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ADDENDUM I
INSPECTION PLAN

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1 **I INSPECTION PLAN**

2 **I.1 Inspection Plan**

3 The purpose and intent of implementing inspection procedures at the 325 Hazardous Waste Treatment
4 Unit (HWTU) are to prevent malfunctions, deterioration, operator errors, and/or discharges that might
5 cause or lead to the release of regulated waste to the environment or threats to human health.

6 **I.1.1 General Inspection Requirements**

7 The content and frequency of inspections performed at the 325 HWTUs are described in this section.
8 Also described is maintenance of inspection records.

9 Observations made and deficiencies and corrective actions noted during an inspection are recorded on the
10 inspection checklist. The checklist includes the inspector's printed name, signature, date, and time. Once
11 approved, the checklist is placed in the 325 HWTUs unit-specific operating record. The inspection
12 records and dates are used to help determine any necessary corrective actions. Problems identified during
13 the inspections are prioritized and addressed in a timely fashion as appropriate to mitigate health risks to
14 workers, and to maintain integrity of waste management units.

15 **I.1.1.1 Types of Problems**

16 Inspections are performed at the 325 HWTUs daily, weekly, quarterly, once every four months, and
17 annually. The types of problems addressed by each of these inspections are described as follows.

18 **I.1.1.2 Daily Inspections**

19 Daily inspections will be performed whenever waste packaging, transfer, shipping, or movement
20 operations are conducted. Unit personnel will monitor container condition and integrity and the
21 containment system area(s) where waste is handled. Specific inspection points include:

- 22 • Container integrity
- 23 • Unlabeled or opened containers
- 24 • Improper storage (e.g., incompatible waste storage)
- 25 • Disorderliness or uncleanliness of storage unit
- 26 • Accumulation of waste in containment systems

27 Results of these daily inspections will be documented as part of the 325 HWTUs operating record.

28 **I.1.1.3 Weekly Inspections**

29 Weekly inspections will be performed of both safety and operating equipment in the 325 HWTUs. Safety
30 and emergency equipment will be inspected for functionality and adequacy of supply. The weekly and
31 daily inspections are usually conducted on or before the last working day of each week, and have the
32 same inspection points. Results of these weekly inspections will be documented as a part of the
33 325 HWTUs operating record.

34 **I.1.1.4 Annual/Quarterly Inspections**

35 Annual inspections will be performed of the sprinkler system, smoke detectors, heat detectors, and pull
36 boxes.

37 Quarterly inspections will be performed of the emergency eyewash/shower units, the fume hoods, and
38 other ventilation system components. Records of these safety equipment inspections and the results, as
39 well as documentation of any required corrective actions, will be maintained by the appropriate facilities
40 and operations staff.

1 **I.1.1.5 Frequency of Inspections**

2 The frequency of inspections is based on specific regulatory requirements and on the rate of possible
3 deterioration of equipment and probability of environmental or human health incidents.

4 Areas where dangerous and mixed waste are actively handled, including all of the hot cells, the front and
5 back face of the Shielded Analytical Laboratory (SAL), and Rooms 520, 524, and 528 in the HWTU are
6 considered to be areas subject to spills. These areas will be inspected daily when in use as required by
7 WAC 173-303-320(2)(c).

8 The primary and secondary containment systems (i.e., floors, troughs, and sumps) will be inspected daily
9 when in use for accumulation of spilled material. The containment systems will be inspected weekly for
10 structural integrity (i.e., no cracks, gaps, leaks that could result in environmental release of waste in the
11 event of a spill). This frequency is based on the need to perform timely corrective actions in the event
12 that problems are noted.

13 Aisle space between containers will be inspected weekly, when applicable. As the objective of the aisle
14 space requirement is to allow for unobstructed movement of personnel and equipment in case of an
15 emergency, the aisle space requirements do not apply to the hot cells, shielded cubicles, or storage
16 cabinets. If quantities of waste are packaged in large containers or drums, temporarily stored before a
17 transfer, a minimum aisle space of 76 centimeters is maintained in accordance with
18 WAC 173-303-340(3), As-Low-As-Reasonably-Achievable (ALARA) concerns, and with applicable
19 standards of the Uniform Building Code and Life Safety Code. Weekly inspections, where applicable,
20 allow container spacing problems to be identified and corrected.

21 Emergency and safety equipment and personal protective equipment will be inspected weekly to assure
22 this equipment is available and in adequate supply.

23 **I.1.2 Specific Process Inspection Requirements**

24 The following sections detail the inspections that will be performed at the 325 HWTUs.

25 **I.1.2.1 Container Inspection**

26 Dangerous and mixed waste containers stored in the 325 HWTUs will be inspected daily where waste
27 handling activities are performed for leakage, evidence of damage or deterioration, and proper lid and
28 bung closure. Any observations made during the inspections, including any repairs or remedial actions
29 taken, will be documented in the logbook with the date, time, and printed name and signature of the
30 inspectors. This logbook will be maintained in the 325 HWTUs for at least 5 years from the date of
31 inspection. Areas subject to spills will be inspected daily when in use. Structural integrity of the
32 containment systems will be checked weekly.

33 **I.1.2.2 Tank System Inspection**

34 The SAL tank located in Room 32 is used to store mixed waste generated because of waste treatment
35 activities. Routine inspections of the SAL tank system will be conducted in accordance with
36 [WAC 173-303-640](#). Inspections involve a combination of visual, mechanical, and electronic means. Due
37 to ALARA considerations, visual inspections of the tank system will be conducted by remotely operated
38 cameras mounted in Room 32. These visual inspections are limited to areas of the tank system that can be
39 observed by the camera. In the event of a camera system malfunction, the tank system will be visually
40 inspected from the doorway of Room 32 until the malfunction has been corrected. A mirror is mounted
41 on the back wall of Room 32 to allow viewing the rear of the tank from the window in the door. A
42 logbook or inspection sheet of all inspections will be maintained in the operating record for at least
43 5 years from the date of the inspection.

44 **I.1.2.2.1 Tank System External Corrosion and Releases**

45 Aboveground portions of the SAL tank will be inspected each operating day to detect corrosion or
46 releases of waste.

1 I.1.2.2.2 Tank System Construction Material and Surrounding Area

2 The SAL tank is double walled and constructed of corrosion resistant stainless steel, with a capacity of
3 1,218 liters. The outer wall is a cylindrical stainless steel tank that provides containment sufficient to
4 contain 100 percent of the inner tank volume. The construction materials of the tank and the area
5 immediately surrounding the externally accessible portion of the tank system, including the secondary
6 containment systems, will be inspected during use to detect erosion or signs of releases of mixed waste
7 (e.g., wet spots).

8 Any deteriorations or malfunctions observed during inspection of the tank system will be corrected. Any
9 release to the environment will be reported immediately to Ecology, as required by
10 [WAC 173-303-640\(7\)\(d\)\(i\)](#), and to the National Response Center as required by [40 CFR 302](#).

11 I.1.2.2.3 Tank System Overfilling Control Equipment

12 The tank controls for the SAL tank include two high-level alarm systems that respond to overflow
13 conditions. The initial tank high-level alarm is activated by a conductivity probe, the second by a
14 capacitance probe. The conductivity probe high-level alarm and associated functions can be tested
15 electrically by depressing a button on the main control panel in Room 201. Activation of this alarm
16 results in a visible red light and audible alarm on the main control panel in Room 201, an alarm condition
17 on the annunciator panel on the second floor of the 325 Building, and closure of electric solenoid valves
18 on all inlet water supply lines to the hot cell area and tank system. Activation of the capacitance probe
19 alarm results in a red light and audible alarm.

20 I.1.2.2.4 Tank System Monitoring and Leak Detection Equipment

21 The leak detection conductivity probe for the SAL tank is located between the primary and secondary
22 shells of the double walled tank. The leak detection probe signal activates if any liquids collect in the
23 annulus between the two walls of the tank. The leak detection probe can be functionally tested
24 electrically by depressing a test button on the main control panel in Room 201. A leak detection sensor is
25 also installed in the secondary containment pan underneath the SAL tank and activates if liquids are
26 detected in the pan.

27 I.1.3 Inspection Log

28 Copies of the completed inspection checklists will be provided to operations personnel and maintained in
29 the Hanford Facility Operating Record, 325 HWTUs File. Any corrective actions noted or deterioration
30 or malfunctions in equipment discovered by the inspector will be delegated to responsible individuals in
31 the operations group. Corrective actions identified must be completed within 2 weeks unless there is
32 documentation and reason for further delay. Examples of problems that could be identified and the
33 corresponding remedial action are listed in Table I.1. Inspection reports and corrective action response
34 documentation will be retained at the 325 HWTUs for a minimum of 5 years.

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Table I.1. Remedial Actions for Major Problems

Major Problems	Remedial Actions
Containment system failures	
Cracks in floor of container storage area	Remove containers from area and cease use until cracks are repaired.
Cracks in floor of SAL cell liner	Remove containers from area and cease use until cracks are repaired, or provide secondary containment for containers holding liquid waste.
Leaking container in container storage area	Transfer waste to another container. Clean up spill.
Leaking tank or ancillary equipment	For minor leaks or drips, conduct inspection of affected equipment every 12 hours. For major leaks, immediately remove all waste from tank system. Prevent addition of waste to tank system until repaired. Notify Building Emergency Director. Initiate contingency plan if appropriate.
Spills	
Minor spills in container storage area	Clean up spill according to contingency plan.
Major spills in container storage areas	Notify Building Emergency Director. Initiate contingency plan if appropriate.

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