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**OPERATING UNIT GROUP 5 PERMIT CONDITIONS**  
**325 HAZARDOUS WASTE TREATMENT UNITS**

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**OPERATING UNIT GROUP 5 PERMIT CONDITIONS**  
**325 HAZARDOUS WASTE TREATMENT UNITS**

**UNIT DESCRIPTION**

The 325 Hazardous Waste Treatment Units (325 HWTUs) are located in the 325 Building in the 300 Area of the Hanford Site. The 325 Building, known as the Radiochemistry Building, was built in 1953 to safely house and handle multi-curie level chemical development with high activity substances. During 1959 to 1960, the High Level Radiochemistry wing was constructed. The operation of the building was transferred to Pacific Northwest National Laboratory in 1987 and the building is now called the Radiochemical Processing Laboratory (RPL). The 325 HWTUs consist of the Shielded Analytical Laboratory (SAL) and the Hazardous Waste Treatment Unit (HWTU).

The SAL began dangerous waste management operations in 1991 and the HWTU began waste management operations in 1995. The SAL, which consists of Rooms 32, 200, 201, 202, and 203 consists of four laboratory rooms that are used to store and treat mixed waste in containers and in a single tank. Rooms 200 and 201 include a hot cell facility, which is used for storage and treatment of containerized highly radioactive solid and liquid waste materials. Liquid wastes generated from operations within the hot cells drain to a 1,218 liter tank (Tank TK-1) located beneath the hot cells in Room 32.

The HWTU consists of adjoining rooms 520, 524, and 528 and is authorized to treat and store dangerous waste under a Permit. The 325 HWTUs are permitted to control spills and segregate incompatible wastes, and to ensure that all wastes are managed according to the requirements of the Hanford Site Dangerous Waste Permit and other applicable requirements.

Routine dangerous and/or mixed waste treatments in the 325 HWTUs include the following:

- pH adjustment
- Ion exchange
- Carbon absorption
- Oxidation
- Reduction
- Waste concentration by evaporation
- Precipitation
- Filtration
- Solvent extraction
- Solids washing
- Phase separation
- Catalytic destruction
- Solidification and stabilization

Most treatments are small bench-scale operations. Treatment activity in the SAL is in shielded glove boxes and in Tank TK-1.

**LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 5**

- Addendum A Part A Form, dated September 30, 2008
- Addendum B Waste Analysis Plan
- Addendum C Process Information
- Addendum D Groundwater Monitoring (Reserved)
- Addendum E Security
- Addendum F Preparedness and Prevention

- 1 Addendum G Personnel Training
- 2 Addendum H Closure
- 3 Addendum I Inspection Plan
- 4 Addendum J Contingency Plan

5 **DEFINITIONS**

6 Reserved

7 **ACRONYMS**

8 Reserved

9 **III.5.A COMPLIANCE WITH UNIT SPECIFIC PERMIT CONDITIONS**

10 **III.5.A.1** The Permittees will comply with all conditions in this Chapter and its addenda with  
11 respect to dangerous and/or mixed waste management and dangerous waste management  
12 units in 325 Hazardous Waste Treatment Units (HWTUs), in addition to requirements in  
13 Permit Parts I and II.

14 **III.5.B GENERAL WASTE MANAGEMENT**

15 **III.5.B.1** The Permittees are authorized to accept dangerous and/or mixed waste that satisfies the  
16 waste acceptance criteria in Addendum B according to the waste acceptance procedures  
17 in Addendum B for storage in the 325 HWTUs.

18 **III.5.B.2** The Permittees are authorized to store and/or treat dangerous and/or mixed waste  
19 physically located in the 325 HWTUs as of the effective date of this Permit, and wastes  
20 accepted for storage or treatment pursuant to Permit Condition III.5.B.1.

21 **III.5.C WASTE ANALYSIS**

22 **III.5.C.1** The Permittees will comply with requirements, and implement and maintain the practices  
23 described, in Addendum B for waste analysis for all dangerous and/or mixed waste  
24 managed at this unit. [[WAC 173-303-300\(5\)](#)]

25 **III.5.D RECORDKEEPING AND REPORTING**

26 **III.5.D.1** The Permittees will place the required documentation into the Hanford Facility Operating  
27 Record, 325 HWTUs File as required by Permit Condition II.I.2: [[WAC 173-303-380](#)]

28 **III.5.E SECURITY**

29 **III.5.E.1** The Permittees will implement and maintain the practices described in Addendum E,  
30 Security, and required by Permit Condition II.L at the 325 HWTUs.  
31 [[WAC 173-303-310\(2\)\(b\)](#)]

32 **III.5.F PREPAREDNESS AND PREVENTION**

33 **III.5.F.1** The Permittees will implement the practices specific to the 325 HWTUs as described in  
34 Addendum F, Preparedness and Prevention. [[WAC 173-303-340](#)]

35 **III.5.G CONTINGENCY PLAN AND EMERGENCY RESPONSE**

36 **III.5.G.1** The Permittees will comply with Addendum J in addition to the requirements of Permit  
37 Condition II.A when applicable. [[WAC 173-303-350](#)]

38 **III.5.H INSPECTIONS**

39 **III.5.H.1** The Permittees will implement the practices described in Addendum I, Inspection Plan,  
40 and include the inspection requirements of Addendum I in the inspection schedule of  
41 Permit Condition II.X.1. [[WAC 173-303-320\(2\)](#)]

- 1 **III.5.I TRAINING PLAN**
- 2 **III.5.I.1** The Permittees will, in a written training plan, include training requirements as specified  
3 in Addendum G, Personnel Training, and as required by WAC 173-303-330(2) and  
4 Permit Condition II.C. [[WAC 173-303-330](#)]
- 5 **III.5.J OTHER GENERAL REQUIREMENTS**
- 6 **III.5.J.1** The Permittees will conduct waste management activities within 325 HWTUs authorized  
7 by this Permit according to the requirements in Addendum F, Preparedness and  
8 Prevention, Sections F.3.1, and F.3.2. The Permittees will document compliance with  
9 these provisions in the Hanford Facility Operating Record, 325 HWTUs File.  
10 [[WAC 173-303-395\(1\)\(a\)-\(c\)](#)]
- 11 **III.5.K CLOSURE**
- 12 **III.5.K.1** The Permittees will implement the practices as described in Addendum H, Closure Plan,  
13 when closing the 325 HWTUs. [[WAC 173-303-610\(4\)](#)]
- 14 **III.5.K.2** The Permittees will amend the Closure Plan in accordance with applicable procedures in  
15 [WAC 173-303-800](#) through -840. [[WAC 173-303-610\(3\)\(b\)](#)]
- 16 **III.5.L POST CLOSURE**
- 17 Reserved
- 18 **III.5.M CRITICAL SYSTEMS**
- 19 Reserved
- 20 **III.5.N RESERVED**
- 21 **III.5.O CONTAINERS**
- 22 **III.5.O.1 Container Storage Unit Standards**
- 23 **III.5.O.1.a** Subject to the conditions in Addendum C, the Permittees may store and treat dangerous  
24 waste in containers at the 325 HWTUs subject to the design capacities shown in  
25 Addendum C.
- 26 **III.5.O.1.b** The Permittees will maintain the unit according to the requirements of, and procedures  
27 described in, Addendum C, Process Information, Sections C.1.4 and C.1.5, Container  
28 Management Standards.
- 29 **III.5.O.1.c** The Permittees are authorized to manage containerized wastes at the 325 HWTUs  
30 according to the requirements of, and procedures described in, Addendum C,  
31 Section C.1.2. [[WAC 173-303-630\(2\)](#)].
- 32 **III.5.O.1.d** The Permittees may treat wastes in containers via consolidation of wastes, decanting of  
33 free liquids and addition of absorbents. Absorbents must satisfy the requirements of  
34 [WAC 173-303-140\(4\)\(b\)\(iv\)](#), incorporated by reference, for wastes to be land disposed in  
35 Washington.
- 36 **III.5.O.2 Container Storage Inspection Requirements**
- 37 **III.5.O.2.a** The Permittees will inspect the 325 HWTUs according to Addendum I, Inspection  
38 Requirements. [[WAC 173-303-630\(6\)](#)].

- 1 **III.5.P TANK SYSTEMS**
- 2 **III.5.P.1 Tank System Integrity**
- 3 **III.5.P.1.a** The Permittees will maintain a copy of the integrity assessment and perform periodic  
4 reassessment in accordance with procedures described in Addendum C, Process  
5 Information, Section C.2.1.1.2.
- 6 **III.5.P.2 Tank System Operating Requirements**
- 7 **III.5.P.2.a** The Permittees are authorized to store and treat wastes in tanks at the 325 HWTUs  
8 according to the requirements and procedures described in Addendum C, Process  
9 Information, Section C.2.1. [[WAC 173-303-640\(5\)](#)]
- 10 **III.5.P.3 Tank System Inspection Requirement**
- 11 **III.5.P.3.a** The Permittees will inspect the 325 HWTUs tank systems authorized by Permit  
12 Condition III.5.B.2 according to Addendum I, Inspection Requirements.  
13 [[WAC 173-303-640\(6\)\(a\)-\(c\)](#)]
- 14 **III.5.P.4 Approved Waste and Storage Limits**
- 15 **III.5.P.4.a** Subject to conditions in Addendum C, the Permittees may store and treat dangerous  
16 waste in the SAL tank subject to the design capacities shown in Addendum C.
- 17 **III.5.P.4.b** The Permittees will only store or treat in the SAL tank the mixed waste accepted in  
18 accordance with the Waste Analysis Plan (Addendum B) and this permit.  
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