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**FACT SHEET**  
**PART V, CLOSURE UNIT GROUP 16, 1706-KE WASTE TREATMENT SYSTEM**

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1 **FACT SHEET**

2 **PART V, CLOSURE UNIT GROUP 16, 1706-KE WASTE TREATMENT SYSTEM**

3 **UNIT DESCRIPTION**

4 The 1706-KE Waste Treatment System (1706-KE WTS) was installed to treat mixed waste generated in  
5 the laboratories of the 1706-KE Building. Located in a room in the 100-K East Area Laboratory, the unit  
6 consisted of:

- 7 • A 2082 liter (550-gallon) waste accumulation tank.
- 8 • A 0.14 cubic meter (5-cubic foot) mixed bed resin ion exchange column.
- 9 • A 114-liter (30-gallon) evaporator unit.
- 10 • A 363-liter (96-gallon) condensate collection tank.

11 Waste was transferred from the waste accumulation tank to the ion exchange column. There it was  
12 continuously recirculated to remove ionic constituents from the waste stream. Once transferred to the  
13 evaporator, the waste was heated and boiled to steam to form residual salts prior to solidification. The  
14 steam condensed and collected in the condensate collection tank with the exhaust from the evaporation  
15 unit being passed through a high-efficiency particulate air filter before discharge. The residual salts were  
16 mixed with heated epoxy for solidification and disposal.

17 Operation of the unit ceased in August 1986, shortly after initial startup.

18 **TYPE AND QUANTITY OF WASTE**

19 The facility treated mixed wastes from the 100-K East Area Laboratory. After the 1706-KE WTS was  
20 shut down, the Permittees removed all waste, with the possible exception of a heel in the waste  
21 accumulation tank, in 1994. There is no waste at the facility.

22 **BASIS FOR PERMIT CONDITIONS**

23 Tri-Party Agreement Milestone M-016-052 required the Permittees to complete closure of 1706-KE WTS by  
24 July 31, 2009. All closure activities are complete.

25 **Interfacing RCRA and CERCLA Closure Requirements**

26 The State of Washington's Dangerous Waste Regulations allow the director of the Department of Ecology  
27 to substitute alternative groundwater monitoring requirements for the requirements prescribed for  
28 regulated units under [WAC 173-303-645](#) when the regulated unit is situated amongst other solid waste  
29 management units or areas of concern and it is likely that releases from the regulated unit and the solid  
30 waste management unit have comingled

31 Ecology can accept the CERCLA groundwater monitoring program as required by the Tri-Party  
32 Agreement to fulfill its RCRA requirements if Ecology determines that the groundwater program will  
33 support a remedy that is protective of human health and the environment. The criteria for meeting  
34 protectiveness are the performance standard in [WAC 173-303-610\(2\)\(a\)](#).

35 Releases of contaminants to groundwater from this regulated unit have occurred, and these releases have  
36 comingled with plumes from solid waste management units. Therefore, the Permittees can choose to  
37 request approval for the use of alternative groundwater monitoring protection requirement provision in  
38 [WAC 173-303-645\(1\)\(e\)](#) as specified in condition II.F.2.

39 Condition V.12.E.2 requires the Permittees to submit a final status groundwater monitoring plan in  
40 conjunction with a final closure plan. The final closure plan along with permit conditions will qualify as  
41 the enforceable document.

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1 **CLOSURE**

2 Condition V.16.B requires the Permittees to conduct closure activities in accordance with the Closure  
3 Plan in Addendum H and according to EPA, 2006, *Action Memorandum for the Non-Time Critical*  
4 *Removal Action for the 105-KE and 105-KW Reactor Facilities and Ancillary Facilities and Removal*  
5 *Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities* (DOE/RL-2005-26,  
6 Revision 1).

7 The 1706-KE WTS was clean closed by July 9, 2009, as certified by the independent qualified  
8 registered professional engineer on September 30, 2009. The Permittees removed all components of the  
9 1706-KE WTS from the 1706-KE Building and shipped them to the Environmental Restoration  
10 Disposal Facility for disposal. The clean closure met Tri-Party Agreement Milestone M-016-52.

11 The 1706-KE WTS will be in Revision 9 of the Permit. The 1706-KE WTS will be closed through the  
12 permit modification process after Revision 9 is issued.

13 **GENERAL WASTE MANAGEMENT STANDARDS**

14 There is no waste at this facility.

15 **RECORDKEEPING AND REPORTING**

16 Condition V.14.F requires the Permittees to place documentation of all work conducted (including results  
17 of monitoring, testing, and analytical work and quality assurance and control data) in the Hanford Facility  
18 Operating Record.

19 **REQUESTED VARIANCES OR ALTERNATIVES**

20 This unit has no requested variances or alternatives.

21 **STATE ENVIRONMENTAL POLICY ACT (SEPA) DETERMINATION**

22 The SEPA Determination for this unit is in the Hanford-Wide Permit Fact Sheet.

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