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**FACT SHEET**

**PART III, OPERATING UNIT GROUP 5, 325 HAZARDOUS WASTE TREATMENT UNITS**

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**FACT SHEET**

**PART III, OPERATING UNIT GROUP 5, 325 HAZARDOUS WASTE TREATMENT UNITS**

**UNIT DESCRIPTION**

The 325 Hazardous Waste Treatment Units (325 HWTUs) are in the 325 Building in the south end of the 300 Area.

The 325 HWTUs consist of two dangerous waste management units:

- The Shielded Analytical Laboratory (SAL), consisting of Rooms 200, 201, 202, 203, and 32 of the 325 Building. Room 32 (in the basement of the building) is used for treatment and storage of dangerous waste in a 1,514-liter tank. The other rooms are used for treatment and storage of dangerous waste in containers.
- The Hazardous Waste Treatment Unit (HWTU), consisting of Rooms 520, 524, and 528 of the 325 Building. This area is used for treatment and storage of containerized dangerous waste.

The SAL began waste management operations in 1991. The HWTU began waste management operations in 1995.

**TYPE AND QUANTITY OF WASTE**

The waste at the 325 HWTUs mostly comes from laboratory operations in Pacific Northwest National Laboratory's 300 Area facilities. The 325 HWTUs handle certain types of listed waste, along with characteristic waste and state-only criteria waste.

The maximum amount of dangerous waste being treated or stored at any given time (design capacity) in the dangerous waste management units is as follows:

Activity	HWTU Containers	SAL Containers	SAL Tank
Storage (liters)	9000	3000	1218
Treatment (liters a day)	946	568	1218

The estimated annual quantity of containerized waste managed in the 325 HWTUs is 60,000 kilograms of waste storage per year and 22,500 kilograms of waste treatment. The estimated annual quantity for the SAL tank is 10,000 kilograms per year of storage and treatment. The actual quantity of waste present varies each day.

**BASIS FOR PERMIT CONDITIONS**

This permit is intended to protect human health and the environment while ensuring proper management of waste at the 325 HWTUs. The permit addenda are incorporated into this permit and are enforceable by reference. Ecology bases the conditions and addenda for the 325 HWTUs on:

- The Hanford Facility Dangerous Waste Permit, Revision 8C.
- Permit modifications to Revision 8C of the permit.
- Comment resolution meetings with the Permittees.

The permit includes requirements for complying with environmental standards and maintaining and modifying the permit. The permit conditions address specifics such as personnel training, adequate staffing, process controls, and inspection requirements.

**GENERAL WASTE MANAGEMENT REQUIREMENTS**

The 325 HWTUs may only accept and store wastes that satisfy the facility waste acceptance criteria and Permit conditions. Waste can only be stored and treated in the permitted areas.

1 The Permit has stringent requirements to ensure the safety of workers and the public. The Permit also has  
2 requirements to prevent hazards from ignitable, reactive, or incompatible wastes, and to prevent  
3 exceeding the facility's capacity. The Permittees must maintain the integrity of the unit and its secondary  
4 containment systems that prevent waste from escaping the units. Permittees also must conduct waste  
5 loading and unloading operations in accordance with unit-specific Permit requirements.

6 The Permit allows the facility to receive waste from offsite generators. It has conditions for receiving  
7 offsite waste. Most waste received from offsite is from other Pacific Northwest National Laboratory-  
8 operated locations.

#### 9 **WASTE ANALYSIS REQUIREMENTS**

10 Condition III.5.B requires the Permittees to comply with the requirements described in Addendum B for  
11 waste analysis of all dangerous and/or mixed waste managed at 325 HWTUs. The basis for this condition  
12 is WAC 173-303-300(5).

#### 13 **RECORDKEEPING AND REPORTING**

14 Condition III.5.D follows the requirements of [WAC 173-303-380](#) and [WAC 173-303-810](#)(16) to ensure  
15 proper recordkeeping and reporting.

#### 16 **SECURITY**

17 The 325 HWTUs are all within the secured area of Hanford. The general security provision of Permit  
18 Attachment 3 and Condition II.L address access to the facility's operating area. Condition III.5.E and  
19 Addendum E establish security provisions, access controls, and signs for the unit. These requirements  
20 satisfy [WAC 173-303-310](#).

#### 21 **PREPAREDNESS AND PREVENTION**

22 Condition III.5.D.1 and Addendum F cover preparedness and prevention requirements, based on [WAC](#)  
23 [173-303-340](#). The Permit has conditions to control ignition sources and to manage ignitable and reactive  
24 wastes. The Permittees will prevent ignitable and reactive wastes from exposure to excessive heat and  
25 sources of ignition. The Permittees must store incompatible wastes in approved separate secondary  
26 containment to prevent mixing.

#### 27 **CONTINGENCY PLAN AND EMERGENCY RESPONSE**

28 Condition II.A, Condition III.5.G and Addendum J establish contingency plan requirements.

#### 29 **INSPECTIONS**

30 Conditions II.X, III.5.H, and Addendum I establish inspection requirements. Condition II.X requires that  
31 each Hanford dangerous waste management unit have a written inspection schedule and that the  
32 Permittees conduct periodic inspections following that schedule. [[WAC 173-303-320](#)(2)(a)-(c)]  
33 Addendum I has a schedule for inspecting monitoring equipment, safety and emergency equipment, and  
34 security systems. The inspections are to detect and prevent malfunctions, deterioration, operator error, or  
35 discharges from the unit that could harm human health or the environment.

36 Due to high radiation levels in Room 32 of the SAL, the Permittees meets visual tank inspections  
37 requirements of [WAC 173-303-640](#) using a camera system instead of having a person enter the room to  
38 inspect the tanks visually. Condition II.X includes requirements for the Permittees to take action to  
39 correct problems revealed during these inspections, and overall inspection recordkeeping requirements.  
40 The basis for this condition is [WAC 173-303-320](#).

#### 41 **TRAINING**

42 Dangerous waste management workers must have the skills and knowledge they need to do their work  
43 safely. The Permittees must develop and maintain a training program to ensure this. The Permittees must  
44 prepare a Dangerous Waste Training Plan according to Condition II.C.1. The plan must address the

1 training requirements in Addendum G. The training program and training plan must meet the  
2 requirements of [WAC 173-303-330](#).

### 3 **OTHER GENERAL REQUIREMENTS**

4 Condition III.5.J defines how the Permittees must manage ignitable, reactive, or incompatible waste.  
5 These conditions meet requirements in [WAC 173-303-395](#)(1). The Permit also has conditions for  
6 compliance with other environmental protection laws and regulations under [WAC 173-303-395](#)(2). The  
7 requirements for inspections for ignitable and reactive wastes are in the 325 HWTUs inspection  
8 requirements.

### 9 **CLOSURE**

10 The dangerous waste regulations require the Permittees to finish clean closure of a facility in 180 days or  
11 fewer. The Permit conditions allow the Permittees two years for clean closure of the 325 HWTUs. We  
12 are allowing the extra time because of the complexity of clean closing a radiological facility with hot  
13 cells. If clean closure in two years is not possible, the Permittees can request a delay. The Permittees  
14 must demonstrate cause for the delay. If Ecology agrees with the Permittees, we will work with them to  
15 set a new date.

16 Closure involves removing all dangerous waste and decontaminating or removing any contaminated  
17 equipment or surfaces. The Permittees have submitted a closure plan based on clean closure. The closure  
18 plan is in Addendum H. The plan meets the requirements of [WAC 173-303-610](#)(2)(6) and [WAC 173-](#)  
19 [303-630](#)(10).

### 20 **CONTAINER MANAGEMENT STANDARDS**

21 Addendum C addresses requirements for containers. [[WAC 173-303-630](#)]

22 Addenda C and F define the management of dangerous or mixed waste. Condition III.5.O complies with  
23 the requirements of [WAC 173-303](#) to protect human health and the environment.

24 Addendum C, Section C.1.1 defines the areas in the 325 HWTUs for management of dangerous and  
25 mixed waste. Sections C.1.1, C.1.2, and C.1.4 define their waste management requirements.

26 Addendum B, Section B.1.1.1.2.2 and Table B.1 have other requirements for waste compatibility.

27 Condition III.5.O establishes the requirement to manage the containers.

28 We are defining the requirements for secondary containment, and indirectly, the capacity of the unit and  
29 the various storage devices in it, in Section C.1. The basis for these requirements is in [WAC 173-303-](#)  
30 [630](#)(7). [WAC 173-303-630](#)(8) requires the Permittees to manage certain ignitable and reactive wastes in  
31 a manner equivalent to the Uniform Building Code or the International Fire Code.

32 The container management requirements describe the storage capacity of individual storage devices in the  
33 325 HWTUs based on the type and quantity of wastes being stored and the secondary containment  
34 provided for individual storage devices.

35 Condition III.5.O.1 requires the Permittees to comply with the Subpart CC rules for organic air emissions  
36 from containers stored in the HWTU. Addendum C, Section C.3, defines how the Permittees will satisfy  
37 requirements for Level 1 controls. They will use Department of Transportation-compliant containers or  
38 keep sealed lids on containers at all times, except when adding or removing wastes from containers.

39 Containers stored in the SAL are exempt from Subpart CC per [WAC 173-303-692](#)(1)(b)(vi).

### 40 **TANK MANAGEMENT STANDARDS**

41 Condition III.5.P addresses tank management requirements. The conditions meet the requirements of  
42 [WAC 173-303-640](#). The Permit language closely parallels the WAC regulatory requirements for tank  
43 management. Applicable sections of Addendum C satisfy the requirements of [WAC 173-303-815](#)(2).

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1 **REQUESTED VARIANCES OR ALTERNATIVES**

2 Because of the complexity of clean closing a radiological facility with hot cells, the Permit conditions  
3 allow the Permittees two years for clean closure of the 325 HWTUs.

4 Due to high radiation levels in Room 32 of the SAL, the Permittees meets visual tank inspections  
5 requirements using a camera system instead of having a person enter the room to inspect the tanks  
6 visually.

7 **STATE ENVIRONMENTAL POLICY ACT (SEPA)**

8 The SEPA determination for the 325 HWTUs is in the Hanford-Wide Permit Fact Sheet.

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