



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950  
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June 28, 2018

18-NWP-113

Mr. Doug S. Shoop, Manager  
Richland Operations Office  
United States Department of Energy  
PO Box 550, MSIN: H5-20  
Richland, Washington 99352

Mr. Ty Blackford, President and CEO  
CH2M HILL Plateau Remediation Company  
PO Box 1600, MSIN: A7-01  
Richland, Washington 99352

Re: Transmittal of the Part A Form for the 1706-KE Waste Treatment System to the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste* (Site-wide Permit), Part V, Closure Unit Group 14 (CUG-14), WA7890008967

Reference: See page 2

Dear Mr. Shoop and Mr. Blackford:

The Department of Ecology (Ecology) accepts the Part A Form (Addendum A) to remove the 1706-KE Waste Treatment System from the Site-wide Permit (Reference). Enclosed is a copy of the signed Part A Form submitted for retiring the 1706-KE Waste Treatment System CUG-14 out of the Site-wide Permit. The original signed copies are located in Ecology's Resource Center.

The Permittees, United States Department of Energy – Richland Operations and CH2M HILL Plateau Remediation Company, submitted PCN-1706KE-2016-01, Class <sup>1</sup>1 Permit Modification to remove the 1706-KE Waste Treatment System from the Site-wide Permit. Ecology approved PCN-1706KE-2016-01 on June 14, 2018 as part of the Second Quarter Site-wide Permit Modification (8C.2018.Q2).

If there are any questions regarding this letter, please contact Debra Alexander, Revision 8C Permit Coordinator, at [debra.alexander@ecy.wa.gov](mailto:debra.alexander@ecy.wa.gov) or (509) 372-7896.

Sincerely,

Suzanne Dahl  
Dangerous Waste Permit Manager  
Nuclear Waste Program

da/sh  
Enclosure

cc: See page 2



Mr. Shoop and Mr. Blackford  
June 28, 2018  
Page 2 of 2

18-NWP-113

Reference: Letter 18-AMRP-0118, dated June 13, 2018, "Revised Part A Form for the 1706-KE Waste Treatment System"

cc electronic:

Dave Bartus, EPA  
Dave Einan, EPA  
Cliff Clark, USDOE  
Al Farabee, USDOE  
Joe Franco, USDOE  
Rob Hastings, USDOE  
Lori Huffman, USDOE  
Christopher Kemp, USDOE  
Tony McKarns, USDOE  
John Neath, USDOE  
Bob Bullock, CHPRC  
Laura Cusack, CHPRC  
Marie Gillespie, CHPRC  
Moussa Jaraysi, CHPRC  
Stephanie Johansen, CHPRC  
Paul Martin, CHPRC

Jon Perry, MSA  
Robert Wilkinson, MSA  
ERWM Staff, YN  
Ken Niles, ODOE  
Debra Alexander, Ecology  
Jennifer Cantu, Ecology  
Annette Carlson, Ecology  
Suzanne Dahl, Ecology  
Brian Johnson, Ecology  
Mandy Jones, Ecology  
Nina Menard, Ecology  
Ron Skinnarland, Ecology  
Cheryl Whalen, Ecology

cc electronic w/enc:

Administrative Record  
Environmental Portal  
CHPRC Correspondence Control  
Hanford Facility Operating Record  
MSA Correspondence Control  
USDOE-RL Correspondence Control

cc w/o enc:

Matt Johnson, CTUIR  
Jack Bell, NPT  
Alyssa Buck, Wanapum  
Rose Longoria, YN  
Susan Leckband, HAB  
NWP Central File

# Permit Modification Request for 1706-KE Waste Treatment System Closure Unit Group 14 Part A Form

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy  
under Contract DE-AC06-08RL14788



P.O. Box 1600  
Richland, Washington 99352

# Permit Modification Request for 1706-KE Waste Treatment System Closure Unit Group 14 Part A Form

P. E. Eberlein  
CH2M HILL Plateau Remediation Company

Date Published  
April 2018

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy  
under Contract DE-AC06-08RL14788

  
P.O. Box 1600  
Richland, Washington 99352

**APPROVED**

*By Janis D. Aardal at 11:27 am, Apr 26, 2018*

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Release Approval

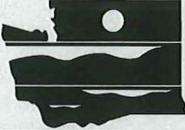
Date

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		WASHINGTON STATE DEPARTMENT OF <b>ECOLOG Y</b>	<b>Dangerous Waste Permit Application Part A Form</b>								
Date Received		Reviewed by: <i>Ben Johnson</i>	Date: 06   14   20   18								
Month	Day	Year	Date: 06   14   20   18								
06	13	2018									
		Approved by: <i>[Signature]</i> <i>for S Dept</i>									
<b>I. This form is submitted to: (place an "X" in the appropriate box) CLOSED January 11, 2018 (18-NWP-004)</b>											
<input checked="" type="checkbox"/>	Request modification to a final status permit (commonly called a "Part B" permit)										
<input type="checkbox"/>	Request a change under interim status										
<input type="checkbox"/>	Apply for a final status permit. This includes the application for the initial final status permit for a site or for a permit renewal (i.e., a new permit to replace an expiring permit).										
<input type="checkbox"/>	Establish interim status because of the wastes newly regulated on:	(Date)									
List waste codes:											
<b>II. EPA/State ID Number</b>											
W	A	7	8	9	0	0	0	8	9	6	7
<b>III. Name of Facility</b>											
US Department of Energy - Hanford Facility											
<b>IV. Facility Location (Physical address not P.O. Box or Route Number)</b>											
<b>A. Street</b>											
825 Jadwin											
City or Town		State	ZIP Code								
Richland		WA	99352								
County Code (if known)	County Name										
0   0   5	Benton										
<b>B. Land Type</b>	<b>C. Geographic Location</b>		<b>D. Facility Existence Date</b>								
	Latitude (degrees, mins, secs)	Longitude (degrees, mins, secs)	Month   Day   Year								
F	Refer to TOPO Map (Section XV.)		0   3   2   2   1   9   4   3								
<b>V. Facility Mailing Address</b>											
<b>Street or P.O. Box</b>											
P.O. Box 550											
City or Town		State	ZIP Code								
Richland		WA	99352								

<b>VI. Facility contact (Person to be contacted regarding waste activities at facility)</b>																			
<b>Name (last)</b>						<b>(first)</b>													
Shoop						Doug													
<b>Job Title</b>						<b>Phone Number (area code and</b>													
Manager						(509) 376-7395													
<b>Contact Address</b>																			
<b>Street or P.O. Box</b>																			
P.O. Box 550																			
<b>City or Town</b>						<b>State</b>			<b>ZIP Code</b>										
Richland						WA			99352										
<b>VII. Facility Operator Information</b>																			
<b>A. Name</b>										<b>Phone Number</b>									
Department of Energy Owner/Operator CH2M HILL Plateau Remediation Company Co-Operator for 1706-KE Waste Treatment System*										(509) 376-7395 (509) 373-0293*									
<b>Street or P.O. Box</b>																			
P.O. Box 550 P.O. Box 1600 *																			
<b>City or Town</b>						<b>State</b>			<b>ZIP Code</b>										
Richland						WA			99352										
<b>B. Operator Type</b>		F																	
<b>C. Does the name in VII.A reflect a proposed change in operator?</b>						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Co-Operator* change													
If yes, provide the scheduled date for the change:						<b>Month</b>		<b>Day</b>			<b>Year</b>								
1		0		0		1		2		0		0							
<b>D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.</b>						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
<b>VIII. Facility Owner Information</b>																			
<b>A. Name</b>						<b>Phone Number (area code and number)</b>													
Doug S. Shoop, Operator/Facility-Property Owner						(509) 376-7395													
<b>Street or P.O. Box</b>																			
P.O. Box 550																			
<b>City or Town</b>						<b>State</b>			<b>ZIP Code</b>										
Richland						WA			99352										
<b>B. Owner Type</b>		F																	
<b>C. Does the name in VIII.A reflect a proposed change in owner?</b>						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
If yes, provide the scheduled date for the change:						<b>Month</b>		<b>Day</b>			<b>Year</b>								
<b>IX. NAICS Codes (5/6 digit codes)</b>																			
<b>A. First</b>						<b>B. Second</b>													
5		6		2		2		1		9		2		4		1		1	0
Waste Treatment & Disposal						Administration of Air & Water Resource & Solid Waste Management Programs													
<b>C. Third</b>						<b>D. Fourth</b>													

5	4	1	7	1		Research & Development in the Physical, Engineering, & Life Sciences								
---	---	---	---	---	--	---	--	--	--	--	--	--	--	--

X. Other Environmental Permits (see instructions)														
A. Permit Type			B. Permit Number											C. Description

**XI. Nature of Business (provide a brief description that includes both dangerous waste and non-dangerous waste areas and activities)**

S02, T04

The 1706-KE Waste Treatment System was designed and installed to begin waste management operations in July 1986. The unit was designed and installed to treat mixed waste generated in the laboratories of the 1706-KE Building. The majority of the waste was expected to be acidic or caustic solutions (D002, characteristic, corrosive, dangerous waste). The 1706-KE Waste Treatment System consisted of a 2,082-liter (550-gallon) waste accumulation tank, a 0.14-cubic meter (5-cubic foot) mixed-bed resin ion exchange column, an 114-liter (30-gallon) evaporator unit, and a 363-liter (96-gallon) condensate collection tank.

Waste generated in the 1706-KE Building was transferred from the waste accumulation tank to the ion exchange column and then continuously recirculated to remove the ionic constituents from the waste stream. The waste was transferred to the evaporator unit. The evaporator unit heated and boiled the liquid waste to steam. The steam condensed and collected in the 363-liter (96-gallon) condensate collection tank with the exhaust from the evaporation unit being passed through a HEPA filter prior to discharge.

Operation of this unit was ceased shortly after initial startup due to the unanticipated anomalies experienced in the operating system. The maximum process design capacities if the unit had been in operation for tank storage (S02) is 2,445 liters (646 gallons) and for tank treatment-other (T04) is 5,678 liters (1,500 gallons).

The 1706-KE WTS has not been operated since 1987. All waste, with the possible exception of a heel in the waste accumulation tank, was removed in March 1994. Closure of the 1706-KE Waste Treatment System will be integrated with the CERCLA Remedial Action for the 100 Area Remaining Sites Record of Decision. Closure plan documentation shall be provided to Ecology through integration with CERCLA documentation.

This unit was Clean Closed. Permit requirements were retired via a Class 1 modification (Rev 8c), quarter ending 6/30/18.

**EXAMPLE FOR COMPLETING ITEMS XII and XIII (shown in lines numbered X-1, X-2, and X-3 below):** A facility has two storage tanks that hold 1200 gallons and 400 gallons respectively. There is also treatment in tanks at 20 gallons/hr. Finally, a one-quarter acre area that is two meters deep will undergo *in situ vitrification*.

Section XII. Process Codes and Design Capacities							Section XIII. Other Process Codes							
Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	D. Process Description
	1.	2.	3.	1. Amount	2. Unit of Measure (enter code)			1.	2.	3.	1. Amount	2. Unit of Measure (enter code)		
X 1	S	0	2	1,600	G	002	X 1	T	0	4	700	C	001	In situ vitrification
X 2	T	0	3	20	E	001								
X 3	T	0	4	700	C	001								
1	S	0	2	2,445	L	004	1							
2	T	0	4	5,678	V	004	2							
3							3							
4							4							
5							5							
6							6							
7							7							
8							1 8							
9							1 9							
1 0							1 0							
1 1							1 1							
1 2							1 2							
1 3							1 3							
1 4							1 4							
1 5							1 5							
1 6							1 6							
1 7							1 7							
1 8							1 8							
1 9							1 9							
2 0							2 0							
2 1							2 1							
2 2							2 2							
2 3							2 3							
2 4							2 4							
2 5							2 5							

**XIV. Description of Dangerous Wastes**

**Example for completing this section:** A facility will receive three non-listed wastes, then store and treat them on-site. Two wastes are corrosive only, with the facility receiving and storing the wastes in containers. There will be about 200 pounds per year of each of these two wastes, which will be neutralized in a tank. The other waste is corrosive and ignitable and will be neutralized then blended into hazardous waste fuel. There will be about 100 pounds per year of that waste, which will be received in bulk and put into tanks.

Line Number	A. Dangerous Waste No. (enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Processes												
				(1) Process Codes (enter)										(2) Process Description [If a code is not entered in D (1)]		
X 1	D 0 0 2	400	P	S	0	1	T	0	1							
X 2	D 0 0 1	100	P	S	0	2	T	0	1							
X 3	D 0 0 2															Included with above
1	D 0 0 2	6,804	K	S	0	2	T	0	4							
2																
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25																

**XV. Map**

Attach to this application a topographic map of the area extending to at least one (1) mile beyond property boundaries. The map must show the outline of the facility; the location of each of its existing and proposed intake and discharge structures; each of its dangerous waste treatment, storage, recycling, or disposal units; and each well where fluids are injected underground. Include all springs, rivers, and other surface water bodies in this map area, plus drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary. The instructions provide additional information on meeting these requirements.

Topographic map is located in the Ecology Library

**XVI. Facility Drawing**

All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).

**XVII. Photographs**

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, recycling, and disposal areas; and sites of future storage, treatment, recycling, or disposal areas (refer to Instructions for more detail).

**XVIII. Certifications**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<p><b>Operator</b> Name and Official Title (type or print) Doug S. Shoop, Manager U.S. Department of Energy Richland Operations Office</p>	<p><b>Signature</b> </p>	<p><b>Date Signed</b> 6/6/18</p>
<p><b>Co-Operator*</b> Name and Official Title (type or print) Ty Blackford President and Chief Executive Officer CH2M HILL Plateau Remediation Company</p>	<p><b>Signature</b> </p>	<p><b>Date Signed</b> 6/6/18</p>

**Co-Operator – Address and Telephone Number\***

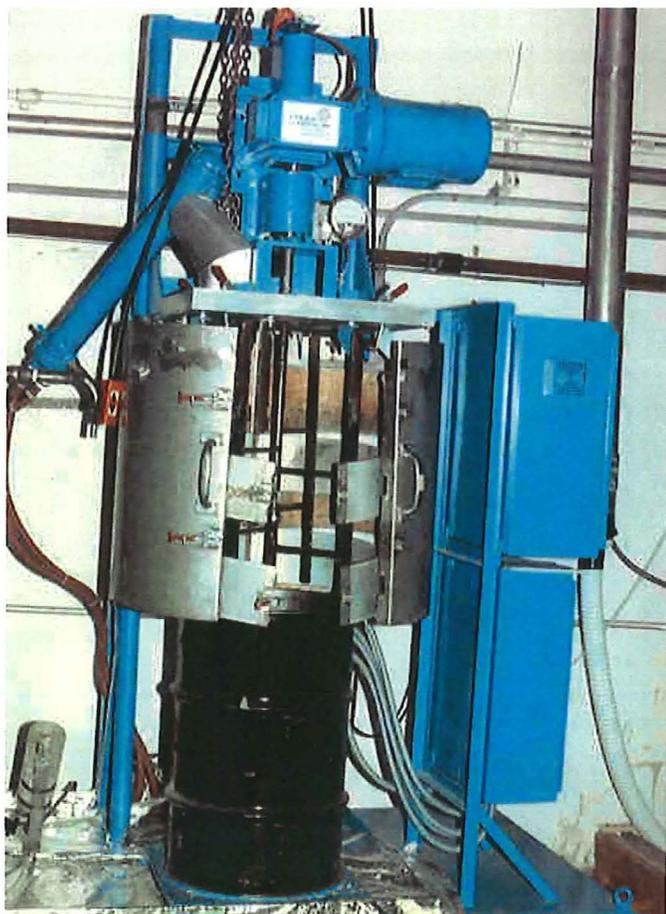
P.O. Box 1600  
Richland, WA 99352  
(509) 373-0293

<p><b>Facility-Property Owner</b> Name and Official Title (type or print) Doug S. Shoop, Manager U.S. Department of Energy Richland Operations Office</p>	<p><b>Signature</b> </p>	<p><b>Date Signed</b> 6/6/18</p>
---	--	--------------------------------------

**Comments**

This unit was Clean Closed. Permit requirements were retired via a Class 1 prime modification (Rev 8c), quarter ending 6/30/18.

# 1706-KE Waste Treatment System



**Solidification Unit in Up Position**  
132285-6CN (Photo Taken 1986)



**Solidification Unit in Down Position Evaporating Waste**  
8700734-8CN Photo Taken 1987



**Solidification Unit**



**Ion Exchange Column & Waste Accumulation Tank**  
8700734-1CN Photo Taken 1987

**Note:** Ion Exchange Column has been removed since photograph was taken

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## 1706-KE Waste Treatment System

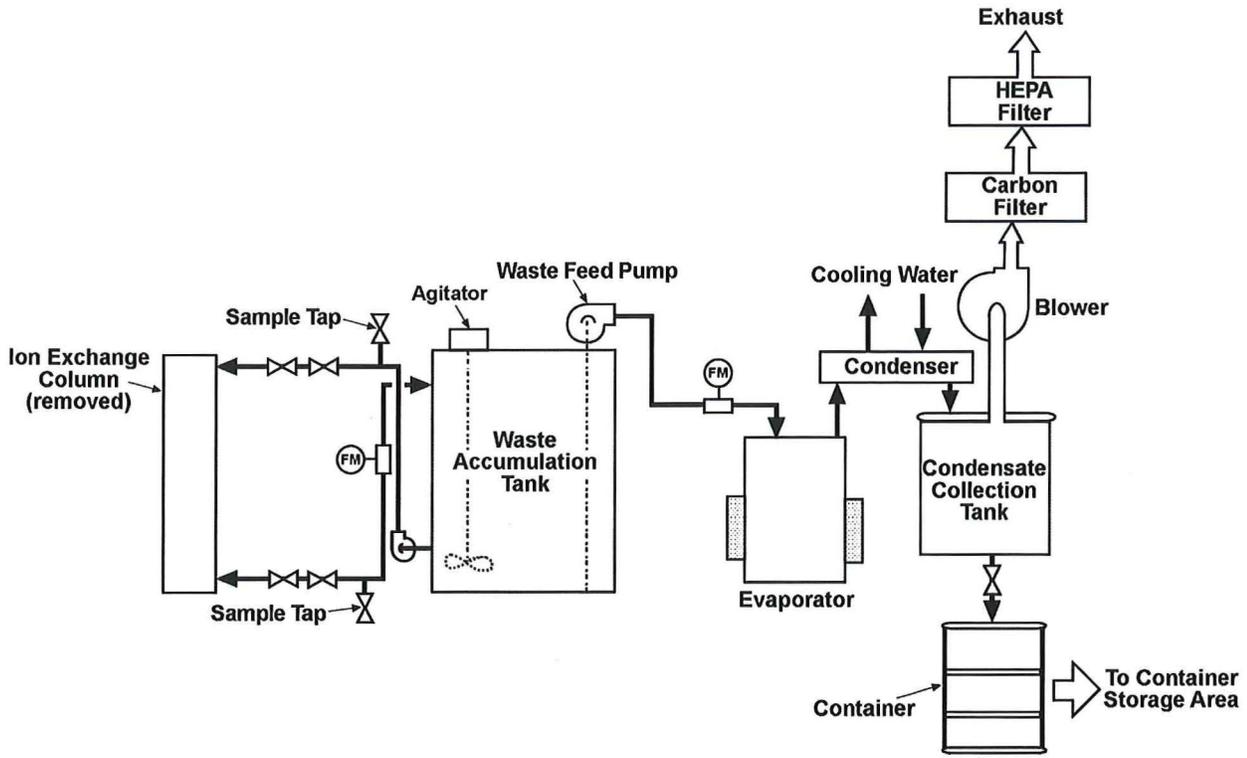
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Waste Storage Tank



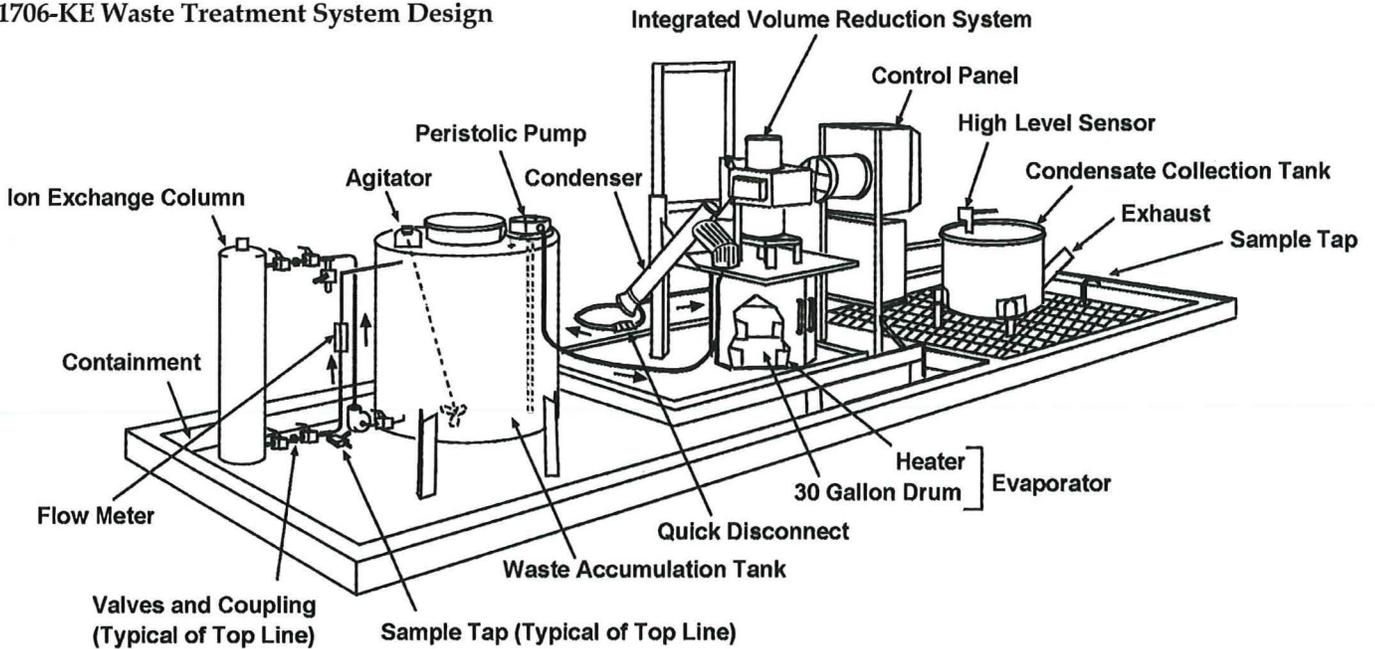
Condensate Tank



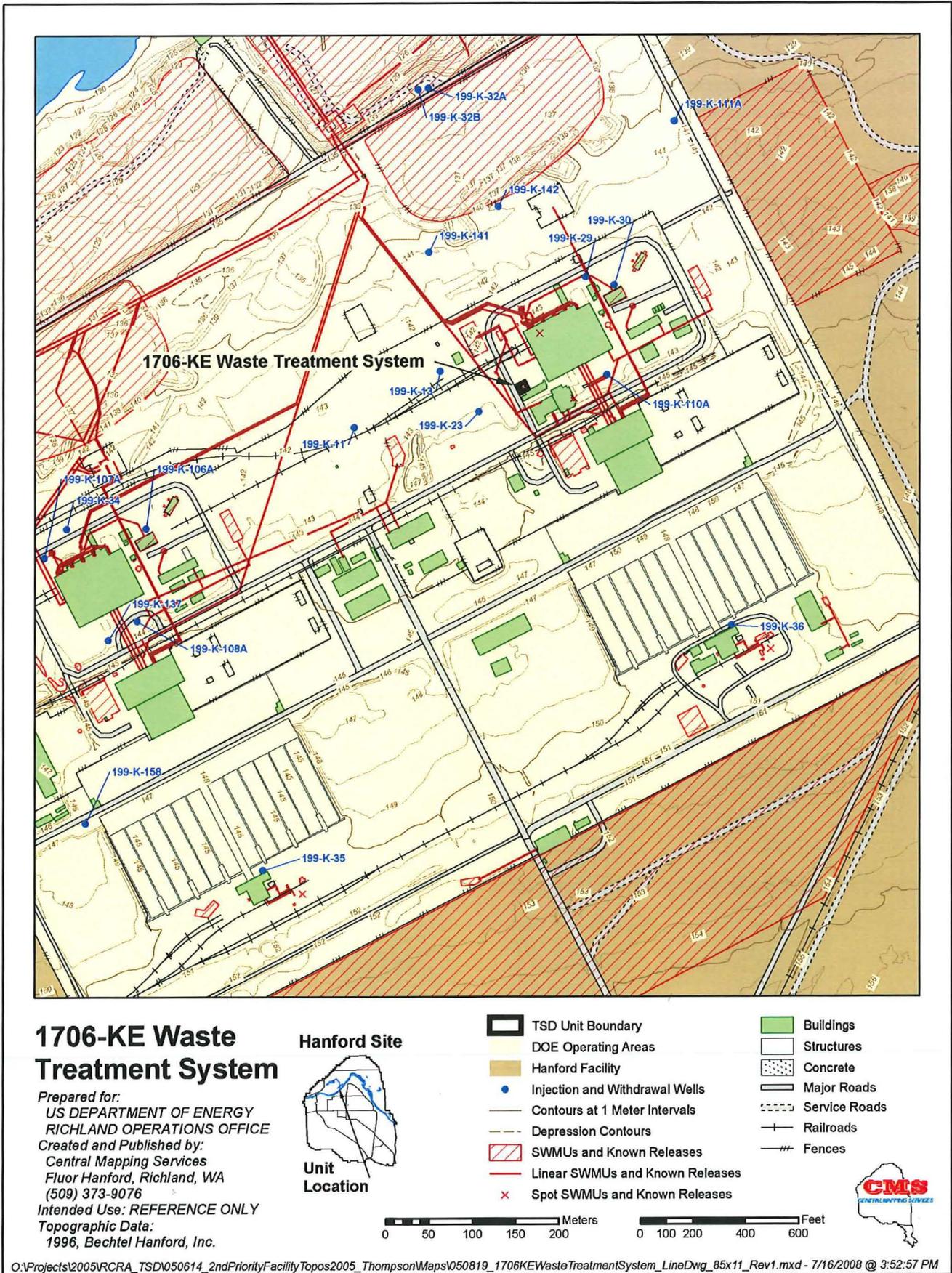
FM = Flow Meter  
HEPA = High-Efficiency Particulate Air

M0703-1.1  
3-11-07

1706-KE Waste Treatment System Design



M0703-1.2  
3-26-07



# 1706-KE Waste Treatment System

Prepared for:  
US DEPARTMENT OF ENERGY  
RICHLAND OPERATIONS OFFICE  
Created and Published by:  
Central Mapping Services  
Fluor Hanford, Richland, WA  
(509) 373-9076  
Intended Use: REFERENCE ONLY  
Topographic Data:  
1996, Bechtel Hanford, Inc.

## Hanford Site



## Unit Location

- |                                 |               |
|---------------------------------|---------------|
| TSD Unit Boundary               | Buildings     |
| DOE Operating Areas             | Structures    |
| Hanford Facility                | Concrete      |
| Injection and Withdrawal Wells  | Major Roads   |
| Contours at 1 Meter Intervals   | Service Roads |
| Depression Contours             | Railroads     |
| SWMUs and Known Releases        | Fences        |
| Linear SWMUs and Known Releases |               |
| Spot SWMUs and Known Releases   |               |



O:\Projects\2005VRCRA\_TSD\050614\_2ndPriorityFacilityTopos2005\_Thompson\Maps\050819\_1706KEWasteTreatmentSystem\_LineDwg\_85x11\_Rev1.mxd - 7/16/2008 @ 3:52:57 PM

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