

**400 AREA WASTE MANAGEMENT UNIT
ADDENDUM H
CLOSURE PLAN
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
06/30/2009	

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**ADDENDUM H
CLOSURE PLAN**

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**ADDENDUM H
CLOSURE PLAN**

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1 **H CLOSURE PLAN**

2 The closure plan for the 400 Area WMU addresses closure of the two container storage units referred to
3 as the Fuel Storage Facility (FSF) and the Interim Storage Area (ISA). This closure plan is based on
4 closure by removal or decontamination, or "clean closure", and the general and unit-specific closure
5 criteria in WAC 173-303-610(2) and WAC 173-303-630(10). All mixed waste will be removed from the
6 FSF and ISA at the time of closure.

7 The following sections document the required closure performance standards and necessary closure
8 activities to close the two container storage units at the 400 Area WMU.

9 **H.1 Closure Performance Standard**

10 The closure performance standard for the FSF and the ISA, based on "clean closure", are established for
11 structures, equipment, bases, and liners under WAC 173-303-610(2)(b)(ii). Ecology may establish
12 closure standards under this authority on a case-by-case basis. FSF and ISA will be considered clean
13 when surfaces of structures, equipment, bases, liners, etc., meet the clean debris surface standard in
14 40 CFR 268.45, Table 1, Footnote 3. This standard requires that potentially contaminated surfaces when
15 viewed without magnification shall be free of all visible contaminated soil and dangerous waste. Except
16 the residual staining, from soil and waste consisting of light shadows, slight streaks, or minor
17 discolorations, and soil and waste in cracks, crevices, and pits may be present provided such staining and
18 waste, and soil in cracks, crevices, and pits shall be limited to no more than five percent of each square
19 inch of surface area.

20 The clean closure standard will be achieved by documenting the absence of, or removing the mixed waste
21 inventory. This includes all mixed waste and dangerous waste constituents from the 400 Area WMU.
22 The operating practices used for waste management at the FSF and the ISA will identify and cleanup any
23 spills or releases that may occur during operation of the units, and document in the Hanford Facility
24 Operating Record, 400 Area WMU File the occurrence of a response to any spill or release. Cleanup of
25 spills and releases from waste management operations will be consistent with the closure performance
26 standard established in this plan, so that no additional cleanup or verification will be necessary at the time
27 of closure. [WAC 173-303-610(2) and WAC 173-303-630(10)].

28 Contamination of soil, groundwater, surface water, or air related to operations at the FSF and ISA is not
29 anticipated to be a concern at the time of closure. Therefore, the closure standards identified in
30 WAC 173-303-610(2)(b)(i) for soils, ground water, surface water, and air are not discussed at this time.
31 However, in the unlikely event that soil contamination is found, this Closure Plan will be amended with
32 an approved Permit modification and in accordance with WAC 173-303-610(3)(b) to incorporate soil
33 closure performance standards.

34 **H.2 Closure Activities**

35 The 400 Area WMU is operated as a clean, well-maintained dangerous waste management unit. Detailed
36 records are and will continue to be maintained of the materials and waste stored at the FSF and ISA,
37 pursuant to Permit Condition III.16.B.2.c. Spills and other unusual occurrences are responded to and
38 documented pursuant to Section H.1. Clean closure of the 400 Area WMU container storage units will
39 demonstrate that the storage areas are not contaminated with mixed waste or dangerous waste
40 constituents. Contamination from the FSF and ISA operations is not expected to be present at the time of
41 closure, since the permit condition governing dangerous waste management activities require that any
42 spills or releases be promptly identified and cleaned up to a performance standard equivalent to the clean
43 closure performance standard established in this closure plan. Therefore, no decontamination is expected
44 to be necessary at the time of closure, no sampling is planned in support of clean closure, and no other
45 closure activities are anticipated.

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1 If evaluation of documentation such as spill records, field observations, and personnel interviews indicate
2 the likelihood of waste contamination that was not previously cleaned up, or that the results of past spill
3 cleanup cannot be verified, this Closure Plan will be amended with an approved Permit modification and
4 in accordance with Permit Condition II.J.3. Any unanticipated decontamination activities, sampling and
5 analysis activities, or other activities required for clean closure will be accomplished in accordance with
6 the amended Closure Plan. The Closure Plan will contain the necessary provisions at the time of closure.

7 At a minimum, closure activities will accomplish the following.

- 8 • Remove stored waste inventory and transfer to a permitted on-site dangerous waste management
9 unit, or to an off-site facility meeting the definition of a "designated facility" in
10 WAC 173-303-040, incorporated by reference, as appropriate.
- 11 • Perform document review and interview personnel to determine spill history and ensure spills
12 were completely cleaned up consistent with closure performance standards for the FSF and ISA.
- 13 • Verify that performance standard has been achieved.
- 14 • Obtain certification described in Section H.5 upon performance standard verification.
- 15 • Prepare a Permit modification in accordance with Permit Condition II.J.3 to amend the Closure
16 Plan and include the additional work requirements necessary to achieve clean closure upon an
17 initial finding that the performance standard(s) was not achieved.

18 Detailed information for the closure activities are provided as follows.

19 **H.2.1 Remove Waste Inventory**

20 All containers of waste will be removed from each container storage dangerous waste management unit.
21 If the containers are removed from the FSF to the ISA to close the FSF in advance of the ISA, a waste
22 transfer to consolidate wastes in the ISA will be accomplished without the need for specialized
23 equipment. Waste transfers will be in compliance with WAC 173-303-380(1)(b).

24 If the containers require transportation from the FSF or the ISA to another on-site dangerous waste
25 management unit or off-site Treatment, Storage, and Disposal (TSD) Facility, special transportation
26 containment will be designed and fabricated for the waste stored in the FSF. For waste stored in the ISA,
27 specialized transportation containment and/or packaging will be determined on a case-by-case basis. In
28 addition, the receiving on-site dangerous waste management unit or off-site TSD Facility may require
29 time to modify documents in order to receive the containers of waste.

30 No waste treatment capacity is currently available for the inventory of wastes expected to be managed at
31 the FSF or the ISA. No waste is expected to be generated during closure activities following removal of
32 the waste inventory. This closure plan will be amended in accordance with Permit Condition II.J.3 in the
33 event that waste will be generated.

34 If the ISA never managed any waste at the time of closure, the inspection/survey below will document
35 that condition.

36 **H.2.2 Perform Document Review and Interview Personnel to Determine Spill History**

37 Because the 400 Area WMU is and will continue to be a well operated dangerous waste management unit,
38 the Hanford Facility Operating Record, 400 Area WMU File will contain documentation of how any
39 spills were properly cleaned up. Proper cleanup of spills will be determined by demonstrating any
40 residuals from the spills have been removed. The Hanford Facility Operating Record, 400 Area WMU
41 File will show how the spill was cleaned up. A visual performance standard will allow for clean closure
42 of structures, equipment, bases, liners, etc. The spill cleanup records in the Hanford Facility Operating
43 Record, 400 Area WMU File will become a basis to support clean closure of the ISA gravel areas without
44 the need for sampling. If review of the Hanford Facility Operating Record, 400 Area WMU File reveals a
45 problem, the Closure Plan will be amended to include the necessary steps to satisfy the closure
46 performance standard.

1 **H.2.3 Verify Performance Standard Achievement**

2 After all waste has been removed from a container storage dangerous waste management unit(s) and the
3 document review has been completed, a visual inspection/survey will be performed on any structures,
4 equipment, bases, liners, etc, to verify that the surface meets the clean debris surface in 40 CFR 268.45
5 Table 1, Footnote 3, incorporated by reference. The inspection/survey will evaluate all surfaces, with
6 special emphasis on information derived from evaluation of the operation records, logbooks, and
7 personnel interviews.

8 If no spills occurred in the gravel area of the ISA, the visual inspection/survey will document that "no
9 spills occurred". If there was a spill in the gravel area, and a document review shows that the spill was
10 properly and completely cleaned up, a visual inspection/survey will document the review finding(s). If
11 information indicates from evaluation of the operation records, logbooks, and personnel interviews that
12 contamination is possible from TSD unit activities, this Closure Plan will be amended with an approved
13 Permit modification in accordance with Permit Condition II.J.3, to incorporate the steps and requirements
14 to achieve clean closure.

15 Once the inspection/survey is complete and results verify clean closure achievement, the certification
16 described in Section H.5 will be obtained.

17 **H.2.4 Decontaminate or Remove Equipment**

18 No decontamination or equipment removal is expected to be required to achieve clean closure. In the
19 event a problem occurs where decontamination or equipment removal is necessary, a Permit modification
20 will be prepared to amend the closure plan in accordance with Permit Condition II.J.3.

21 **H.2.5 Decontaminate Structures**

22 No structures will require decontamination to achieve clean closure. In the event a problem occurs where
23 structures will require decontamination, a Permit modification will be prepared to amend the closure plan
24 in accordance with Permit Condition II.J.3.

25 **H.2.6 Remediate Soils**

26 Soil remediation activities are not expected to be necessary as the FSF and ISA are anticipated to be well
27 maintained. Any spills occurring during the operating life of the FSF and ISA are expected to have been
28 properly and completely cleaned up to standards consistent with the closure performance standards. In
29 the event that sampling is necessary for the surrounding gravel areas of the ISA, the Closure Plan will be
30 amended through a Permit modification in accordance with Permit Condition II.J.3.

31 **H.3 Maximum Extent of Operation and Maximum Waste Inventory**

32 As authorized by Permit Condition III.16.B.1, the FSF and ISA provide storage capacity for waste
33 generated from decommissioning of the Fast Flux Test Facility (FFTF) before final treatment and/or
34 disposal. The estimated maximum waste inventory is consistent with the combined storage capacity of
35 the FSF and the ISA, or 20,000 gallons.

36 **H.4 Schedule for Closure**

37 In accordance with WAC 173-303-610(3)(c), notification to Ecology is required at least 45 days prior to
38 the start of closure of the FSF or the ISA.

39 The closure schedule is based on the time required to perform applicable closure activities described in
40 Section H.2. Closure of the FSF and the ISA will be completed 180 days after the start of closure
41 activities at each unit, respectively. When a closure date is established for a container storage dangerous
42 waste management unit(s), the schedule will be evaluated, including any additional closure activities
43 required for clean closure. If Closure Plan modifications are necessary to achieve clean closure, a revised
44 schedule will be proposed as part of the Permit modification package prepared in accordance with Permit
45 Condition II.J.2.

1 **H.5 Certification of Closure**

2 Within 60 days of completion of closure activities required by this closure plan, the Permittees will
3 submit to the Department by registered mail, a certification that the dangerous waste management unit(s)
4 has been closed in accordance with the specifications in this Plan that are in effect at the time of
5 completion of closure activities. This certification of closure will address only requirements of this
6 closure plan covered by the completed closure activities (i.e., either the FSF or the ISA, or both).
7 The Permittees and an independent registered professional engineer will sign this certification. The
8 independent registered professional engineer certification is to confirm that the activities took place and
9 that the unit was closed in accordance with the approved Closure Plan. Documentation supporting the
10 independent registered professional engineer's certification must be furnished to Ecology upon request.

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