

1  
2  
3  
4  
5

**FACT SHEET**  
**PART V CLOSURE UNIT GROUP 19, TREATMENT, STORAGE AND DISPOSAL UNIT**  
**HEXONE STORAGE AND TREATMENT FACILITY**

DRAFT

1  
2  
3  
4

**This page intentionally left blank.**

DRAFT

1 **FACT SHEET**

2 **PART V CLOSURE UNIT GROUP 19, TREATMENT, STORAGE AND DISPOSAL UNIT**

3 **HEXONE STORAGE AND TREATMENT FACILITY**

4 **UNIT DESCRIPTION**

5 The Hexone Storage and Treatment Facility (HSTF) consists of two underground, single-shell carbon-steel  
6 tanks and related equipment. It is just north of the REDOX Plant, in the southeast corner of Hanford's 200  
7 West Area.

8 The two hexone storage tanks, 276-S-141 and 276-S-142, are 81,400 liter (21,500 gallon) carbon-steel  
9 tanks, similar to petroleum storage tanks. The tanks are 8.5 meters (28 feet) long. The walls of the tanks  
10 are 0.95 centimeter (3/8-inch) thick. The tops of the tanks are 0.9 meter (3 feet) underground.

11 The related equipment consists of the following:

- 12 • Above and below ground piping for hexone solvents. The Permittees removed part of the original  
13 piping in the 1970s. About 13 meters (42 feet) of underground piping remains, running from the  
14 facility east to the railroad tracks.
- 15 • Two centrifugal transfer pumps.
- 16 • Aboveground vent piping. Tank 276-S-141 vents to Tank 276-S-142 through a flame arrestor and a  
17 7.6 centimeter (3 inch) vent pipe.
- 18 • Obsolete mercury manometer for measuring liquid. The manometer has been out of use since the  
19 mid-1970s. It appears to be still intact and not leaking.
- 20 • Weight factor liquid level instrumentation.

21 The Permittees used the HSTF from 1951 through 1967 to store hexone for making solvents for the REDOX  
22 Plant. After 1967, the tanks contained distilled hexone from the REDOX Plant. Tank 276-S-142 also  
23 contained normal paraffin hydrocarbon (NPH) and tributyl phosphate (TBP) from a one-time reactor fuel  
24 separation effort in 1966.

25 Between 1966 and 1988, the Permittees added water to the tanks to limit and reduce corrosiveness and  
26 ignitability of the waste. They also tested emergency pumps. In 1990, the Permittees used a temporary  
27 distillation system to remove organics from the waste as an interim treatment. They completed the effort in  
28 June 1992. In 1990, Permittees started to remove organics and reduce waste volume using a temporary  
29 distillation system as an interim treatment. Operations ended in June 1992.

30 About 500 liters (130 gallons) of waste remain in each tank. This is less than 1 percent of the tank volume.  
31 In 2002, the remaining space within the two tanks was filled with grout, in two pours with a cold seam, to  
32 mitigate ignitability concerns.

33 **Type and Quantity of Waste**

34 The HSTF received liquid mixed waste from the Reduction-Oxidation (REDOX) Plant. It may have received  
35 small amounts of reagent-grade methyl isobutyl ketone (hexone) waste from the Hot Semiworks Facility.

36 The waste the tanks held was hexone, NPH, TBP, and liquid mixed waste from the REDOX facility. More  
37 details on the waste types and quantities are on the Permittees' Part A (permit application) form.

38 The estimated annual quantity of waste the Permittees treated and stored in Tank 276-S-141 was about  
39 76,000 liters (20,000 gallons), and in Tank 276-S-142 was about 61,000 liters (16,000 gallons). The  
40 Permittees added about 760 liters (200 gallons) of water to the 276-S-141 tank in 1988.

41 The 276-S-142 tank received about 5,000 liters (1,300 gallons) of water in 1967, 1,900 liters (500 gallons) in  
42 the mid-1970s, and 760 liters (200 gallons) in the mid-1980's.

43

1 **BASIS FOR PERMIT CONDITIONS**

2 Tri-Party Agreement Milestones M-037-01 and M-037-10 coordinate cleanup of Central Plateau Resource  
3 Conservation and Recovery Act (RCRA) TSD closure units. The Permittees submitted a draft, revised  
4 closure plan for the HSTF on December 31, 2010, meeting Milestone M-037-01. Milestone M-037-10  
5 requires the Permittees to complete closure of the HSTF by September 30, 2020.

6 **CLOSURE AND POST CLOSURE**

7 If the Permittees cannot achieve clean closure as defined in [WAC 173-303-640\(8\)](#), the Permittees may  
8 coordinate final closure with the remedial actions for the 200-UP-1 Operable Unit (OU) final remedy. If  
9 groundwater cleanup is needed, the Permittees will coordinate it with the 200-UP-1 OU as outlined in the  
10 Tri-Party Agreement Action Plan, Section 5.5, and by the schedule in Milestone M-037-10.

11 **Closure Activities**

12 The Permittees submitted a draft, revised closure plan in 2010, which met Milestone M-037-01.  
13 Condition V.14.B.1 requires the submittal of a revised closure plan, since the original submitted did not  
14 meet all of the closure requirements under [WAC 173-303-610\(3\)](#) and [WAC 173-303-640\(8\)](#).

15 The Permittees plan to clean close the HSTF and meet closure performance standards in [WAC 173-303-](#)  
16 [610\(2\)](#). Since the HSTF does not have secondary containment, [WAC 173-303-640\(8\)\(c\)](#) requires the  
17 Permittees to submit a contingent closure plan and post-closure plan with the closure plan. This  
18 requirement is in Condition V.14.B.1. The Permittees will comply with requirements for the closure of a  
19 tank system per [WAC 173-303-640\(8\)](#) and the closure requirements of [WAC 173-303-610\(5\)](#) for cleanup  
20 of underlying soils

21 The Permittees will coordinate closure of the HSTF with final CERCLA remedial actions in the 200 Area.  
22 They will follow the Tri-Party Agreement Action Plan, Section 5.5, and Milestones M-037-01 and M-  
23 037-10.

24 The Permittees will not have to implement a groundwater monitoring plan if they can clean close the  
25 facility to meet the closure performance standards of [WAC 173-303-610\(2\)](#). The Permittees will comply  
26 with [WAC 173-303-640\(8\)](#) for the closure of a tank system and [WAC 173-303-610\(5\)](#) for cleanup of  
27 underlying soils.

28 **Potential Risks to Human Health and the Environment**

29 Risk to human health and the environment from the HSTF is very low. The Permittees have removed  
30 most of the waste from the tanks. They have filled the space in the tank with grout to prevent waste from  
31 igniting. This eliminated much of the risk. Ecology has determined that the Permittees may dispose of  
32 the tanks and ancillary equipment as hazardous debris under [WAC 173-303-040](#). The Permittees will  
33 dispose of the tanks, related equipment, and contaminated soils at Environmental Restoration Disposal  
34 Facility or another permitted landfill for this waste.

35 The Permittees will meet the following standards for this unit's clean closure:

- 36 • WAC 173-303-610 for Closure and Post-Closure.
- 37 • WAC 173-340, Model Toxics Control Act.

38 **Groundwater**

39 The Permittees will not have to monitor groundwater at the HSTF unless they cannot clean close the  
40 facility as defined in [WAC 173-303-610\(2\)](#).

41 If the HSTF cannot meet the clean closure standards, the Permittees must follow the contingency closure  
42 plan and coordinate with CERCLA requirements of the 200-UP-1 OU. The basis for this is [WAC 173-](#)  
43 [303-645](#).

44  
45

1 **RECORDKEEPING AND REPORTING**

2 Condition V.19.D requires the Permittees to put all documentation for this unit in the Hanford Facility  
3 Operating Record. Types of records to go there include monitoring, testing, analyses, and quality control  
4 and quality assurance data. The basis for this condition is [WAC 173-303-380](#).

5 Though records for the HSTF are minimal, permit conditions require the Permittees to comply with  
6 permit condition II.I.2, with record keeping and a reporting addendum not necessary.

7 **SECURITY**

8 The HSTF is within Hanford's secured area. Access to the unit is subject to the general security provision  
9 of Permit Condition II.L. Security provisions, access controls, and signage specific to this closure unit  
10 will comply with the requirements of [WAC 173-303-310](#).

11 **CONTINGENCY PLAN**

12 Because the HSTF is no longer in operation, a unit-specific contingency plan is not needed. During  
13 HSTF closure workers must follow site-wide contingency planning and emergency management  
14 requirements. This is to ensure a safe working environment and protect public health and the  
15 environment. Condition II.A describes the requirements for facility contingency planning and refers to  
16 the requirements of Permit Attachment 4, *Hanford Emergency Management Plan*.

17 **INSPECTIONS**

18 The inspection schedule is contained in Addendum I. Since this unit is inactive, the permit requires an  
19 inspection once a year. If any potential threats to human health or the environment arise, the Permittees  
20 will increase inspections to quarterly until the threats are removed.

21 **TRAINING**

22 The Permittees will include the training requirements established in Addendum G in a written training  
23 plan, as required by Condition II.C.1 and [WAC 173-303-330](#)(2)(a) and (b). The plan will include the job  
24 classifications identified for HSTF closure work.

25 **REQUESTED VARIANCES OR ALTERNATIVES**

26 Condition V.19.B.1 requires a schedule for submitting a revised closure plan. The schedule is justified  
27 because the removal and remediation work will take longer than the 180 days required by [WAC 173-303-](#)  
28 [610](#) (4)(b) (Closure and Post-Closure).

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

30 The SEPA determination for this unit is in the Hanford-Wide Permit Fact Sheet.

31

1  
2  
3  
4

**This page intentionally left blank.**

DRAFT