

**PART III UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS**

**OPERATING UNIT 11**

**Integrated Disposal Facility**

**Chapter 6.0**

**Procedures to Prevent Hazards**

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1 **Nine pages redacted in electronic version.** These pages may be viewed by  
2 appointment (509-372-7920) at the Washington State Department of Ecology  
3 Richland Office Library, 3100 Port of Benton Boulevard, Richland, Washington.  
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1                   **PART III UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS**  
 2                                   **OPERATING UNIT 11**  
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4   **Chapter 7.0** **Contingency Plan**  
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 10        WAC 173-303-350(3) ..... 11-7-3

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**7.0 CONTINGENCY PLAN [G]**

1

2 The WAC 173-303 requirements for a contingency plan are satisfied in the following documents:  
3 portions of the *Hanford Emergency Management Plan* [Attachment 4 of the HF RCRA Permit  
4 (DW Portion)] and portions of the *Building Emergency Plan for the Integrated Disposal Facility*  
5 (Appendix 7A).

6 The unit-specific building emergency plan also serves to satisfy a broad range of other requirements [e.g.,  
7 Occupational Safety and Health Administration standards (29 CFR 1910), *Toxic Substance Control Act of*  
8 *1976* (40 CFR 761) and U.S. Department of Energy Orders]. Therefore, revisions made to portions of  
9 this contingency plan document that are not governed by the requirements of WAC 173-303 will not be  
10 considered as a modification subject to WAC 173-303-830 or HF RCRA Permit (DW Portion)  
11 Condition I.C.3.

12 Table 7-1 identifies which portions of the building emergency plan are written to meet WAC 173-303  
13 contingency plan requirements. In addition to the building emergency plan portions identified in  
14 Table 7-1, Section 12.0 of the building emergency plan is written to meet WAC 173-303 requirements  
15 identifying where copies of the *Hanford Emergency Management Plan* and the building emergency plan  
16 are maintained on the Hanford Facility. Therefore, revisions to Section 12.0 and the portions identified in  
17 Table 7-1 are considered a modification subject to WAC 173-303-830 or the HF RCRA Permit  
18 (DW Portion), Condition I.C.3.

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Table 7-1. Hanford Facility Documents Containing Contingency Plan Requirements of  
WAC 173-303-350(3)

Requirement	Hanford Emergency Management Plan (DOE/RL-94-02): Attachment 4 of the HF RCRA Permit (DW Portion)	Building Emergency Plan <sup>1</sup> ( <i>ILAW Document Number</i> )
-350(3)(a) - A description of the actions which facility personnel must take to comply with this section and WAC 173-303-360.	X <sup>2</sup> Section 1.3.4	X <sup>2</sup> Sections 7.1, 7.2 through 7.2.5, and 7.3 <sup>3</sup> Sections 4.0, 8.2, 8.3, 8.4, 11.0
-350(3)(b) - A description of the actions which shall be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments.	X <sup>2</sup> Section 1.3.4	X <sup>2,4</sup> Section 7.2.5.1
-350(3)(c) - A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4).	X Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1	
-350(3)(d) - A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810 (14)(a)(I)), rather than as part of the permit application.		X <sup>5</sup> Section 3.1, 13.0
-350(3)(e) - A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	X Hanford Fire Department: Appendix C	X Section 9.0

Table 7-1. Hanford Facility Documents Containing Contingency Plan Requirements of  
WAC 173-303-350(3)

Requirement	Hanford Emergency Management Plan (DOE/RL-94-02): Attachment 4 of the HF RCRA Permit (DW Portion)	Building Emergency Plan <sup>1</sup> ( <i>ILAW Document Number</i> )
-350(3)(f) - An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	X <sup>6</sup> Figure 7-3 and Table 5-1	X <sup>7</sup> Section 1.5

An 'X' indicates requirement applies.

<sup>1</sup> Portions of the *Hanford Emergency Management Plan* not enforceable through Appendix A of that document are not made enforceable by reference in the building emergency plan.

<sup>2</sup> The *Hanford Emergency Management Plan* contains descriptions of actions relating to the Hanford Site Emergency Preparedness System. No additional description of actions are required at the site level. If other credible scenarios exist or if emergency procedures at the unit are different, the description of actions contained in the building emergency plan will be used during an event by a building emergency director.

<sup>3</sup> Sections 7.1, 7.2 through 7.2.5, and 7.3 of the building emergency plan are those sections subject to the Class 2 "Changes in emergency procedures (i.e., spill or release response procedures)" described in WAC 173-303-830, Appendix I Section B.6.a.

<sup>4</sup> This requirement only applies to TSD units that receive shipments of dangerous or mixed waste defined as offsite shipments in accordance with WAC 173-303.

<sup>5</sup> Emergency Coordinator names and home telephone numbers are maintained separate from any contingency plan document, on file in accordance with HF RCRA Permit (DW Portion) General Condition II.A.4. and are updated, at a minimum, monthly.

<sup>6</sup> The Hanford Facility (sitewide) signals are provided in this document. No unit/building signal information is required unless unique devices are used at the unit/building.

<sup>7</sup> An evacuation route for the TSD unit must be provided. Evacuation routes for occupied buildings surrounding the TSD unit are provided through information boards posted within buildings.

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4 **Appendix 7A**

**Building Emergency Plan**

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- 1 **Twenty-seven pages redacted for security reasons in electronic version.** These
- 2 pages may be viewed by appointment (509-372-7920) at the Washington State
- 3 Department of Ecology Richland Office Library, 3100 Port of Benton Boulevard,
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4   **Chapter 8.0** **Personnel Training**

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5   8.0    PERSONNEL TRAINING [H] .....Part III.118.1  
 6   8.1    OUTLINE OF INTRODUCTORY AND CONTINUING TRAINING  
 7        PROGRAMS [H-2] .....Part III.118.1  
 8   8.2    DESCRIPTION OF TRAINING PLAN .....Part III.118.1

9   **Appendix**

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10 Appendix 8A. Dangerous Waste Training Plan .....Part III.11.8A.i

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## 8.0 PERSONNEL TRAINING [H]

2 This chapter discusses personnel training requirements based on WAC 173-303 and the HF RCRA Permit  
3 (DW Portion). The HF RCRA Permit (DW Portion), Condition II.C (Personnel Training), contains  
4 training requirements applicable to Hanford Facility personnel and non-Facility personnel. Compliance  
5 with these requirements at the IDF is demonstrated by information contained both in Chapter 8.0 of  
6 DOE/RL-91-28, Attachment 33 of the HF RCRA Permit, and this chapter. This chapter supplements  
7 Chapter 8.0 of DOE/RL-91-28.

### 8 8.1 OUTLINE OF INTRODUCTORY AND CONTINUING TRAINING PROGRAMS 9 [H-2]

10 The introductory and continuing training programs are designed to prepare personnel to manage and  
11 maintain the TSD unit in a safe, effective, and environmentally sound manner. In addition to preparing  
12 personnel to manage and maintain TSD units under normal conditions, the training programs ensure that  
13 personnel are prepared to respond in a prompt and effective manner should abnormal or emergency  
14 conditions occur. Emergency response training is consistent with the description of actions contained in  
15 Chapter 7.0, "Contingency Plan".

16 Introductory training includes general Hanford Facility training and TSD unit-specific training. General  
17 Hanford Facility training is described in DOE/RL-91-28, Section 8.1, and is provided in accordance with  
18 the HF RCRA Permit (DW Portion), Condition II.C.2. TSD unit-specific training is provided to Hanford  
19 Facility personnel allowing personnel to work unescorted. Hanford Facility personnel cannot perform a  
20 task for which they are not properly trained, except to gain required experience while under the direct  
21 supervision of a supervisor or coworker who is properly trained. Hanford Facility personnel assigned the  
22 job title of Emergency Coordinator and alternates to this position performing tasks described in  
23 WAC 173-303-360 (e.g., Building Emergency Directors) are thoroughly familiar with applicable  
24 contingency plan documentation, operations, activities, location, and properties of all waste handled,  
25 location of all records, and the unit/building layout.

26 Continuing training meets the requirements for WAC 173-303-330(1)(b) and includes general Hanford  
27 Facility training and TSD unit-specific training. General Hanford Facility training is the same as  
28 described for introductory training. TSD unit-specific training provides an annual review of emergency  
29 response training and an annual review of training necessary to ensure TSD unit operations are in  
30 compliance with WAC 173-303.

### 31 8.2 DESCRIPTION OF TRAINING PLAN

32 In accordance with HF RCRA Permit (DW Portion), Condition II.C.3, the unit-specific portion of the  
33 *Hanford Facility Dangerous Waste Permit Application* must contain a description of the training plan.  
34 The plan is written to comply with WAC 173-303-330 and is found in Appendix 8A. Written training  
35 plan documentation is maintained outside of the *Hanford Facility Dangerous Waste Permit Application*  
36 and the HF RCRA Permit. Therefore, changes made to the written training plan documentation are not  
37 subject to the HF RCRA Permit modification process. The training plan will be maintained as part of the  
38 operating records of the facility and will be available to regulators upon request.

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<b>CH2M HILL Hanford Group, Inc.</b>	<b>Manual Document</b>	<b>Management Plan</b>
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	<b>Effective Date</b>	<b>May 14, 2003</b>
		<b>May 26, 2003</b>

**FUNCTIONAL AREA MANAGER:** P.C.Miller

**DOCUMENT OWNER:** S. A. Davis

## 1.0 PURPOSE AND SCOPE

This document outlines the dangerous waste training plan (DWTP) developed for the Integrated Disposal Facility (IDF) operated by the River Protection Project (RPP) Tank Farms Contractor

This plan applies to IDF personnel employed by the CH2M HILL Hanford Group, Inc., the visitors CH2M HILL Hanford Group, Inc. brings onto the Hanford facility, and any subcontractors conducting work on behalf of CH2M HILL Hanford Group, Inc. The Hanford facility constitutes the Hanford site as defined by the Hanford facility Resource Conservation and Recovery Act (RCRA) permit issued by Ecology.

## 2.0 RESPONSIBILITIES

### 2.1 Management

The waste management facility manager has overall responsibility for training at the IDF under his control that includes but is not limited to: (5.1.1)

- Determine training requirements and training compliance for Hanford facility personnel, subcontractors, and visitors who obtain access or work within the IDF unit.
- Identify training requirements to contractors working in or around IDF units.

### 2.2 Training Manager

- Ensure instructors have satisfactory instructional skills and are technically knowledgeable through: current qualification/certification or specialized training, license/certificate or a degree in the technical area, or other appropriate training or experience (see DOE/RL-91-28 Chapter 8.0). (5.1.1)
- Conduct informal job analysis and identify training commensurate with personnel duties and responsibilities.
- Design and develop training programs.
- Develop and instruct training courses.
- Develop and maintain On-The-Job training requirements.
- Maintain the RPP-IDF training records.

**MANAGEMENT PLAN****Document  
Page****TFC-PLN-07, REV A-2  
2 of 10****DANGEROUS WASTE TRAINING  
PLAN****Effective Date****May 26, 2003****2.3 Environmental Organization Responsibilities:**

- Consult with training organization and IDF management in the development and evaluation of current training programs.
- Assist IDF manager in determining training requirements and RCRA compliance for personnel.
- Maintain current knowledge of RCRA training requirements pertaining to Hanford facility personnel.

**2.4 Contracted Services (e.g., Fluor Federal Services (FFS) and Waste Management)**

Contracted personnel who are classified as Hanford facility personnel have the following responsibilities:

- Ensure that employees are trained to meet RPP-IDF training requirements.
- Maintain employee training records and provide them if requested by RPP-IDF.

**2.5 CH2M HILL Waste Services Responsibilities**

- Provide daily Federal Register review, regulatory interpretation, and application of DOT regulations. As new requirements are identified, this information is distributed to the HAZMAT employees
- Maintain the authorized shippers list by reviewing shippers' qualifications through training records and verifying receipt of "request for authority" forms signs by requestor's management. This list is updated and distributed monthly
- Maintain a database, tracks shipping activities, and changes to the authorized shipper's list
- Conduct DOT compliance verification inspection and verification on HAZMAT, HW, RAM, and RMW shipments
- Provide information to training records regarding course completion.

**3.0 PROCESS****3.1 Training Program**

The introductory and continuing training programs are designed to prepare employees to operate and maintain the tank farms in a safe, effective, efficient, and environmentally sound manner. In addition to preparing employees to operate and maintain the tank farms under normal conditions, the training program ensures that employees are prepared to respond in a prompt and effective manner should abnormal or emergency conditions occur.

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1 Introductory training includes general Hanford facility training and TSD unit-specific training.

2  
3 General Hanford facility training is described in DOE/RL-91-28, Section 8.0, and provided in  
4 accordance with the Hanford Facility RCRA Permit (DW Portion), Condition II.C.

5  
6 TSD unit-specific training is provided to Hanford facility personnel, allowing personnel to work  
7 unescorted and, in some cases, is required for escorted access. Hanford facility personnel cannot  
8 perform a task for which they are not properly trained, except to gain required experience while  
9 under the direct supervision of a supervisor or coworker who is properly trained.

10  
11 The IDF Dangerous Waste training program is implemented. Incumbent personnel will complete  
12 new requirements within six months of the requirements being identified. Training of new  
13 employees is completed within the first six months of assignment. Training for personnel  
14 assigned to new positions is completed within six months of reassignment. Personnel who have  
15 not completed training are permitted to work at the IDF only under the supervision of a trained  
16 employee. IDF operations management is responsible for ensuring that personnel are trained and  
17 required qualifications are maintained. (5.1.3)

18  
19 Continuing training meets the requirements for WAC 173-303-330(1)(b) and includes general  
20 Hanford facility training and TSD unit-specific training. (5.1.2)

21  
22 **3.2 Emergency Response Training**

23  
24 Federal and state regulations require that personnel be able to respond effectively to emergencies.  
25 In accordance with WAC 173-303-330(1)(d), personnel are trained on aspects applicable to  
26 operations. The following table indicates requirements from WAC 173-303-330(1)(d) applicable  
27 to IDF operations. (5.1.1, 5.1.4)

28

Elements of WAC 173-303-330(1)(d)	Applicability to TSD Units (1) and < 90-day Accumulation Areas (2)	
	(1)	(2)
Procedures for using, inspecting, repairing, and replacing emergency and monitoring equipment	YES	YES
Key parameters for automatic waste feed cut-off systems	YES	NO
Communications or alarm systems	YES	YES
Response to fires or explosions	YES	YES
Response to groundwater contamination incidents	YES	YES
Shutdown of operations	YES	YES

29  
30 **3.3 Dangerous Waste Worker Categories**

31  
32 Employee duties at the IDF are categorized within four worker categories. In the event personnel  
33 duties and responsibilities overlap between categories, the employee will complete the training  
34 requirements for each category. These categories are: (5.1.1, 5.1.5)

- 35  
36 1. All Employees

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2. Waste Worker
3. Advanced Waste Worker
4. Waste Worker Supervisor/Manager

Each employee is assigned a job title (from salaried nonexempt or bargaining unit classifications) or position (from exempt classifications). Job or position descriptions include requisite skills, work experience, education and other qualifications, and a list of duties and/or responsibilities for each job title or position. The work experience, education, and other qualifications required for each position are maintained by IDF Human Resources. As a minimum, "all employees" require a high school diploma or equivalent. Personnel filling exempt, management, or engineering positions normally require a college degree with two or more years of industry experience. (5.1.5)

Only names of Hanford facility personnel who carry out job duties relating to TSD unit waste management operations at IDF are maintained. Names are maintained in electronic data storage within the Integrated Training Electronic Matrix (ITEM). A list of Hanford facility personnel assigned to IDF is available upon request.

In the following sections, brief job titles and position descriptions of employees associated with dangerous waste management at IDF are listed within the appropriate waste worker category. (5.1.5)

### 3.3.1 All Employees

Hanford facility personnel included in this position are not categorized into one of the other three worker positions. Non-Hanford facility personnel included within this position are those personnel that require access to portions of the Hanford facility not accessible to the public.

Personnel in the "all employees" position are prohibited from performing duties or responsibilities associated with the management of waste in accumulation/storage containers on the Hanford facility. These personnel have the responsibility to report spills and releases that they discover in addition to taking any evacuation or take cover actions in response to specific incidents that may occur.

Most of the Hanford facility personnel categorized as "all employees" will be administrative and technical/professional personnel which include secretaries, clerks, and support organizations who perform walk-downs or provide oversight. Most non-Hanford facility personnel will be categorized as "all employees" since these personnel generally tour, provide oversight, or are brought on the Hanford facility for interviews. Other non-Hanford facility personnel who gain access to the Hanford facility to complete work in controlled areas that will not directly involve the management of dangerous or mixed waste, will be categorized as "all employees."

All employees are required to complete Hanford General Employee Training (HGET) with an annual refresher (HGET core).

### 3.3.2 Waste Workers

Hanford facility personnel or non-Hanford facility personnel with waste management duties and responsibilities who require unescorted access and are limited to the initial generation of

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1 dangerous or mixed waste and placing that waste into a pre-approved container, or who conduct  
2 dangerous or mixed waste inspections, are categorized as waste workers.

3  
4 The pre-approved container can include those in a satellite accumulation area, <90-day  
5 accumulation area, or temporary storage and disposal unit.

6  
7 These personnel could generate dangerous or mixed waste while working on a non-RCRA system  
8 (e.g., building maintenance) or working on a temporary storage and disposal unit when  
9 conducting maintenance. These personnel could also include operators who conduct daily  
10 inspections on tank systems to ensure they are operating properly, and operators who conduct  
11 daily inspections on ancillary equipment.

12  
13 The work may be unsupervised or completed under the supervision of qualified unit/building  
14 personnel (e.g., the person in charge or field work supervisor). In addition, a waste worker must  
15 fulfill the roles of an "all employee." Hanford facility personnel categorized as waste workers  
16 may be assigned duties and responsibilities for:

- 17 • Placing waste they generate into pre-approved containers and filling out log sheets, where  
18 applicable
- 19 • Completing radiological surveys of dangerous or mixed waste
- 20 • Loading packaged containers onto trucks or movement of containers
- 21 • Responding to a spill or release of known contents where the duties and responsibilities  
22 are limited to containing the spill/release, returning the drum to an upright position, and  
23 placing the known spilled material or waste into a pre-approved container
- 24 • Applying container markings or labels based on direction received from others
- 25 • Responding to regulatory agency compliance inspectors' questions about waste  
26 management practices
- 27 • Performing an inventory of dangerous or mixed waste
- 28 • Conducting inspections of dangerous or mixed waste.

29  
30  
31 Personnel who function as waste workers may include, but are not limited to, the following:

- 32 • Maintenance and craft personnel
- 33 • Operators
- 34 • Health physics technicians
- 35 • Transporters
- 36 • Contractor crafts
- 37 • Technical support staff.

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47 The list of employees currently filling this position is maintained by the ITEM.

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1  
2 **3.3.3 Advanced Waste Worker**  
3

4 Hanford facility personnel are categorized as advanced waste workers if their duties and  
5 responsibilities concerning dangerous or mixed waste exceed that of waste workers (therefore, an  
6 advanced waste worker may fulfill the roles of a waste worker.) Examples of these duties and  
7 responsibilities can include determining container markings, sampling of waste, designation of  
8 waste material(s), and classification of waste materials prior to shipment.  
9

10 The list of employees currently filling this position is maintained by the ITEM.  
11

12 **3.3.4 Waste Worker Supervisor/Manager**  
13

14 Various types of managers and non-managers are included in this position. Hanford facility  
15 personnel assigned to unit/buildings can be categorized as waste worker supervisor/managers if  
16 they direct waste worker or advanced waste worker activities relating to dangerous waste  
17 management and compliance activities. Managers and non-managers who direct waste workers  
18 and advanced waste workers have many similar duties and responsibilities relating to dangerous  
19 or mixed waste management and are required to take the same courses.  
20

21 The following staff has duties and responsibilities that meet this description:  
22

- 23 • Emergency coordinator and/or alternate(s) (e.g., building emergency directors and some  
24 building wardens)
- 25
- 26 • Environmental Compliance Officer and Waste Management manager for IDF  
27
- 28 • Immediate managers of waste workers and advanced waste workers (e.g., field work  
29 supervisors, Radiological Control first-line managers and operations  
30 engineers/managers).  
31

32 The list of employees currently filling this position is maintained by the ITEM.  
33

34 **3.4 Matrix of Training Requirements for Each Waste Worker Category**  
35

36 The following training requirements are maintained in the ITEM. Based on training assessments,  
37 oversight, and acting within federal and state regulations, IDF management may change the  
38 training requirements. For this reason, a current course listing is available upon request.  
39

40 Course descriptions with retrain frequencies are linked to the courses in the ITEM. Continuing  
41 training (retraining) courses are linked in the ITEM database to the initial training course. If the  
42 continuing training is not kept current, the system will show the initial course as delinquent. (5.1.5)  
43

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1 **3.4.1 All Employees**

2  
3 NOTE: Select [link](#) for course description (5.1.5)

4 [000001](#)

HANFORD GENERAL EMPLOYEE TRAINING - FULL

5  
6 **3.4.2 Waste Worker**

7 [ ] Option 01 Waste Worker Core, Individual performs duties as a Waste Worker at the River Protection Project Tank Farms Contractor.

[000001](#) HANFORD GENERAL EMPLOYEE TRAINING - FULL  
[03E060](#) RPP/TANK FARM FACILITY EMERGENCY HAZARDS CHECKLIST  
[350560](#) RPP WASTE HANDLING, SEGREGATION AND PACKAGING  
XXXXXX Integrated Diposal Facility Orientation

[ ] Option 02 The course covers federal, state and company policy regarding the management of containerized waste, both regulated (dangerous) and non-regulated.

[035100](#) CONTAINER WASTE MANAGEMENT INITIAL

8  
9 **3.4.3 Advanced Waste Worker**

10 [ ] Option 01 Advanced Waste Worker Core, Individual performs duties as an Advanced Waste Worker at the RPP Tank Farms Contractor.

[000001](#) HANFORD GENERAL EMPLOYEE TRAINING - FULL  
[035100](#) CONTAINER WASTE MANAGEMENT INITIAL  
[03E060](#) RPP/TANK FARM FACILITY EMERGENCY HAZARDS CHECKLIST  
[350560](#) RPP WASTE HANDLING, SEGREGATION AND PACKAGING  
XXXXXXX Integrated Diposal Facility Orientation

[ ] Option 02 Waste Designator, Individual performs Waste Designation duties at the RPP Tank Farms Contractor

[035010](#) WASTE DESIGNATION  
[035012](#) WASTE DESIGNATION QUALIFICATION  
[035020](#) FACILITY SAMPLING AND ANALYSIS

[ ] Option 03 Hazardous Waste Shipper, Individual performs Hazardous Waste Shipping duties at the RPP Tank Farms Contractor. Note: Need to select Option 04 "Radioactive Materials Shipper" if Individual will be performing duties as a "Mixed Waste Shipper".

[020159](#) ADVANCED COURSE 2 - HAZARDOUS WASTE SHIPPER CERTIFICATION TRAINING

[ ] Option 04 Radioactive Materials Shipper, Individual performs Radioactive Material Shipping duties at

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the RPP Tank Farms Contractor. Note: Need to select Option 03 "Hazardous Waste Shipper" if Individual will be performing duties as a "Mixed Waste Shipper".

[020069](#) ADVANCED COURSE 3 - RADIOACTIVE MATERIALS SHIPPER CERTIFICATION TRAINING

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### 3.4.4 Waste Worker Supervisor/Manager

[ ] Option 01 Waste Worker Supervisor/Manager Core, Individuals that direct Waste Worker or Advanced Waste Worker activities relating to dangerous or mixed waste management and compliance activities.

[000001](#) HANFORD GENERAL EMPLOYEE TRAINING - FULL

[035050](#) ENVIRONMENTAL REGULATIONS AT HANFORD (CLASSROOM)

[03E060](#) RPP/TANK FARM FACILITY EMERGENCY HAZARDS CHECKLIST

[350560](#) RPP WASTE HANDLING, SEGREGATION AND PACKAGING

XXXXXX Integrated Diposal Facility Orientation

[ ] Option 02 Waste Shipper/Supervisor, Individual performs Waste Shipping / Supervision duties at the RPP Tank Farms Contractor

[020078](#) ADVANCED COURSE 4 - MIXED WASTE SHIPPER CERTIFICATION TRAINING

[020159](#) ADVANCED COURSE 2 - HAZARDOUS WASTE SHIPPER CERTIFICATION TRAINING

[035100](#) CONTAINER WASTE MANAGEMENT INITIAL

[ ] Option 03 Waste Designator/Supervisor, Individual performs Waste Designation / Supervision duties at the RPP Tank Farms Contractor

[035010](#) WASTE DESIGNATION

[035012](#) WASTE DESIGNATION QUALIFICATION

[035020](#) FACILITY SAMPLING AND ANALYSIS

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### 3.5 Job-Specific Facility Training

The IDF-specific and job-specific qualifications and/or certifications are maintained according to contractual and regulatory requirements. IDF management uses qualification lists to ensure personnel they assign to work in the tank farms meet current training requirements. The qualification lists, generated using the PeopleSoft® database, are updated on a daily basis and are posted to the [IDF Training Web Page](#).

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### 3.6 Training Records

Training records, as described in WAC 173-303-330, consist of documentation that show training has been completed. Training records associated with personnel identified in the DWTP are maintained in accordance with DOE/RL-91-28 Chapter 8.0. Hanford Facility training records include both electronic data storage and hard copies. Course completion documentation for personnel is maintained in both hard copy and electronic formats. (5.1.5)

The course completion documentation will contain the course number, course title, and date of completion. Copies of the training record files for IDF Dangerous Waste management employees are stored at IDF Training. The originals are sent to Fluor Hanford, Inc. (FH) Training and are initially maintained in Richland, Washington. Original hard copy training records are transferred periodically to the Records Holding Facility in Richland, Washington. After approximately one year, the original hard copy training records are archived at the permanent record storage center in Renton, Washington. Course completion documentation of former employees are maintained in accordance with DOE/RL-91-28 Chapter 8.0 and Hanford Facility RCRA Permit, General Facility Condition II.I.1, Regarding Facility Operations Record.

When a training record is requested during an inspection, an electronic data storage record will initially be provided. If the electronic data storage record does not satisfy the inspection concern, a hard copy training record will be provided. Training records of former employees may not be available through computers at IDF and may require a representative from FH Training to access the PeopleSoft® system for this information.

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1 **4.0 DEFINITIONS**

2  
3 No terms or phrases unique to this procedure are used.

4  
5 **5.0 SOURCES**

6  
7 **5.1 Requirements**

- 8
- 9 1. WAC 173-303-330 "Dangerous Waste Regulations," Section 330(1) and (1)(a),
- 10 Personnel Training. (S/RID)
- 11
- 12 2. WAC 173-303-330 "Dangerous Waste Regulations," Section 330(1)(b). (S/RID)
- 13
- 14 3. WAC 173-303-330 "Dangerous Waste Regulations," Section 330(1)(c). (S/RID)
- 15
- 16 4. WAC 173-303-330 "Dangerous Waste Regulations," Section 330(1)(d). (S/RID)
- 17
- 18 5. WAC 173-303-330 "Dangerous Waste Regulations," Section 330(2). (S/RID)
- 19

20 **5.2 References**

- 21
- 22 1. 40CFR265.16, "Protection of Environment, Interim Status Standards for Owners and
- 23 Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Personnel
- 24 Training.
- 25
- 26 2. DOE/RL-91-28 Rev 4, "Dangerous Waste Portion Of The Resource Conservation and
- 27 Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste,"
- 28 Chapter 8, Personnel Training.
- 29
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## 1                                   **11.0 CLOSURE AND FINANCIAL ASSURANCE [I]**

2   This chapter discusses preclosure, closure, and postclosure activities for the IDF. This closure plan  
3   complies with WAC 173-303-610 and represents the baseline for closure.

4   The IDF will be constructed on 25 hectares of vacant land southwest of the PUREX Plant in the 200 East  
5   Area (Figure 2-1). The landfill will be segregated into a RCRA permitted side and a non-RCRA  
6   permitted side. The scope of this permit application is limited to the western side of the landfill where the  
7   RCRA waste will be placed. The waste containers and bulk waste that meet the IDF waste acceptance  
8   criteria will be inventoried, and disposed in this lined landfill. Leachate collected from the lined landfill  
9   will be transferred to leachate collection tanks located in proximity to the landfill for subsequent  
10   treatment.

11   A more detailed discussion of IDF waste types and the identification of the IDF processes and equipment  
12   are provided in Chapters 3.0 and 4.0, and attendant appendices. The IDF only will accept and dispose  
13   waste containers and bulk waste that meet the IDF waste acceptance criteria, RCRA and LDR.

14   The closure process will be the same for partial closure or closure of the entire IDF. The remainder of  
15   this chapter describes the performance standards that will be met, and the closure/postclosure activities  
16   that will be conducted.

17   Federal facilities are not required to comply with WAC 173-303-620 as is stated in the regulations and as  
18   described in Condition II.H.3. of the *Dangerous Waste Portion of the Hanford Facility RCRA Permit*  
19   (Ecology 2001).

### 20   **11.1 CLOSURE PLAN [I-1]**

21   Waste containers and bulk waste that meet the IDF waste acceptance criteria will be disposed in the lined  
22   landfill that complies with WAC 173-303-665 standards (Chapter 4.0). The IDF will be closed according  
23   to current applicable WAC 173-303 regulations, DOE requirements, best management practices, and will  
24   be integrated with the overall cleanup activities performed under the Tri-Party Agreement  
25   (HFFACO 2001).

26   The disposal landfill cover will be designed and located to comply with WAC 173-303-665(6) and  
27   WAC 173-303-610. The specification and/or variation for other cover designs will be provided at the  
28   time of closure once a hazard(s) has been defined.

### 29   **11.2 CLOSURE PERFORMANCE STANDARDS [I-1a]**

30   Closure requirements found in DOE/RL-91-28, Chapter 11.0, combined with requirements found in  
31   WAC 173-303-665(6), will make up the closure performance standards for the IDF.

### 32   **11.3 PRECLOSURE ACTIVITIES**

33   Preclosure activities could include, at a minimum, placing interim or final covers over the filled portions  
34   of the landfill as the landfill is expanded to accept more waste. Placement of covers over the filled  
35   portions might be deferred until closure of all the IDF. Once a decision is made to construct the final  
36   cover over the landfill, a closure cover design will be used that satisfies the dangerous waste disposal  
37   requirements defined in WAC 173-303.

1 The selection of a final cover design has not been identified. Figure 11-1 shows an example of a typical  
2 Hanford Site landfill cover design. Design(s) will include features to satisfy the minimum requirements  
3 found in WAC 173-303-665(6).

#### 4 **11.4 MAXIMUM EXTENT OF OPERATION [I-1b(1)]**

5 The maximum process design capacity of the IDF conservatively is calculated to be 100 hectare-meters,  
6 which is 1,000,000 cubic meters (Chapter 1.0, Part A, Form 3, Section III). The IDF landfill will be  
7 segregated into a RCRA permitted side of 50 hectare-meters and a non-RCRA permitted side of 50  
8 hectare-meters.

#### 9 **11.5 DECONTAMINATING EQUIPMENT AND STRUCTURES**

10 All ancillary equipment and its secondary containment, and instrumentation (e.g., level-indicating  
11 devices, leak detection devices, pumps, piping) meet the definition of “debris” as defined in  
12 WAC 173-303-040. Items in direct contact with mixed waste are assumed to meet the definition of  
13 “hazardous debris” as defined in WAC 173-303-040.

14 Currently, three options are available for treating hazardous debris. The first option is to treat the debris  
15 using one of the three debris treatment technologies-extraction, destruction, or immobilization-as  
16 described in 40 CFR 268.45. If the hazardous debris is treated using approved extraction or destruction  
17 technologies, the debris is no longer required to be managed as a dangerous waste as long as the debris  
18 does not exhibit a characteristic of a dangerous waste. If hazardous debris contaminated with a listed  
19 waste is treated using an immobilization technology, it remains a listed waste, even after the LDR  
20 treatment standards are met unless Ecology makes a case-by-case determination that the debris “no longer  
21 contains” a mixed waste. In effect, by making this “contained-in” determination on a case-by-case basis,  
22 Ecology will be setting clean closure standards in accordance with the closure performance standards of  
23 WAC 173-303-610(2)(a)(ii).

24 The second option is to treat the hazardous debris to meet the constituent-specific LDR treatment standard  
25 for the waste or waste-specific constituents contaminating the debris; however, such debris, even after  
26 treatment, may be considered a dangerous waste under the dangerous waste regulations and may require  
27 management at a facility permitted to manage dangerous waste.

28 The third option involves obtaining a “contained-in determination” for the hazardous debris, thereby  
29 rendering the waste “non-hazardous” for those waste-specific listed constituents that fall below MTCA  
30 method B risk-based health limits. Moreover, it must be proven that the debris does not designate as a  
31 characteristic waste under WAC-173-303.

#### 32 **11.5.1 CONTAMINATED SOIL**

33 Contaminated soil could be generated as a result of spill cleanup. Since the majority of IDF operations  
34 will be performed within secondary containment (see Chapters 4.0 and 6.0) the potential for spilling  
35 dangerous waste into the surrounding soil is low. Contaminated soil generated as a result of a dangerous  
36 waste spill will be managed pursuant to WAC-173-303-200.

37 Once the soil is designated, appropriate treatment and disposal or storage options will be determined and  
38 implemented.

39 A contained-in determination could also be sought for contaminated soil generated as a result of a spill.  
40 For contaminated media the contained-in policy requires that a statistically based sampling plan be used  
41 for obtaining the data to support a contained-in demonstration. The contained-in policy does not require

1 that the waste be analytically nondetectable for it to be considered non-dangerous. However, the  
2 analytical results must prove that the listed constituents in the soil are below health-based limits as  
3 provided in WAC 173-303-610(2)(b)(i) and that the soil does not exhibit any dangerous waste  
4 characteristics (i.e., soil does not designate for D codes). If approved by Ecology, this could allow waste  
5 that falls below specific health-based levels to be disposed of without requiring treatment

## 6 **11.6 CLOSURE OF LANDFILL UNITS [I-1e and I-1e(2)]**

7 Closure of the IDF will be consistent with the closure requirements specified in WAC-173-303-665(6)  
8 and WAC 173-303-610. The cover design(s) will satisfy the requirements of WAC 173-303-665(6).

### 9 **11.6.1 Cover Design [I-1e(2), I-1e(4), I-1e(5), I-1e(7), and I-1e(8)]**

10 The cover could consist of several layers constructed on top of a native soil base. A generalized  
11 cross-section of an example cover is shown on Figure 11-1. It is assumed that before construction of the  
12 final cover, the waste form would be stabilized appropriately.

#### 13 **11.6.1.1 Grade Layer**

14 The surface of the landfill would be graded and/or shaped, if necessary, to match the slope of the desired  
15 low-permeability layer. Additional soil would be placed over the landfill to achieve the required cover  
16 grade. This grade layer could taper from zero thickness near the edge of the cover boundary to perhaps  
17 several meters at the center of the cover; the thickness would depend on the lateral dimensions of the  
18 particular cover and the grade of the cover.

#### 19 **11.6.1.2 Low-Permeability Layer**

20 The selection of an appropriate material for this layer would be based on the hazard that is to be isolated.  
21 The low-permeability layer will be the primary barrier in preventing soil and/or water from migrating into  
22 the waste zone and meet WAC 173-303-655 (6) (v) "Have a permeability less than or equal to the  
23 permeability of any bottom liner system or natural sub soils present".

#### 24 **11.6.1.3 Drainage Layer**

25 The drainage layer would conduct any water that percolates through the overlying layers laterally to the  
26 drainage ditch. Thus, the drainage layer would prevent hydraulic pressure from building up directly on  
27 the low-permeability liner, and thereby eliminate one set of forces that would drive moisture through the  
28 primary moisture control barrier.

#### 29 **11.6.1.4 Plant, Animal, and Human Intrusion Layer (optional)**

30 The performance objectives for the permanent isolation surface barrier are summarized as follows:

- 31 • Function in a semiarid to sub-humid environment
- 32 • Limit the recharge of water through the waste to near zero amounts [0.05 centimeter per year  
33 (1.6x10<sup>-9</sup> centimeters per second)]
- 34 • Be maintenance free
- 35 • Minimize the likelihood of plant, animal, and human intrusion
- 36 • Limit the exhalation of noxious gases
- 37 • Minimize erosion-related problems
- 38 • Meet or exceed WAC 173-303-665(6) cover performance requirements

- 1 • Isolate waste for 1,000 years.

2 To satisfy the intrusion performance objective, an optional layer would be included in the design of  
3 barriers that require the additional human and/or biointrusion protection to reduce either the  
4 environmental or human health risk.

#### 5 **11.6.1.5 Graded Filter Layer**

6 A graded filter consisting of crushed rock overlaid by sand would be placed on either the plant, animal,  
7 and human intrusion layer if incorporated into the design, or directly over the drainage layer. The graded  
8 filter would serve to separate the surface soil layer from the drainage layer. A geotextile would be placed  
9 on the top of the graded filter to decrease the potential for fine material to enter the filter and drainage  
10 zone. The geotextile would be permeable, allowing drainage, and would not support a standing head of  
11 water.

#### 12 **11.6.1.6 Surface Soil Layer**

13 The two most important factors in engineering the surface soil thickness would be the assignment of the  
14 water retention characteristics for soil and climate information. Surface soil would be placed over the  
15 geotextile to intercept, store, and recycle water, and prevent damage to the underlying structure from  
16 natural and synthetic processes.

#### 17 **11.6.1.7 Vegetative Cover**

18 The vegetative cover would perform three functions. First, the plants would return water stored in the  
19 surface soil back to the atmosphere, significantly decreasing net infiltration and reducing the amount of  
20 moisture available to penetrate the cover. Second, the vegetation would stabilize the surface soil  
21 component of the cover against wind and water erosion. Finally, the vegetative cover would restore the  
22 appearance of the land to a more natural condition and appearance.

23 A mixture of seeds would be used to establish vegetation. The seed types would be selected based on  
24 resistance to drought, rooting density, and ability to extract water.

#### 25 **11.6.2 Wind Erosion**

26 The principal hazard associated with wind erosion is the thinning of the cover surface soil layer. This in  
27 turn potentially could lead to breaching of the moisture barriers, gradually allowing larger quantities of  
28 water to reach the waste. The engineering approaches to mitigating wind erosion of the cover would be  
29 (1) designing the surface soil layer with an appropriate total thickness to compensate for future soil loss  
30 that might result from wind erosion, (2) establishing a vegetative cover on the surface to reduce wind  
31 erosion, and (3) including an appropriate coarse material (admix) in the upper layer of the surface soil to  
32 form an armor layer.

#### 33 **11.6.3 Water Erosion**

34 The potential hazard associated with water erosion is the same as that for wind erosion, namely the loss of  
35 soil from the top or surface layer.

36 Several of the following engineering approaches could be adopted to minimize the potential for water  
37 erosion:

- 1 • Limiting the surface slopes
- 2 • Providing run-on control with the sideslope drainage ditches
- 3 • Compacting the surface soil in a way that promotes significant infiltration rather than excessive
- 4 run-off
- 5 • Properly designing the sideslopes to prevent gulying
- 6 • Establishing a vegetative cover to slow surface run-off
- 7 • Incorporating coarse material (pea gravel admix) in the upper portion of the surface soil layer to help
- 8 form an erosion-resistant armor
- 9 • Limiting flow path lengths through the use of vegetation and admix.

10 The cover design would be evaluated for potential erosion damage from overall soil erodibility, sheet  
11 flow, and gulying.

#### 12 **11.6.4 Deep-Rooted Plants**

13 The following design features could minimize the potential for problems with deep-rooted plants.

- 14 • The surface soil (top two layers) would retain most of the precipitation, because the underlying  
15 drainage layer would have significantly higher permeability and much less water retention capacity.  
16 Therefore, it is expected that vegetation preferentially would occupy the surface soil layer and not  
17 have an affinity for growing into the drier underlying layers.
- 18 • The thickness of the surface soils would be sized to promote the development of semiarid deep-rooted  
19 perennial grasses and to discourage the development of deep-rooting intrusive species.

#### 20 **11.7 SCHEDULE FOR CLOSURE [I-1f]**

21 As stated previously, closure of the IDF will be a complex process. At the time of closure, this closure  
22 plan will be updated to reflect the current closure plan schedule per WAC 173-303-830, Appendix I. In  
23 addition, when a closure date is established, a revised closure plan and closure schedule will be submitted  
24 to Ecology that contains detailed information regarding specific activities and implementation  
25 timeframes.

#### 26 **11.8 EXTENSION FOR CLOSURE [I-1(g)]**

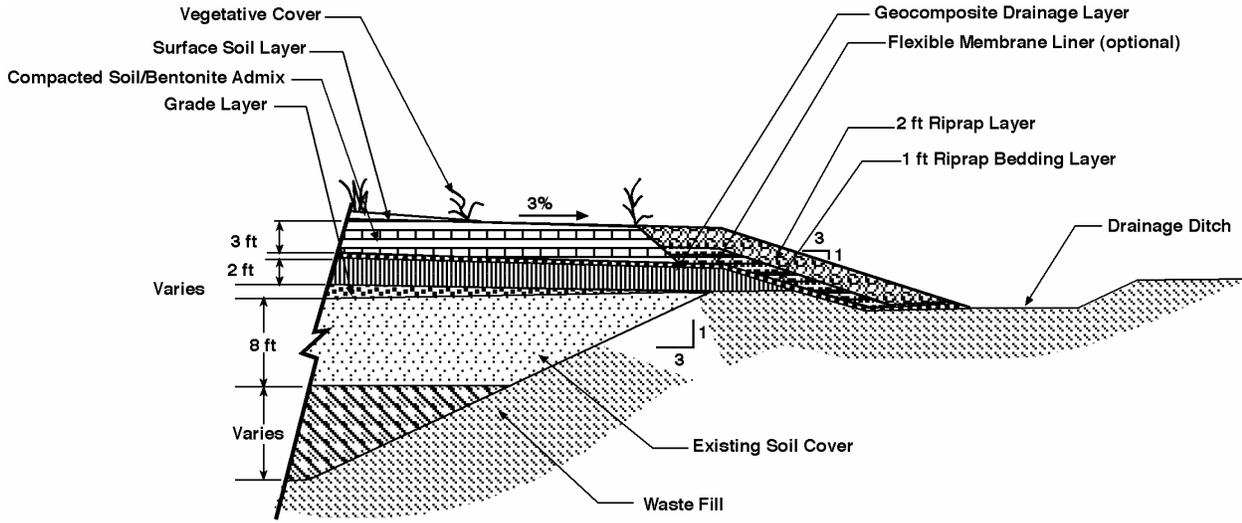
27 An extension for closure request is anticipated to complete the closure/postclosure process of the IDF.

#### 28 **11.9 POSTCLOSURE PLAN [I-3]**

29 Because of the long active life of the IDF, a comprehensive postclosure plan will be developed when  
30 closure becomes imminent or when 200 Areas cleanup activities prescribed by the Tri-Party Agreement  
31 require integration.

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Figure 11.1. Typical Hanford Site Landfill Cover Design



Notes:

1. Drawing not to scale.
2. Cover shown for unlined trench.  
Similar configuration for lined trench.

To convert feet (ft) to meters, multiply by 0.3048.

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M0105-2.1  
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