Exxx Unit/building-specific contingency plan/hazard communication/emergency preparedness training - XYZ Facility.
Refresher: same course

11.6.2.3 Waste Management Advanced

Training within the Waste Management Advanced program area must be completed by personnel assigned duties and responsibilities pertaining to Advanced General Workers and General Managers. These courses placed within this program area based upon Environmental Services interpretation of RCRA training program requirements found in WAC 173-303-330. Additional information pertaining to the regulatory requirement for each course can be found in Attachment A.

The general training courses do not apply to all personnel within the Waste Management Advanced program area. Core waste management training is required only for containerized waste management for Advanced General Workers, their immediate managers, and personnel that can direct General Workers and Advanced General Workers. All Waste Management Advanced program area training for RCRA waste management units other than containers must be provided in unit/building-specific training. WHC does not provide general training on management of dangerous and mixed waste in any other waste management units such as tank

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system, surface impoundments, or landfills. General Managers who function as the RCRA Emergency Coordinator must complete either Building Emergency Director or Building Warden training (See Appendix J).

Unit/building-specific sub-area training is accomplished in many ways. At a minimum, training using the FEHIC or equivalent must be provided. The FEHIC is also discussed in the Waste Management Awareness program area for lesser duties and responsibilities. In this program area, a unique "03Exxx" must always be used to differentiate training between unit/buildings on the Hanford Facility. To supplement the FEHIC, training may be based on the Unit/Job Specific program area (discussed in Subsection 11.6.2.5), or may be a combination of other unit/building specific tools discussed in Subsection 11.8. The Unit/Job Specific program area relates to implementing requirements associated with operator and supervisor/manager "certification packages" in accordance with DOE 5480.20A or HAMTAC contracts. Some unit/buildings are not subject to this DOE order (as implemented through WHC-CM-2-15, *Training Administration Manual*), and hence the need for the additional tools in Subsection 11.8. Courses in this program area include the following:

Advanced General Workers and two types of General Managers (i.e. operations managers and personnel that direct General Workers and Advanced General Workers)

- 035100 Core Waste Management training (container management only)
Refresher: 035110 Core Waste Management Refresher
- 03Exxx Unit/building-specific contingency plan/hazard communication/emergency preparedness training - XYZ Facility.
Refresher: same course
- See the Unit/Job Specific program area in Subsections 11.6.2.5 and 11.8.

General Managers (i.e. Environmental Compliance Officers)

- 03Exxx Unit/building-specific contingency plan/hazard communication/emergency preparedness training - XYZ Facility.
Refresher: same course

General Managers (i.e., RCRA Emergency coordinators)

- 02028B Building Emergency Director or 037500 Building Warden Training (See Appendix J to this manual to distinguish applicability)
Refresher: 037510 Building Emergency Director/Building Warden refresher
- 03Exxx Unit/building-specific contingency plan/hazard communication/emergency preparedness training - XYZ Facility.
Refresher: same course

11.6.2.4 Waste Management Administration

Training within the Waste Management Administration program area pertains to General Shippers and Waste Designators. This program area covers administrative aspects such as

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document preparation for plans and procedures relating to environmental reporting, waste minimization, waste management and waste designation. It also covers sampling and analysis considerations to aid in the development of sampling and analysis plans and waste analysis plans. Courses in this program area include the following:

General Shippers

- 035120 Waste Management Administration
Refresher: 035130 Waste Management Administration Refresher
- 035010 Waste Designation
Refresher: same course
- 035020 Facility Waste Sampling and Analysis
Refresher: none
- 020159 Advanced Course 2 - Hazardous Waste Shipper Certification (Note: other non-RCRA training program courses exist as prerequisites. See Subsection 11.4.2.3)
Refresher: same course

Waste Designators

- 035010 Waste Designation
Refresher: same course
- 035012 Waste Designation Qualification
Refresher: same course

11.6.2.5 Unit/Job specific

To ensure that certain Hanford Facility personnel receive appropriate training in certain operations, operators and operations supervisors/managers must complete specific courses in preparation for work assignments. Certifications for job-specific work assignments have been developed in accordance with DOE 5480.20A and HAMTAC contract requirements. The training in this program area is designed to provide additional information to ensure the safe and efficient operation and maintenance of unit processes, and does not apply to all unit/buildings on the Hanford Facility. Additionally, the training provides more detailed information for the response to emergencies and offnormal events that could occur.

Certification is required for personnel working in selected job positions (e.g., operations managers and nuclear operators). To become certified, personnel must successfully complete classroom training, self-study, and on-the-job training as applicable. Classroom instruction and/or self-study is designed to provide personnel with the knowledge required to work compliantly and safely.

The on-the-job training requires affected Hanford Facility personnel to gain experience with the operating procedures. All work involving hazardous materials and dangerous waste management under this program area and DOE 5480.20A or HAMTAC contract requirements is performed according to approved operating procedures or equivalent documentation.

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Therefore, an understanding of procedures is crucial to ensure the proper and safe operation of a unit/building subject to this DOE order or the HAMTAC contract. Personnel learn the procedures by performing, simulating, and/or describing a particular task as specified by the appropriate operating procedure. Personnel demonstrating the required knowledge and skills are observed by certified personnel. An operational examination as well as a written examination must be successfully completed to attain certification or qualification, as applicable. Certification follows satisfactory completion of the operational examination. Courses identified under this program area include a certification program for operators and certification programs for managers in accordance with WHC-CM-2-15.

Not all certification programs will be included in the RCRA training program. Certification programs can be developed for non-RCRA based operations. Certification programs that will be included within the RCRA training program are those that are based on RCRA waste management practices (e.g., inspection of a tank system). To determine if the certification program should be included within the RCRA program, the operations of the unit/building must be looked at in relation to dangerous waste management considerations regulated by WAC 173-303. The courses in this program area are:

- HAMTAC contract specified Operator Certification packages
Refresher: same material/course
- DOE 5480.20A Operator Certification packages
Refresher: same material/course
- DOE 5480.20A Manager Certification program
Refresher: same material/course.

11.6.3 Emergency response training

Federal and state regulations require that personnel be able to respond effectively to emergencies. In accordance with WAC 173-303-330(1)(d), certain personnel are trained on emergency equipment, emergency systems, and emergency procedures at 90-day accumulation areas, 90-day tank systems and all TSD units. In accordance with the non-RCRA training requirements in 29 CFR 1910.120(q), there are four classifications of workers. The four classifications are: (1) first responder awareness level, (2) first responder operations level, (3) hazardous material technician, and (4) on-scene incident commander. The on-scene incident commander on the Hanford Facility is the Hanford Fire Department (HFD). For minor spills or releases as discussed in the Hanford Facility Contingency Plan (DOE\RL-93-75) or for incidental releases as defined under 29 CFR 1910.120, the HFD delegates response activities when the spill or release does not warrant HFD involvement. These types of responses are conducted under delegated authority from the HFD within unit/building procedures and documents and are not within the scope of emergency responder training in DOE\RL-93-75 or 29 CFR 1910.120. Contact the WHC interpretive authority for more information on the non-RCRA training requirements in 29 CFR 1910.120. These requirements are only discussed here for completeness.

The RCRA training program allows for unit/building management to evaluate the elements of WAC 173-303-330(1)(d) to the specific type of RCRA waste management units being managed. Training elements for a given unit/building specific training program will depend

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on the type of unit. For example, one of the WAC 173-303-330(1)(d) elements concerns the "key parameters for automatic waste feed cut off". This provision is not applicable to TSD unit operations concerning container storage since there is no waste feed to cut off, just containers being stored. The following table identifies the elements of WAC 173-303-330(1)(d).

Elements of WAC 173-303-330(1)(d).

Procedures for using, inspecting, repairing, and replacing, emergency and monitoring equipment
Key parameters for automatic waste feed cut-off systems
Communications or alarm systems
Response to fires or explosions
Response to groundwater contamination incidents
Shutdown of operations

11.6.4 Miscellaneous RCRA training

This Subsection (11.6.4) contains RCRA training requirements that are not found within any of the unit/building training plans on the Hanford Facility. Unless unit/building management determines otherwise, the training below is not associated with the safe management of dangerous or mixed waste at a specific unit/building on the Hanford Facility. All of the training in this subsection is directed training as defined by WHC-CM-2-15.

- a. Solid Waste Disposal personnel who provide waste designation services for WHC.
 - 035010 Waste Designation - one-time only
 - 035012 Waste Designation Qualification - annually.
- b. Environmental Services personnel who prepare RCRA Part A Permit Applications, RCRA Part B Permit Applications, RCRA Closure Plans, and other environmental permits relating to waste management, identification, or designation.
 - 035010 Waste Designation -- annually.
- c. Personnel who acquire waste or effluent samples as part of an organization which may perform sampling at many different unit/buildings on the Hanford Facility (i.e., site-wide sampling groups).
 - 02006G Waste Management Awareness - one-time only
 - 03E500 Unit/Building-specific satellite accumulation area contingency actions/hazard communication training - at each unit/building
 - 035020 Facility Waste Sampling and Analysis - one-time only.

11.7 TRAINING EQUIVALENCY

This Subsection (11.7) provides guidance on how personnel can approach training equivalency in the RCRA training program. Training equivalency includes two different types: (1) Individual equivalency and (2) Course-by-course equivalency. Equivalency provisions are important to reduce the amount of redundant, duplicative, or repeated training personnel must successfully complete to perform the duties and responsibilities of a job or function. In addition to identifying the procedure required to establish the two types of equivalency, this subsection also identifies the RCRA training program areas where course-by-course equivalencies requests are expected to be generated.

11.7.1 Individual equivalency

Hanford Facility personnel or subcontractors with enough work related experience may wish to pursue equivalency training for their position in order to avoid having to complete certain RCRA program courses. The procedure to accomplish this is outlined in the WHC-CM-2-15 manual Section 9.1, Training Exceptions and Extensions. The end result of following this procedure will be that the specific initial training course appears on the person's electronic data storage training record (Soft Reporting printout or TMX).

For the purposes of the RCRA training program, the following discussion pertains to the language in WHC-CM-2-15 Section 9.1. The "Responsible training manager" who approves the exception for the individual will be the manager of Environmental Policy (Level III organization). The completed Training Exception Request Form (A-6000-982) shall be submitted to the manager of Environmental Policy. Note that this procedure only applies to initial training courses, and not refresher courses.

11.7.2 Course-by-course equivalency

Course-by-course equivalency is described in the context of two types of equivalency needs. The first relates to the evaluation of an offsite course as being equivalent to a RCRA program course. The second relates to a unit/building specific course that includes the required elements of a RCRA program course in the Waste Management Awareness, Advanced, or Administration program areas.

11.7.2.1 Offsite vs. RCRA program course

When the equivalency pertains to the comparison of an offsite course to a RCRA program course, a DSI must be submitted to the manager of Environmental Policy (Level III organization). The DSI must identify the person to which the equivalency applies and the specific RCRA training program course for which equivalency is sought. Attachments to the DSI must include the offsite training course objectives and a certificate or other successful course completion documentation. Environmental Policy will respond by sending the requestor a completed Training Completion Roster approving the equivalency or a DSI denying the request. The completed Training Completion Roster can then be submitted to Training Services for entry into the Training Records Information System (and subsequent downloading to the Soft Reporting system). As a general rule, most offsite training will not be equivalent to RCRA program courses due to the lack of information pertaining to how regulations apply at the Hanford Facility in the offsite course curriculum.

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There will be instances where unit/building management will elect to incorporate course objectives and lesson plan material from a RCRA program course into their unit/building specific program course. Unit/building management may then wish to pursue an equivalency determination so that their personnel will receive all of the necessary training at the unit/building in lieu of a general training course. In this case, a DSI must be submitted to the manager of Environmental Policy (Level III organization). The DSI must identify the unit/building specific program course in which the equivalency applies and the specific RCRA training program course for which equivalency is sought. Attachments to the DSI must include the objectives and lesson plan for the unit/building specific course. Environmental Policy will respond with a DSI either approving or rejecting the equivalency request. When the request is approved, the training activity sheet for the unit/building specific course can be modified by unit/building management. The modification will add the RCRA program course number so that the electronic data storage record created on the Training Records Information System will give credit for both courses when the unit/building specific course is successfully completed.

11.7.3 Expected RCRA program area equivalency requests

Based on the procedures outlined in Subsection 11.7.2, Environmental Services is offering guidance pertaining to the program areas where we believe that equivalency determinations will be requested. Equivalency requests are not limited to this information.

Waste Management Orientation program area**Unit/Building Specific orientation (commonly known as "Facility Orientation") -**

Unit/building management decides whether to maintain a unit/building orientation course at a unit/building. When unit/building management elects not to develop and maintain a unit/building-specific orientation course, General Workers must always be escorted by qualified unit/building personnel whose responsibility is to provide appropriate instructions. In order to manage dangerous or mixed waste in a TSD unit, 90-day accumulation area, or 90-day tank system, either a unit/building orientation course must be maintained, or an equivalency determination must be made regarding the access controls at the unit/building and information concerning the chemical hazards and response to incidents in the surrounding environment. Course number 03E500, the unit/building specific sub-area of the Waste Management Awareness program area, can be a vehicle to document the Waste Management Orientation program area training considerations at a unit/building where unit/building specific orientation is not provided or maintained.

Waste Management Awareness program area

02006G Waste Management Awareness - Many Hanford Facility personnel and subcontractors categorized as General Workers on the Hanford Facility perform duties and responsibilities that require them to access many different unit/buildings to conduct maintenance or construction jobs. Because of this roaming nature, equivalent training can be provided to General Workers during completion of access related training courses. The most obvious access training courses are the initial non-RCRA OSHA training for Hazardous Waste Operations to meet the 24 or 40 hour training requirements (see Subsection 11.4.2.2). All

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HAMMER training developed to meet 29 CFR 1910.120 standards for HAZWOPER does not contain any waste management information and is not equivalent to the 02006G training course. Other training forums such as unit/building specific orientation training concerning access can provide equivalent information for this course.

03E500 Unit/building Specific satellite accumulation area contingency actions/hazard communication training - All Hanford Facility personnel, many subcontractors, and some visitors, which are categorized as General Workers will require successful completion of this checklist training course if not escorted by qualified unit/building personnel. Unit/building management may pursue equivalency to this checklist training course through use of the unit/building orientation course in the Waste Management Orientation program level. When this equivalency is established, General Workers will be given credit for 03E500 when they successfully complete unit/building orientation.

Waste Management Advanced program area

035100 Core Waste Management - Advanced General Workers, and certain General Managers (i.e., their immediate managers, and PIC's) who manage dangerous or mixed waste in containers are the target audience for this course. When personnel at a unit/building are also subject to the unit/job specific program area (DOE 5480.20A: Operator and supervisor/manager certification packages), equivalency can be pursued. An equivalency determination can be made on the operator or supervisor/manager certification package towards the course objectives in Core Waste Management. An equivalency determination is only applicable when dangerous or mixed waste is being managed in containers.

Waste Management Administration program area

None immediately identified.

11.8 DEVELOPING A UNIT/BUILDING SPECIFIC TRAINING PROGRAM

As discussed in previous subsections, the RCRA training program areas consist of courses developed on a general training basis and on a unit/building specific basis. This subsection identifies the necessary steps that unit/building management must take to ensure that a unit/building specific training program is developed and maintained in compliance with WAC 173-303. The unit/building specific program must address the considerations contained in the orientation, awareness, and advanced program areas discussed in previous subsections. If a unit/building specific training program is designed to meet the considerations in these three program areas, the unit/building specific training program will be in compliance with the RCRA training program.

11.8.1 Annual refresher training

In the RCRA training program, annual refresher training must be provided to personnel in order to meet the requirements of WAC 173-303-330(1)(b) identified in Subsection 11.4.1.1. In addition, compliance with this regulation is achieved when annual refresher training is provided to personnel without a grace period on a calendar basis (i.e., April 12, 1994 to April 12, 1995). To implement the annual refresher training requirement into the courses offered in the RCRA training program, Environmental Services has indicated which of the

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RCRA training program general courses require annual refresher training through the course descriptions in Attachment A to this section. In the unit/building specific program, annual refresher training must be provided by unit/building management or a qualified delegate.

11.8.2 Unit/building specific program tools

Many different combinations of unit/building specific training programs exist on the Hanford Facility. The following training forums provide the tools that unit/building management can utilize in tailoring their program to properly address WAC 173-303 requirements.

- 03E500 Unit/Building-specific satellite accumulation area contingency actions/hazard communication training
- 03Exxx* Unit/Building-specific contingency plan/hazard communication/emergency preparedness training XYZ Facility
- xxxxx* Unit/building Orientation
- xxxxx* HAMTAC contract Operator Certification Packages
- xxxxx* DOE 5480.20A Operator Certification Packages
- xxxxx* DOE 5480.20A Manager Certification Packages
- xxxxx* XYZ Facility Emergency Procedure/Abnormal Plant conditions operators
- N/A XYZ Facility Procedure reviews
- N/A Pre Job-safety meetings
- N/A Project kick-off meetings

* = Unique number at each unit/building

N/A = Not applicable. Therefore, a RCRA training record in accordance with WAC 173-303-330(3) will not be generated when these activities are conducted provided that the elements are described in the RCRA training plan as part of the training program at the unit/building.

11.8.3 Processing a RCRA training record

All RCRA training program courses with a course number assigned must have an associated electronic data storage record generated in addition to the hard copy training record. The electronic data storage training record is generated in the Training Records Information system and downloaded to the Soft Reporting System regardless if the unit/building has a separate tracking system established for training.

In order for Training Services to accept the completed hard copy training records (e.g., course roster, examinations, etc.), a training activity sheet must be completed. Refer to WHC-CM-2-15 and/or contact Training Services for additional information concerning these

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proceedings. Once these initial documentation requirements have been met, unit/building management can send the hard copy training records to Training Services for processing.

11.9 DESIGNATED REVIEWING ORGANIZATIONS

Organizations listed below are responsible for this process. If you have any questions about this procedure, please contact the process owner.

<u>Designated Reviewing Organizations</u>	<u>CMPOC</u>
Environmental Services (process owner)	PSO/ES
Analytical Services	PSS/AS
Liquid Effluents Systems	PSS/LES
Transportation and Packaging	PSS/T&P
Safeguards and Security	PSS/SAS
Solid Waste Disposal	PSS/SWD
Radiological Control	ESQ/RC
Safety	ESQ/SFT
B Plant	TRP/BP
PUREX Plant	TRP/PRX
Training Services	TRP/TRS
Tank Waste Remediation System	TWR

11.10 REFERENCES

NOTE: For additional references, see Appendix B of this manual.

WHC-CM-2-14, *Hazardous Material Packaging and Shipping*.

WHC-CM-2-15, *Training Administration Manual*.

WHC-CM-4-3, *Industrial Safety Manual*, Volume 4. (WHC-CM-1-11)

HWO-1, "Hazardous Waste Operations"

HWO-2, "Hazardous Waste Operations at RCRA-TSD Facilities"

HWO-3, "Hazardous Waste Operations Emergency Response"

WHC-CM-4-40, *Industrial Hygiene Manual*. (WHC-CM-1-10)

2.1, "Hazard Communication Program"

2.2, "Carcinogens"

2.3, "Asbestos"

WHC-EP-0496, *Westinghouse Hanford Company Waste Minimization and Pollution Prevention Awareness Program Plan*.

HSRCM-1, Hanford Site Radiological Control Manual

Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.C.. Personnel Training

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Table 11.0-1 Worker Categories.

Worker Categories	Generator Job Duties	TSD Unit Specific Job Duties
All Employee	Is not categorized as a General Worker, Advanced General Worker, General Manager, or General Shipper. Will not manage waste in accumulation containers on the Hanford Facility. Responsible to report spills and releases that they discover. Must respond to specific incidents which may occur.	Duties are the same as for generator job duties.
General Worker	Generates dangerous waste and places waste into appropriate containers. Waste management activities can be overseen by qualified unit/building personnel.	TSD unit-specific duties might include repair, replacement, calibration, modification, or any other similar activity at the TSD unit. Work performed is either supervised by qualified unit/building personnel or is adequately addressed through organized pre-job briefing before commencing work.
Advanced General Worker	Duties exceed those of General Workers for container management. Inspects, determines markings and labels, completes inventories, and samples containers of dangerous waste. Responds to spills and releases according to approved procedures. Performs daily inspections or surveillances, or otherwise operates the tank system or containment building.	TSD unit-specific duties include the control, operation, sampling, transfer, or recording of dangerous waste within containers, tanks, or RCRA waste management unit. Includes offnormal operational responses to maintain TSD unit within operational parameters. Implements emergency procedures and responds to spills according to approved procedures.
General Manager	Environmental Compliance Officer, someone who can act as the RCRA Emergency Coordinator, or directs General Workers or Advanced General Workers in dangerous waste management activities. Responsible for the accountability and directing of employees during dangerous waste emergency events.	Duties are the same as for generator job duties.
General Shipper	Signs paperwork relating to the movement of dangerous waste containers on roadways in compliance with applicable requirements. Directs General and Advanced General workers in transportation activities.	Duties are the same as for generator job duties.
Waste Designator	Performs or completes waste designations.	Duties are the same as for generator job duties.

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Table 11.0-2 Program Area Descriptions.

Program	Descriptions
Waste Management Orientation	Training in this program sub-area involves emergency responses, identifying contacts for personnel to obtain dangerous waste management information, and waste minimization concepts. Training also includes familiarization of the Hanford Facility Contingency Plan (DOE/RL-93-75).
Unit/Bldg Orientation	This program sub-area provides unit/building specific information on the hazards in the immediate and surrounding work environments. This training will ensure personnel are informed about potential emergency at a unit/building to which access is desired.
Waste Management Awareness	The sub-area in this program addresses the generation of waste, segregating the waste, and placing the waste into pre-approved containers. The training provides a discussion on what the initial accumulation container is titled and the management requirements that pertain, proper responses to incidents pertaining to the initial accumulation containers, proper responses to dealing with waste of unknown origins, and proper responses to questions posed by a regulatory agency inspector concerning these elements. General safe practices for handling and storing dangerous waste/materials are addressed.
Unit/Bldg Awareness	This program sub-area encompasses the job-specific or building-specific requirements that supplement the information provided in waste management awareness general sub-area. The training provides personnel at each unique unit/building with proper waste handling and emergency procedures relevant to their responsibilities during normal operations and emergencies.
Waste Management Advanced	The training within this sub-area is for unit/building personnel who must ensure that the waste management unit is operating in accordance with approved procedures and applicable regulations. General advanced training is provided only for container management. Training for other RCRA units such as tank systems, surface impoundments, landfills, etc., must be covered through the unit/building specific portion of the advanced program.
Unit/Bldg Advanced	This sub-area provides specific information required to operate, control, and manage processes and dangerous waste management operations. For container management, the unit/building specific program supplements the information provided in the general training within this program area. Considerations for this program involve container management as well as all advanced program area training for other RCRA units such as tank systems, surface impoundments, landfills, etc. This program can be met or partially met by the unit/job specific program area if operator and supervisor/manager certification programs must be administered.
Waste Management Administration	This program area covers administrative aspects such as document preparation for plans and procedures relating to environmental reporting, waste minimization, and waste management. It also covers sampling and analysis considerations to aid in the development of sampling and analysis plans and waste analysis plans and waste designations.
Unit/Job Specific	Training within this program area constitutes one of the tools used in developing a compliant unit/building specific training program and is based on compliance with DOE 5480.20A. It is designed to provide additional information to ensure the safe and efficient operation and maintenance of unit processes, and does not apply to all unit/buildings on the Hanford Facility. Additionally, the training provides more detailed information for the response to emergencies and offnormal events that could occur. Not all training within this program will be RCRA related. Some operator or supervisor/manager certification programs are not based on dangerous waste management.

NOTE: Double line indicates split in program areas

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Table 11.0-3 Relationship Between Worker Categories and Program Areas.

WORKER CATEGORIES	Waste Mgmt. Orientation	Waste Mgmt Orientation Unit/Bldg. Specifics	Waste Mgmt. Awareness	Waste Mgmt. Awareness Unit/Bldg. Specifics	Wst. Mgmt. Advanced	Waste Mgmt. Advanced Unit/Bldg. Specifics	Wst. Mgmt. Admin.	TSD Unit Job/Facility Specifics
All Employee	X	X ¹						
General Worker	X ²	X ^{1,2}	X ²	X ²				
Advanced General Worker	X	X	X	X	X	X		X ³
General Manager	X	X	X	X	X	X		X ³
General Shipper	X	X	X	X			X	
Waste Designator	X	X					X	

X = Applicable

1 = As applicable

2 = Names not included in unit/building training plan, although, training documentation can be provided upon request.

3 = As applicable based on applicability of DOE 5480.20A and HAMTAC contract to unit/building.

Shaded Area = Each employees duties and responsibilities will be identified by job title within a unit/building training plan.

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Table 11.0-4 Individual Course Applicability.

To determine the title to each course, see Attachment A to this section.

COURSES	ALL EMPLOYEE	GENERAL WORKER	ADVANCED GENERAL WORKER	GENERAL MANAGER	GENERAL SHIPPER	WASTE DESIGNATOR
02006A/000001	✓	✓	✓	✓	✓	✓
02006G		✓	✓	✓		
035100/035110			✓	✓		
02028B/037510				✓*		
037500/037510				✓*		
035120/035130					✓	
035010					✓	✓
035012						✓
035020					✓	
020159					✓	
03E500		✓				
03Exxx			✓	✓	✓	

* See worker category description and Attachment A for course applicability

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Table 11.0-5 Section 11.0 Bases/Drivers.

REGULATORY DRIVERS		OTHER DRIVERS	WHC-CM-7-5 IMPLEMENTING SUBSECTION	COMMENTS
FEDERAL	STATE/LOCAL			
N/A	WAC 173-303-330 (1)	WHC-CM-2-15	11.4.1.1	Training Program
N/A	WAC 173-303-330 (2)	Hanford Facility RCRA Permit, General Condition II.C	11.4.1.2	Training Plan
N/A	WAC 173-303-200, -400, -600, RE: WAC 173-303-330	N/A	11.4.1.3	Hierarchy of training plans
N/A	WAC 173-303-330 (3)	N/A	11.4.1.4	Training records disposition
10 CFR 835	N/A	HSRCM-1	11.4.2.1	Non-RCRA training access
40 CFR 300.150, 29 CFR 1910.120, 29 CFR 1910.1200	N/A	WHC-CM-4-40, WHC-CM-4-3, Vol. 4	11.4.2.2	Occupational Safety and Health
49 CFR 172 Subpart H, 173.1 (b)	N/A	WHC-CM-2-14	11.4.2.3	U.S.Department of Transportation
40 CFR 125	N/A	N/A	11.4.2.4.3	NPDES Environmental Training
40 CFR 171	RCW 17.21.124	WHC-CM-4-40	11.4.2.4.4	Pesticide applicator training

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**APPENDIX A
RCRA TRAINING PROGRAM COURSE DESCRIPTIONS**

The following list of courses constitutes the RCRA training program courses as determined by (1) the Dangerous Waste Regulations WAC 173-303, (2) the Hanford Facility RCRA Permit, and (3) correspondence between RL and Ecology on dangerous waste training. The course descriptions within this attachment are to be used and placed within unit/building specific training plans.

General Training Courses

000001	Hanford General Employee Training
000090	Visitor/Vendor Training (video or brochure)
02006A	Hanford Site Orientation
02006G	Waste Management Awareness
020159	Advanced Course 2 - Hazardous Waste Shipper Certification
02028B	Building Emergency Director Training
035010	Waste Designation
035012	Waste Designation Qualification
035020	Facility Waste Sampling and Analysis
035100	Core Waste Management Training - Initial
035110	Core Waste Management Training - Requalification
035120	Waste Management Administration - Initial
035130	Waste Management Administration - Requalification
037500	Building Warden Training
037510	Building Emergency Director/Building Warden Requalification

Unit/Building Specific Courses

03Exxx*	Unit/Building-specific contingency plan/hazard communication/emergency preparedness training XYZ Facility
03E500	Unit/Building-specific satellite accumulation area contingency actions/hazard communication training

Others (see Subsection 11.8.2)

xxxxx*	Unit/building Orientation
xxxxx*	HAMTAC contract Operator Certification Packages
xxxxx*	DOE 5480.20A Operator Certification Packages
xxxxx*	DOE 5480.20A Manager Certification Packages
xxxxx*	XYZ Facility Emergency Procedure/Abnormal Plant conditions operators

* = Unique number at each unit/building

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GENERAL TRAINING COURSES

Title	000001 Hanford General Employee Training
Description	Course covers DOE orders and applicable policies pertaining to employer and employee rights and responsibilities, general radiation training, hazard communications, dangerous waste, fire prevention, personal protective equipment, safety requirements, certain unit/building orientation refresher training, emergency preparedness, accident reporting, and avenues for addressing safety concerns. The RCRA training program identifies this course as a program element as an annual refresher to the Hanford Facility RCRA permit condition concerning training.
Mandating Document(s)	Hanford Facility RCRA Permit, General Condition II.C
Target Audience	All Hanford Facility personnel. WHC subcontractors (ICF KH, BCSR, and all of their subcontractors) working on the Hanford Facility more than one-year.
Delivery	Computer-based training with interactive video
Evaluation	Computer generated questions
Length	Average = 2 to 4 hours
Frequency	Annual

Title	000090 Visitor/Vendor Training (video or brochure)
Description	Course is designed to acquaint and familiarize visitors and subcontractors with safety, security, and emergency preparedness requirements and their responsibilities to notify Hanford Facility personnel when situations arise. In addition, this orientation identifies the need to obey signs and labels that may be encountered regarding radiological areas, hazardous materials, and dangerous wastes.
Mandating Document(s)	Hanford Facility RCRA Permit, General Condition II.C.4
Target Audience	Visitors on-site >7 days, including regulatory agency personnel. WHC subcontractors (except ICF KH) working on the Hanford Facility <45-days.
Delivery	Video tape
Evaluation	Not applicable
Length	9 minutes
Frequency	Annual

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Title	02006A Hanford Site Orientation
Description	Course covers DOE orders and applicable policies pertaining to employer and employee rights and responsibilities, general radiation training, hazardous waste, fire prevention, personal protective equipment, safety requirements, accident reporting, and avenues for addressing safety concerns. The RCRA training program identifies this course as a program element due to the Hanford Facility RCRA permit condition concerning training.
Mandating Document(s)	Hanford Facility RCRA Permit, General Condition II.C
Target Audience	All Hanford Facility personnel. All ICF KH personnel, BCSR personnel, and all other WHC subcontractors working on the Hanford Facility for >45-days.
Delivery	Computer based training with interactive video
Evaluation	Computer generated questions
Length	3 hours
Frequency	Initial only (Retrained annually by 000001 HGET)

Environmental Training

Title	02006G Waste Management Awareness
Description	Course introduces workers to federal laws governing chemical safety in the work place. The course provides the hazardous material/waste worker with the basic fundamentals for safe use of hazardous materials and initial accumulation or storage of dangerous or mixed waste in containers. The concepts covered in this course instruct personnel on specific waste generation procedures and requirements which includes: (1) Pertinent waste management issues (e.g., waste categories, initial accumulation container management requirements, and waste segregation practices), (2) proper responses to incidents pertaining to the waste in the initial accumulation containers, (3) proper responses to dealing with waste of unknown origins, and (4) proper responses to questions posed in the field concerning the above elements.
Mandating Document(s)	<p>Satellite accumulation areas: Letter: RL/US Army Corps of Engineers to Ecology "State of Washington Department of Ecology Administrative Order No. DE 94NM-063" dated April 14, 1994, items 3 and 4. Hanford Facility RCRA Permit, General Condition II.C.4</p> <p>90-day accumulation areas: WAC 173-303-330(1) Letter: RL/US Army Corps of Engineers to Ecology "State of Washington Department of Ecology Administrative Order No. DE 94NM-063" dated April 14., 1994, items 3 and 4. Hanford Facility RCRA Permit, General Condition II.C.4</p> <p>TSD unit storage containers: WAC 173-303-330(1) Letter: RL/US Army Corps of Engineers to Ecology "State of Washington Department of Ecology Administrative Order No. DE 94NM-063" dated April 14., 1994, items 3 and 4. Hanford Facility RCRA Permit, General Conditions II.C.1 and II.C.4</p>
Target Audience	Hanford Facility personnel categorized as a General Worker, Advanced General Worker, General Manager, and General Shipper. Subcontractors categorized as General Workers. Other courses may provide equivalent training so that credit for this course is provided when the electronic data storage training record is generated.
Delivery	Classroom
Evaluation	Written examination - 80% passing grade
Length	4 hours
Frequency	one-time-only
	<p>Justification: The initial accumulation of waste can be conducted under satellite accumulation area provisions in WAC 173-303-200(2), during a project where the 90-day accumulation period starts when the waste is first placed into a container, inside an Area of Contamination during CERCLA or RCRA past practice activities, or in a TSD unit storage container. Annual refresher training is not required because unit/building specifics are adequately covered through the 03E500 course, 03Exxx course, 035110 course, or equivalent.</p>

Environmental Training

Title	020159 Advanced Course 2 - Hazardous Waste Shipper Certification
Description	Course introduces General Shippers to identify shippers' responsibilities and liabilities with regard to compliance to manifesting requirements and DOT regulations, including placarding, identifying proper shipping names, and loading requirements.
Mandating Document(s)	WAC 173-303-330(1), -180, -190, and -370. Hanford Facility RCRA Permit, General Condition II.Q as applicable
Target Audience	General Shippers of dangerous or mixed waste on roadways anywhere on the Hanford Facility.
Delivery	Classroom
Evaluation	Written examination - 80% passing grade
Length	3 days
Frequency	Every other year (See WHC-CM-2-14 Part VIII for the DOT courses that are prerequisites for this course)

Title	02028B Building Emergency Director Training
Description	Course provides an overview of the responsibilities of the Building Emergency Director, identifies the building emergency organizations, actions required during an event, implementing the contingency plan, and discusses drill and exercise requirements. See Appendix J of this manual.
Mandating Document(s)	WAC 173-303-330(1), -340, -350, and -360
Target Audience	Hanford Facility personnel categorized as a General Managers because they perform the responsibilities of a RCRA Emergency Coordinator through the WHC title of Building Emergency Director or alternate. The BED can function over TSD units or generator activities.
Delivery	At the BED office
Evaluation	Performance Evaluation
Length	2 hours
Frequency	Initial (Retrained annually by 037510 Building Emergency Director/Warden Requalification)

Title	035010 Waste Designation
Description	Course teaches dangerous waste designation according to WAC 173-303. Class content includes section-by-section lecture on the regulations, with examples following each section. Students complete examples using a waste designation flow chart. Examples addressed include: listed waste, characteristic waste, and Washington State criteria: toxicity and persistence.
Mandating Document(s)	WAC 173-303-330(1), -070, and -080 through -100
Target Audience	General Shippers and Waste Designators
Delivery	Classroom
Evaluation	Written Exam - 80% passing grade
Length	8 Hours
Frequency	Annual

Environmental Training

Title	035012 Waste Designation Qualification
Description	Course provides qualification to become a waste designator within WHC, ICFKH or BCSR.
Mandating Document(s)	WAC 173-303-330(1), -070, and -080 through -100
Target Audience	Waste Designators
Delivery	Classroom
Evaluation	Written Exam - 80% passing grade
Length	As needed
Frequency	Annual

Title	035020 Facility Waste Sampling and Analysis
Description	Course presents waste sampling methodologies according to EPA Protocols SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods. This course also covers documentation requirements in a sampling plan, waste analysis plan, field and laboratory quality control/assurance, data quality objectives process, and use of actual sampling equipment as specified by WAC 173-303-110. Finally topics on listed waste management pertaining to sample management and available on-site sampling services are covered.
Mandating Document(s)	WAC 173-303-330(1), -070, -110, and -300
Target Audience	General Shippers
Delivery	Classroom presentation, exercises, demonstration and discussion
Evaluation	Written Examination - 80% passing grade
Length	12 hours
Frequency	One time only Justification: In most cases on the Hanford Facility, the General Shipper will utilize resources from outside organizations to physically acquire samples. In addition, the General Shipper will also rely on the review and approval process for the development and issuance of Sampling and Analysis Plans regarding a sampling effort. This training provides an overview of information to ensure that sampling efforts are properly arranged for and planned.

Environmental Training

Title	035100 Core Waste Management - Initial
Description	<p>Course covers general training requirements pertaining to waste management in container at 90-day accumulation areas and TSD units. The course incorporates WAC 173-303-200(1), -630, DOE orders, and WHC policy for container management. Includes practical exercises for hands-on experience with the packaging of dangerous or mixed waste, and preparation of packages for final destination.</p> <p>This course <u>does not cover</u> waste management aspects pertaining to other RCRA waste management units such as tank systems, surface impoundments, containment buildings, landfills, etc.</p>
Mandating Document(s)	WAC 173-303-330(1), -630, -200(1) and Waste Minimization
Target Audience	Advanced General Workers and General Managers categorized because they are immediate managers of Advanced General Workers who manage containers of dangerous or mixed waste.
Delivery	Classroom
Evaluation	Written Examination - 80% passing grade
Length	16 Hours
Frequency	initial only (refresher - 035110 Core Waste Management Training)

Title	035110 Core Waste Management - Refresher
Description	Refresher Course 035100
Mandating Document	WAC 173-303-330(1), -630, -200(1), and waste minimization
Target Audience	Advanced General Workers and General Managers who are categorized because they are immediate managers of Advanced General Workers who manage dangerous or mixed waste in containers.
Delivery	Classroom
Evaluation	Written Examination - 80% passing grade
Length	4 Hours
Frequency	Annual

Environmental Training

Title	035120 Waste Management Administration - Initial
Description	Course is designed for personnel preparing to become shippers of dangerous and/or mixed waste. This course covers regulatory and company policies, forms, reports, forecasts, and plans. Topics also covered include: waste characterization, waste storage disposal request, low level waste storage/disposal record, transuranic waste storage/disposal record, and radioactive mixed waste attachment sheet. In addition, students will learn how these forms are used to complete shipping papers.
Mandating Document(s)	WAC 173-303-330(1), -630, -200, -210, -220, -380, and -390.
Target Audience	General Shippers
Delivery	Classroom
Evaluation	Written Examination - 80% passing grade
Length	8 Hours
Frequency	Initial only (Refresher - 035130 Waste Management Administration)

Title	035130 Waste Management Administration - Refresher
Description	Refreshes course 035120
Mandating Document(s)	WAC 173-303-330(1), -630, -200, -210, -220, -380, and -390.
Target Audience	General Shippers
Delivery	Classroom
Evaluation	Written Examination - 80% passing grade
Length	4 Hours
Frequency	Annual

Title	037500 Building Warden Training
Description	Course provides an overview of the responsibilities of the building warden, identifies the building emergency organizations, actions required during an event, implementing the contingency plan, and discusses drill and exercise requirements. See Appendix J of this manual for additional information.
Mandating Document(s)	WAC 173-303-330, -340, -350, and -360
Target Audience	General Managers categorized because have the responsibilities of the RCRA Emergency Coordinator in WAC 173-303-360. These specific General Managers have these responsibilities at facilities that are associated with the WHC title of Building Warden, their alternate(s), or other individual who possesses these responsibilities such as the Environmental Compliance Officer or Hazardous Materials Specialist. These personnel can function as the Emergency Coordinator during an event for RCRA waste management units such as TSD Units or less than 90-day accumulation areas.
Delivery	At the Emergency Coordinators' Office
Evaluation	Performance Evaluations
Length	1 hour
Frequency	Initial only (Refresher - 037510 Building Emergency Director/Warden Requalification)

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Title	037510 Building Emergency Director/Warden Requalification
Description	Refresher for Building Emergency Director Training and Building Warden Training
Mandating Document(s)	WAC 173-303-330, -340, -350, and -360.
Target Audience	General Managers categorized because they can act as the RCRA Emergency Coordinator in WAC 173-303-360.
Delivery	At the BED or BW office
Evaluation	Performance Evaluation
Length	1 hour
Frequency	Annual

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UNIT/BUILDING SPECIFIC COURSES

Title	03Exxx Unit/building-Specific contingency plan/hazard communication/emergency preparedness training XYZ Facility (using the Facility Emergency and Hazard Information Checklist - form A-6000-784R) Note: "XYZ" is replaced with the three numbers corresponding to the unit/building's contingency plan when this course is identified in a RCRA training plan.
Description	Course consists of a review of specific chemical hazards associated with each RCRA waste management unit and job assignment, as covered by a RCRA contingency plan (See Appendix J of this manual). The training is completed by the supervisor, manager, or a designated individual using a checklist available on the Hanford Local Area Network under Jet Forms. The unit/building-specific information is reviewed concerning hazards in the work area and emergency response requirements, including where applicable, waste feed cut-off, communication and alarm systems, and response to fires. The training is completed by the immediate manager, or a designated individual using a checklist. The checklist acts as a guide to ensure consistent coverage of necessary topics.
Mandating Document(s)	WAC 173-303-330(1)(d), -340, -350, and -630.
Target Audience	All Hanford Facility personnel categorized as Advanced General Workers, General Managers, and General Shippers.
Delivery	One-on-one or as a group with manager or designated individual
Evaluation	Training checklist documentation
Length	1 hour
Frequency	Annual for each unique unit/building.

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Title	03E500 Unit/Building-Specific <u>satellite accumulation area</u> contingency actions and hazard communication training (using the Facility Emergency and Hazard Information Checklist)
Description	Course consists of a review of unit/building-specific hazardous chemical/materials and dangerous waste management practices associated with product use and the initial accumulation of waste in containers. The training is completed by the immediate manager, or a designated individual using the Facility Emergency and Hazard Information Checklist (FEHIC). When using the FEHIC in the Waste Management Awareness program area, refresher training is not required by regulation and is not provided. For that reason, the identification of where training at unique unit/buildings is received is not important and the same course number is used throughout the Hanford Facility. The 03E500 course supplements the 02006G course and is required whenever the target audience personnel will be working at a unit/building where waste segregation and initial waste accumulation practices are unique from previously received 03E500 training.
Mandating Document(s)	Letter: RL/US Army Corps of Engineers to Ecology "State of Washington Department of Ecology Administrative Order No. DE 94NM-063" dated April 14., 1994, items 3 and 4. Hanford Facility RCRA Permit, General Condition II.C.4
Target Audience	All Hanford Facility personnel and unescorted subcontractors categorized as General Workers.
Delivery	One-on-one or as a group with supervisor, manager or designated PIC for each unique unit/building waste management practice.
Evaluation	Training checklist documentation
Length	1 hour
Frequency	At each unique unit/building where satellite accumulation area waste segregation practices differ.

NOTE: The RCRA training plan writer will need to develop any additional unit/building specific tables that describe additional training program curriculum.