



1240930
[0074349H]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

October 25, 2016

16-NWP-183

Mr. Doug S. Shoop, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A7-50
Richland, Washington 99352

Mr. John A. Ciucci, President and CEO
CH2M HILL Plateau Remediation Company
PO Box 1600, MSIN: H7-30
Richland, Washington 99352

Re: Part A Forms to Transfer Co-Operator Responsibilities for the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part V, Closing Unit Groups (CUG) 1, 2, and 3, WA7890008967*

Reference: See page 2

Dear Mr. Shoop and Mr. Ciucci:

The Department of Ecology (Ecology) received the Part A forms to transfer co-operational responsibilities for 1325-N Liquid Waste Disposal Facility (CUG-1), 1301-N Liquid Waste Disposal Facility (CUG-2), and 1324-N Surface Impoundment & 1324-NA Percolation Pond (CUG-3) (Reference).

Ecology signed the enclosed Part A forms to transfer co-operator responsibilities from Washington Closure Hanford to CH2M HILL Plateau Remediation Company. The effective date for this transfer is August 29, 2016.

Ecology signed the Hanford Facility RCRA Permit Modification Notification Forms (PCN-1325-2016-01, PCN-1301-2016-01, and PCN-1324-2016-01) on August 24, 2016.

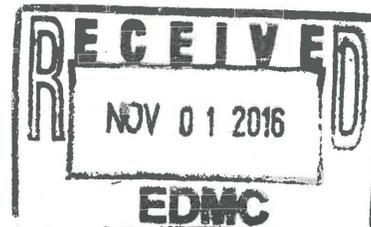
If there are any questions regarding this letter, please contact Debra Alexander, Site-wide Revision 8C Dangerous Waste Permit Coordinator, at debra.alexander@ecy.wa.gov or (509) 372-7896.

Sincerely,

Suzanne Dahl
Dangerous Waste Permit Manager
Nuclear Waste Program

da/lkd
Enclosures (3)

cc: See page 2



Mr. Shoop and Mr. Ciucci
October 25, 2016
Page 2 of 2

16-NWP-183

Reference: Letter 16-ESQ-0128, dated September 2, 2016, from D.S. Shoop, USDOE-RL, to A. Smith, Ecology, "Transfer of Operational Responsibility of the 1301-N Liquid Waste Disposal Facility, 1324-N Surface Impoundment and 1324-NA Percolation Pond, and 1325-N Liquid Waste Disposal Facility; Submittal of Associated Hanford Facility Resource Conservation and Recovery Act (HF RCRA) Permit Class 1 Permit Modifications" 1240090

cc electronic w/enc:

Dave Bartus, EPA
Cliff Clark, USDOE
Rob Hastings, USDOE
Tony McKarns, USDOE
Sandi Murdock, BNI
Lorin Clements, CHPRC
Laura Cusack, CHPRC
Moses Jaraysi, CHPRC
Paul Martin, CHPRC
Deborah Singleton, CHPRC
Jon Perry, MSA
Michael Wilson, MSA
Karl Hadley, WCH
Suzette Thompson, WRPS
Ken Niles, ODOE
Debra Alexander, Ecology
Jennifer Cantu, Ecology
Annette Carlson, Ecology
Kelly Elsethagen, Ecology
Brian Johnson, Ecology
Mandy Jones, Ecology
Nina Menard, Ecology
Ron Skinnarland, Ecology
Cheryl Whalen, Ecology
CHPRC Correspondence Control
Environmental Portal
Hanford Facility Operating Record
USDOE-RL Correspondence Control

cc w/enc:

Steve Hudson, HAB
Administrative Record: TSD D-1-2, T-1-2
NWP Central File
NWP Library

cc w/o enc:

Rod Skeen, CTUIR
Gabriel Bohnee, NPT
Russel Jim, YN

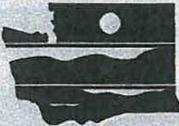
1
2
3
4
5
6

CHAPTER 1.0
PART A FORM

1
2
3
4
5

This page intentionally left blank.

1
2

 WASHINGTON STATE DEPARTMENT OF E C O L O G Y		Dangerous Waste Permit Application Part A Form	
Date Received		Reviewed by: <i>Debra J. Alexander</i>	Date: 10 25 2016
Month	Day	Year	Date: 10 25 2016
I. This form is submitted to: (place an "X" in the appropriate box)			
<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:			
II. EPA/State ID Number			
W	A	7 8 9 0 0 0 8 9 6 7	
III. Name of Facility			
US Department of Energy - Hanford Facility			
IV. Facility Location (Physical address not P.O. Box or Route Number)			
A. Street			
825 Jadwin			
City or Town		State	ZIP Code
Richland		WA	99352
County Code (if known)	County Name		
0 0 5	Benton		
B. Land Type	C. Geographic Location		D. Facility Existence Date
	Latitude (degrees, mins, secs)	Longitude (degrees, mins, secs)	Month Day Year
F	S E E T O P O	M A P	0 3 2 2 1 9 4 3
V. Facility Mailing Address			
Street or P.O. Box			
P.O. Box 550			
City or Town		State	ZIP Code
Richland		WA	99352

1

VI. Facility contact (Person to be contacted regarding waste activities at facility)												
Name (last)						(first)						
Shoop						Doug S						
Job Title						Phone Number (area code and number)						
Manager						(509) 376-7395*						
Contact Address												
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
VII. Facility Operator Information												
A. Name						Phone Number (area code and number)						
Department of Energy * Owner/Operator CH2MHill Plateau Remediation Company.** Co-Operator for 1325-N Liquid Waste Disposal Facility						(509) 376-7395* (509) 373-0293**						
Street or P.O. Box												
P.O. Box 550 *												
P.O. Box 1600, 2420 Stevens Center Place**												
City or Town						State		ZIP Code				
Richland						WA		99352* (99354**)				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VIII. Facility Owner Information												
A. Name						Phone Number (area code and number)						
Doug S Shoop, Operator/Facility-Property Owner*						(509) 376-7395*						
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
IX. NAICS Codes (5/6 digit codes)												
A. First						B. Second						
5	6	2	2	1	Waste Treatment & Disposal	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third						D. Fourth						

9	9	9	9	9	9	Unclassified Establishments	5	6	2	9	1	0	Remediation Services
---	---	---	---	---	---	-----------------------------	---	---	---	---	---	---	----------------------

X. Other Environmental Permits (see instructions)													
A. Permit Type			B. Permit Number										C. Description
													None

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

The 1325-N Liquid Waste Disposal Facility (LWDF) was used for the disposal of liquid waste from N reactor. The waste consisted of waste from nonspecific sources and listed waste (F003), toxicity characteristic waste (D006, D008, and D009), characteristic waste (D002), and state-only toxic waste (WT02).

D83

The 1325-N LWDF was used from 1985 to April 1991. The 1325-N LWDF received nonregulated mixed process and cooling waters from N Reactor. The 1325-N LWDF also received dangerous waste generated from laboratories and may have received waste from spills from within the N Reactor Building, which was discharged through the mixed waste drain system. The dangerous waste discharges consisted of less than 0.002% of the total volume of the waste discharged to the 1325-N LWDF. The 1325-N LWDF was a percolation unit designed for the disposal of liquid waste through the soil column. The process design capacity for the 1325-N LWDF was 16,353,000 liters (4,320,000 gallons) per day. The process design capacity reflects the maximum volume of water discharged daily basis rather than the physical capacity of the 1325-N LWDF. The influent pipes between the 1325-N and the 1301-N LWDFs are considered to be included within the treatment, storage, and disposal unit boundary.

Certain closure activities, including excavation, sampling, backfilling, and revegetation where required, have been completed. Unit group closure activities have been integrated with the CERCLA remedial action contained in the 100 NR-1 Operable Unit Interim Action Record of Decision.

Figures 1 and 2 show the current ground surface and relationship of the current ground surface to the removed structure via well orientation.

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	D	8	3	4,320,000	U	001	1								
2							2								
3							3								
4							4								
5							5								
6							6								
7							7								
8							8								
9							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	F	0	0	3	6,200	P	D	8	3				Includes Debris
	2	D	0	0	2	20,600	P	D	8	3				Includes Debris
	3	D	0	0	6	100	P	D	8	3				Includes Debris
	4	D	0	0	8	150	P	D	8	3				Includes Debris
	5	D	0	0	9	6,200	P	D	8	3				Includes Debris
	6	W	T	0	2	15,000	P	D	8	3				Includes Debris
	7													
	8													
	9													
	1 0													
	1 1													
	1 2													
	1 3													
	1 4													
	1 5													
	1 6													
	1 7													
	1 8													
	1 9													
	2 0													
	2 1													
	2 2													
	2 3													
	2 4													
	2 5													

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.

XVI. Facility Drawing

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

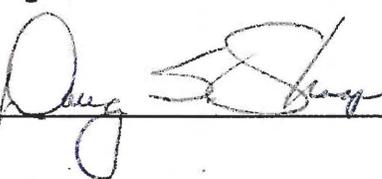
XVII. Photographs

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).

1

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>Operator* Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office</p>	<p>Signature </p>	<p>Date Signed 9/25/16</p>
<p>Co-Operator** Name and Official Title (type or print) John A Ciucci President CH2MHill Plateau Remediation Company</p>	<p>Signature </p>	<p>Date Signed 8/25/16</p>
<p>Co-Operator** – Address and Telephone Number 2420 Stevens Center Place Richland, WA 99354 (509) 373-0293</p>		
<p>Facility-Property Owner* Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office</p>	<p>Signature </p>	<p>Date Signed 9/2/16</p>

2

Comments

On December 27, 2000, Ecology granted a contained-in determination for F003 (methanol) contaminated soil and debris for the 1325-N Liquid Waste Disposal Facility.

This document has been revised from Revision 8 to Revision 9 because of a change in the Co-Operator, which necessitated an addition to Section XI, Nature of Business. Figures 1 and 2 were added to show the ground surface as it existed on August 3, 2016.

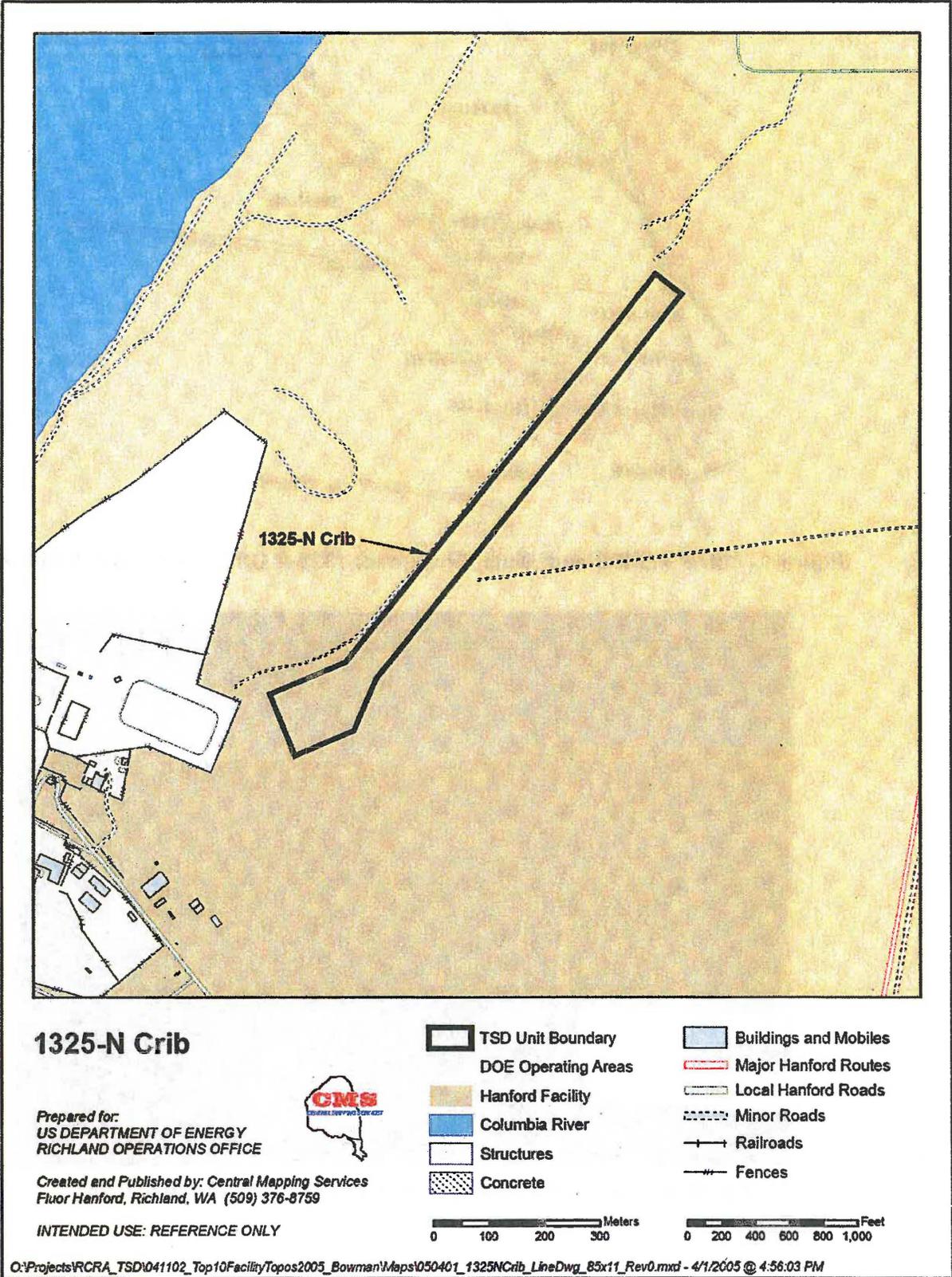
1325-N Liquid Waste Disposal Facility

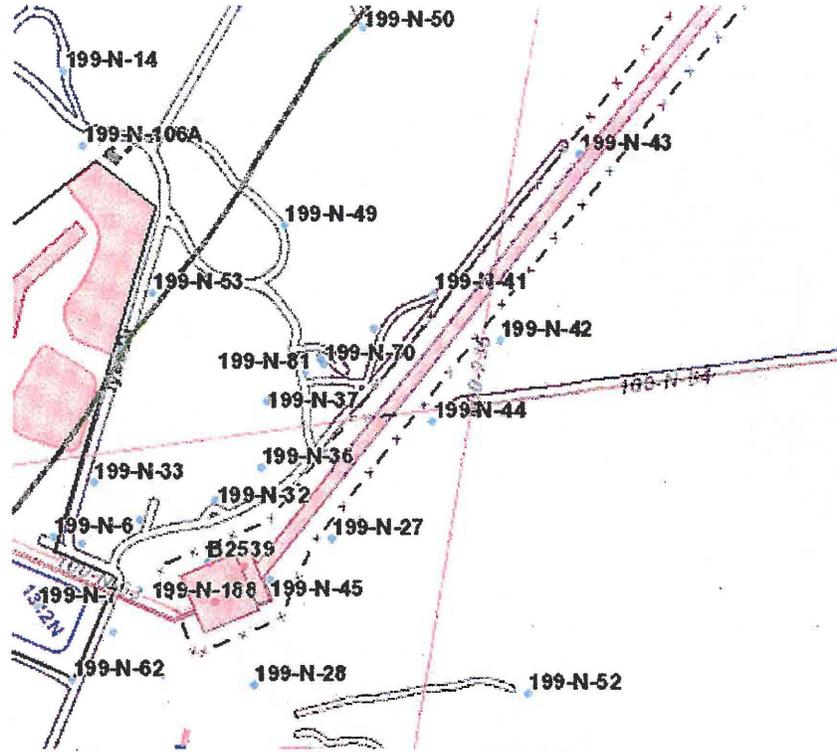
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26



8605087-6CN
(PHOTO TAKEN 1986)

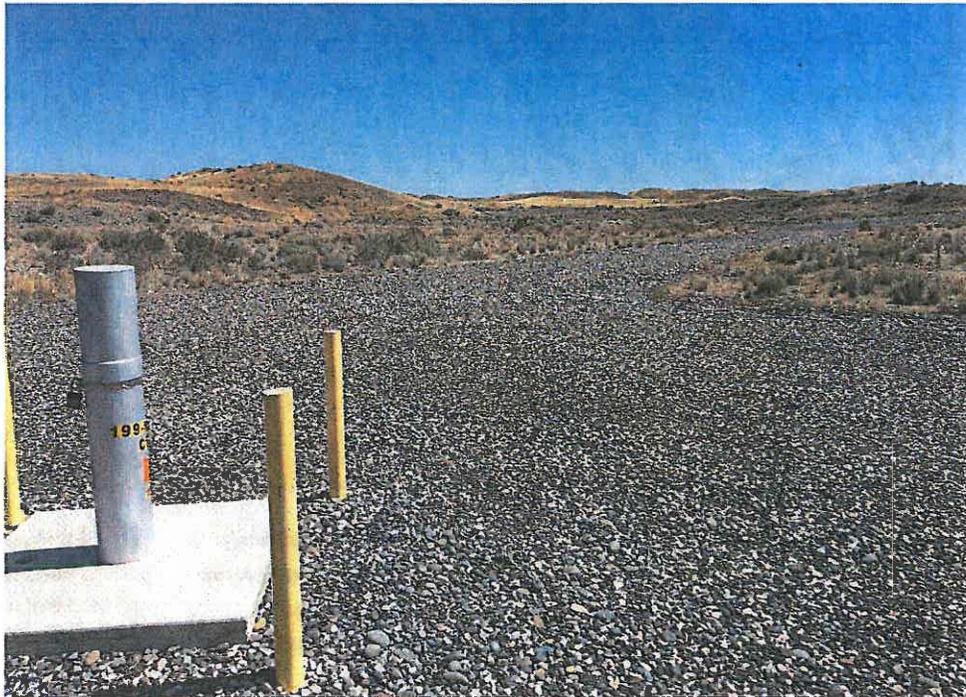
1
 2





1
2
3

Figure 1. HMAPS (WIDS and Wells) Download: 1325-N LWDF and 116-N-3 with Wells



4
5
6

Figure 2. 116-N-3 Southeast from Well 199-N-188 (August 3, 2016)

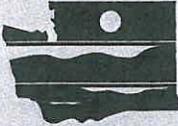
1
2
3
4
5
6

CHAPTER 1.0
PART A FORM

1
2
3
4
5

This page intentionally left blank.

1
2

		WASHINGTON STATE DEPARTMENT OF E C O L O G Y		Dangerous Waste Permit Application Part A Form	
Date Received		Reviewed by: <i>Debra J. Alexander</i>		Date: 10 25 2016	
Month Day Year		Approved by: <i>[Signature]</i>		Date: 10 25 2016	
I. This form is submitted to: (place an "X" in the appropriate box)					
<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:					
II. EPA/State ID Number					
W A 7 8 9 0 0 0 8 9 6 7					
III. Name of Facility					
US Department of Energy - Hanford Facility					
IV. Facility Location (Physical address not P.O. Box or Route Number)					
A. Street					
825 Jadwin					
City or Town				State	ZIP Code
Richland				WA	99352
County Code (if known)		County Name			
0 0 5		Benton			
B. Land Type		C. Geographic Location		D. Facility Existence Date	
		Latitude (degrees, mins, secs)		Longitude (degrees, mins, secs)	
F		S E E T O P O		M A P	
				0 3 2 2 1 9 4 3	
V. Facility Mailing Address					
Street or P.O. Box					
P.O. Box 550					
City or Town				State	ZIP Code
Richland				WA	99352

1

VI. Facility contact (Person to be contacted regarding waste activities at facility)												
Name (last)						(first)						
Shoop						Doug S						
Job Title						Phone Number (area code and number)						
Manager						(509) 376-7395*						
Contact Address												
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
VII. Facility Operator Information												
A. Name						Phone Number (area code and number)						
Department of Energy* Owner/Operator CH2MHill Plateau Remediation Company** Co-Operator for 1301-N Liquid Waste Disposal Facility						(509) 376-7395* (509) 373-0293**						
Street or P.O. Box												
P.O. Box 550 *												
2420 Stevens Center Place, P.O Box 1600 **												
City or Town						State		ZIP Code				
Richland						WA		99352* (99354**)				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VIII. Facility Owner Information												
A. Name						Phone Number (area code and number)						
Doug S Shoop, Operator/Facility-Property Owner*						(509) 376-7395*						
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
IX. NAICS Codes (5/6 digit codes)												
A. First						B. Second						
5	6	2	2	1	Waste Treatment & Disposal	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third						D. Fourth						

9	9	9	9	9	9	Unclassified Establishments	5	6	2	9	1	0	Remediation Services
---	---	---	---	---	---	-----------------------------	---	---	---	---	---	---	----------------------

X. Other Environmental Permits (see instructions)													
A. Permit Type			B. Permit Number										C. Description
													None

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

The 1301-N Liquid Waste Disposal Facility (LWDF) was used for the disposal of liquid waste from N reactor. The waste consisted of waste from nonspecific sources and listed waste (F003), toxicity characteristic waste (D006, D007, D008, and D009), characteristic waste (D002), and state-only toxic waste (WT02).

D83

The 1301-N LWDF was used from 1963 to September 1985. The 1301-N LWDF received mixed waste process and cooling waste water from N Reactor. The 1301-N LWDF also received dangerous waste generated from laboratories, and may have received waste from spills within the N Reactor Building, which were discharged through the mixed waste drain system. The dangerous waste discharges consisted of less than 0.002% of the total volume of the waste discharged to the 1301-N LWDF. The 1301-N LWDF was a percolation unit designed for the disposal of liquid waste through the soil column. The process design capacity for the 1301-N LWDF was 16,352,900 liters (4,320,000 gallons) a day. The process design capacity reflects the maximum volume of water discharged on a daily basis rather than the physical capacity of the unit. The influent pipes up to the face of the 105-N building facility are considered to be included within the treatment, storage, and disposal unit boundary.

Certain closure activities, including excavation, sampling, backfilling, and revegetation where required, have been completed. Unit group closure activities have been integrated with the CERCLA remedial action contained in the 100 NR-1 Operable Unit Interim Action Record of Decision.

Figures 1 and 2 show the current ground surface and relationship of the ground surface to the removed structure via well orientation.

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	D	8	3	4,320,000	U	001	1							
2							2							
3							3							
4							4							
5							5							
6							6							
7							7							
8							8							
9							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 F 0 0 3	6,200	P	D 8 3					Includes Debris
	2 D 0 0 2	20,600	P	D 8 3					Includes Debris
	3 D 0 0 6	100	P	D 8 3					Includes Debris
	4 D 0 0 7	10,000	P	D 8 3					Includes Debris
	5 D 0 0 8	150	P	D 8 3					Includes Debris
	6 D 0 0 9	6,200	P	D 8 3					Includes Debris
	7 W T 0 2	15,000	P	D 8 3					Includes Debris
	8								
	9								
	1 0								
	1 1								
	1 2								
	1 3								
	1 4								
	1 5								
	1 6								
	1 7								
	1 8								
	1 9								
	2 0								
	2 1								
	2 2								
	2 3								
	2 4								
	2 5								

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 1/4 mile of the facility property boundary. The instructions provide additional information on meeting these requirements.

XVI. Facility Drawing

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

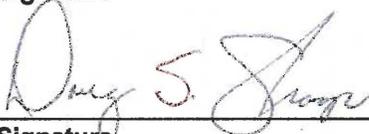
XVII. Photographs

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).

1

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.

Operator*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/16
Co-Operator** Name and Official Title (type or print) John A. Ciucci President CH2MHill Plateau Remediation Company		8/25/16

Co-Operator – Address and Telephone Number**

2420 Stevens Center Place
Richland, WA 99354
(509) 373-0293

Facility-Property Owner*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/16

2

Comments

On December 27, 2000, Ecology granted a contained-in determination for F003 (methanol) contaminated soil and debris for the 1301-N Liquid Waste Disposal Facility.

This document has been revised from Revision 8 to Revision 9 because of a change in the Co-Operator, which necessitated an addition to Section XI, Nature of Business. Figures 1 and 2 were added to show the ground surface as it existed on August 3, 2016.

1301-N Liquid Waste Disposal Facility

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9



CRIB OUTFALL

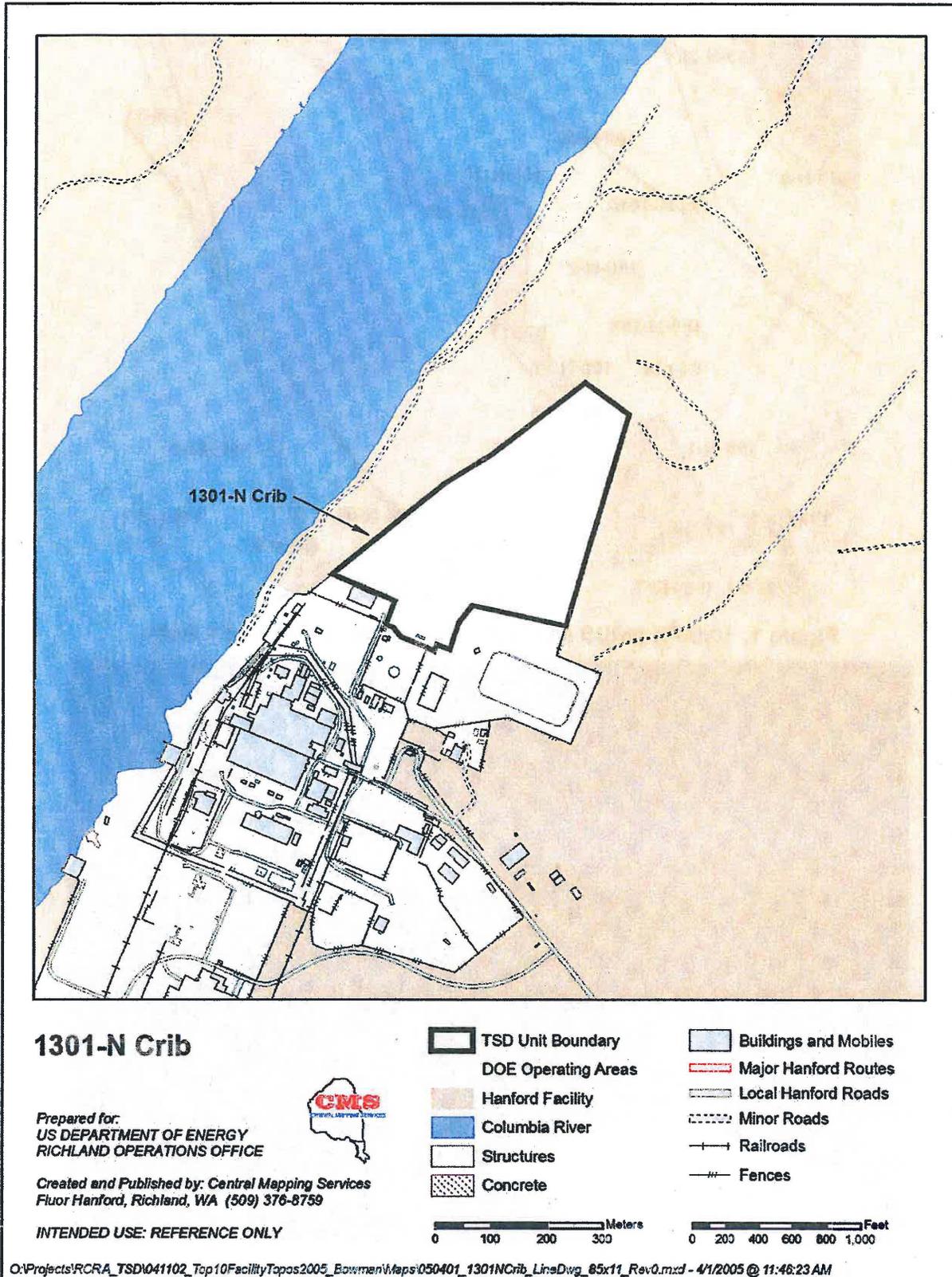
8605087-8CN
(PHOTO TAKEN 1986)



TRENCH CONCRETE COVER

8605087-15CN
(PHOTO TAKEN 1986)

1
 2
 3



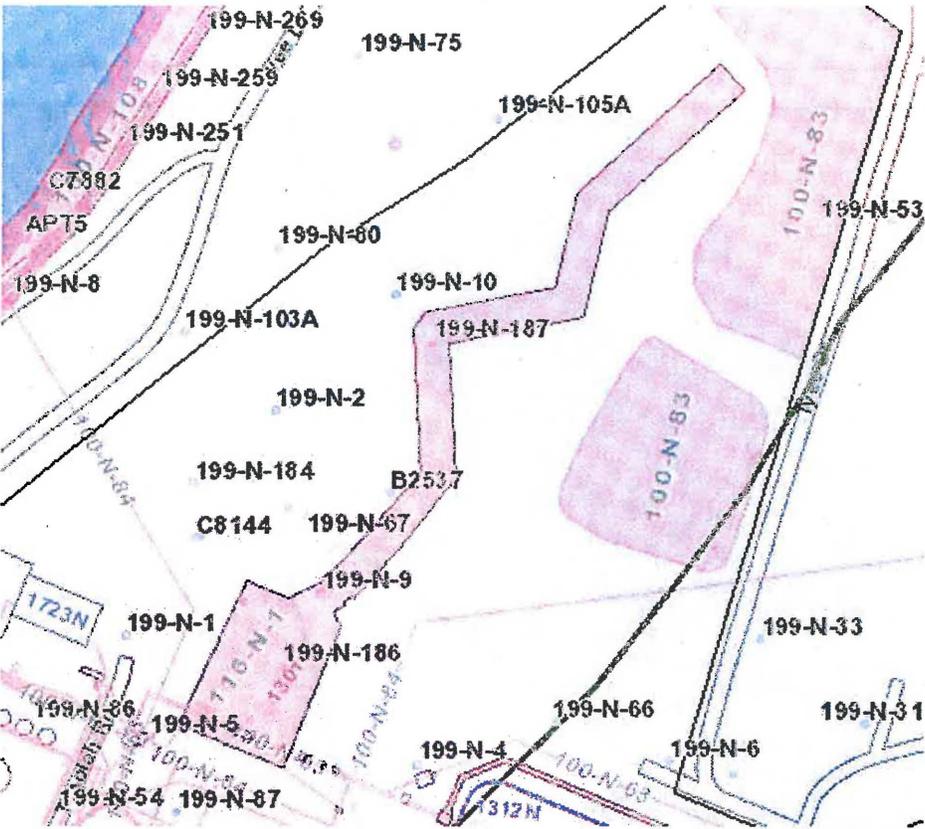


Figure 1. HMAPS (WIDS and Wells) Download: 116-N-1 with Wells



Figure 2. 116-N-1 Looking East from Well 199-N-186 (August 3, 2016)

1
2

3
4
5

1
2
3
4
5
6

CHAPTER 1.0
PART A FORM

1
2
3
4
5

This page intentionally left blank.

1
2

		WASHINGTON STATE DEPARTMENT OF E C O L O G Y		Dangerous Waste Permit Application Part A Form	
Date Received		Reviewed by: <i>Dora J. Alexander</i>		Date: 10 25 20 16	
Month Day Year		Approved by: <i>[Signature]</i>		Date: 10 25 20 16	
Please refer to instructions for completing this form.					
I. This form is submitted to: (place an "X" in the appropriate box)					
<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:					
II. EPA/State ID Number					
W	A	7	8	9	0 0 0 8 9 6 7
III. Name of Facility					
US Department of Energy - Hanford Facility					
IV. Facility Location (Physical address not P.O. Box or Route Number)					
A. Street					
825 Jadwin					
City or Town				State	ZIP Code
Richland				WA	99352
County Code (if known)		County Name			
0 0 5		Benton			
B. Land Type		C. Geographic Location		D. Facility Existence Date	
		Latitude (degrees, mins, secs)		Longitude (degrees, mins, secs)	
F		S E E T O P O		M A P	
				0 3 2 2 1 9 4 3	
V. Facility Mailing Address					
Street or P.O. Box					
P.O. Box 550					
City or Town				State	ZIP Code
Richland				WA	99352

1

VI. Facility contact (Person to be contacted regarding waste activities at facility)											
Name (last)						(first)					
Shoop						Doug S					
Job Title						Phone Number (area code and number)					
Manager						(509) 376-7395*					
Contact Address											
Street or P.O. Box											
P.O. Box 550											
City or Town						State		ZIP Code			
Richland						WA		99352			
VII. Facility Operator Information											
A. Name						Phone Number (area code and number)					
Department of Energy * Owner/Operator CH2MHill Plateau Remediation Company ** Co-Operator for 1324-N Surface Impoundment						(509) 376-7395* (509) 370-0293**					
Street or P.O. Box											
P.O. Box 550*											
2420 Stevens Center Place, P.O. Box 1600**											
City or Town						State		ZIP Code			
Richland						WA		99352* (99354**)			
B. Operator Type		F									
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If yes, provide the scheduled date for the change:						Month		Day		Year	
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
VIII. Facility Owner Information											
A. Name						Phone Number (area code and number)					
Doug S Shoop, Operator/Facility-Property Owner*						(509) 376-7395*					
Street or P.O. Box											
P.O. Box 550											
City or Town						State		ZIP Code			
Richland						WA		99352			
B. Operator Type		F									
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If yes, provide the scheduled date for the change:						Month		Day		Year	
IX. NAICS Codes (5/6 digit codes)											
A. First						B. Second					
5	6	2	2	1		9	2	4	1	1	0
Waste Treatment & Disposal						Administration of Air & Water Resource & Solid Waste Management Programs					
C. Third						D. Fourth					
9	9	9	9	9	9	5	6	2	9	1	0
Unclassified Establishments						Remediation Services					

X. Other Environmental Permits (see instructions)													
A. Permit Type			B. Permit Number										C. Description
													None

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

The 1324-N Surface Impoundment was used to treat corrosive dangerous waste (D002) from the 163-N Demineralization Plant. The waste consisted of acidic and caustic backwashes from the regeneration of demineralizer columns. Approximately 1,500,000,000 pounds (680,338,600 kilograms) of waste were treated each year.

T02

The 1324-N Surface Impoundment is a lined pond with a treatment design capacity of 400,000 gallons (1,514,160 liters) per day. The impoundment was used to treat waste from the regeneration of demineralized columns. The waste exhibited the characteristics of corrosivity (D002). Successive additions to the pond of acidic and caustic waste served to neutralize the waste. The nonregulated neutralized waste was transferred to the 1324-NA Percolation Pond. The 1324-N Surface Impoundment no longer receives waste and will be closed under final status regulations (WAC 173-303-610).

Certain closure activities, including excavation, sampling, backfilling, and revegetation where required, have been completed. Unit group closure activities have been integrated with the CERCLA remedial action contained in the 100-NR-1 Operable Unit Interim Action Record of Decision.

Figures 1 and 2 show the current ground contour and relationship of the current ground contour to the removed structure via well orientation.

1
2
3
4

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	T	0	2	400,000	U	001	1	D	8	3	400,000	U	001		
2							2								
3							3								
4							4								
5							5								
6							6								
7							7								
8							8								
9							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								

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	1,500,000,000	P	T 0 2	D 8 3						Includes Debris
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	1 0										
	1 1										
	1 2										
	1 3										
	1 4										
	1 5										
	1 6										
	1 7										
	1 8										
	1 9										
	2 0										
	2 1										
	2 2										
	2 3										
	2 4										
	2 5										

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.

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).

1

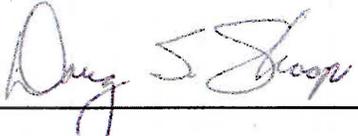
XVIII. Certifications

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.

Operator*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/16
Co-Operator** Name and Official Title (type or print) John A. Ciucci President. CH2MHill Plateau Remediation Company	Signature 	Date Signed 8/25/16

Co-Operator – Address and Telephone Number**

2420 Stevens Center Place
 Richland, WA 99354
 (509) 373-0293

Facility-Property Owner*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/16

2

Comments

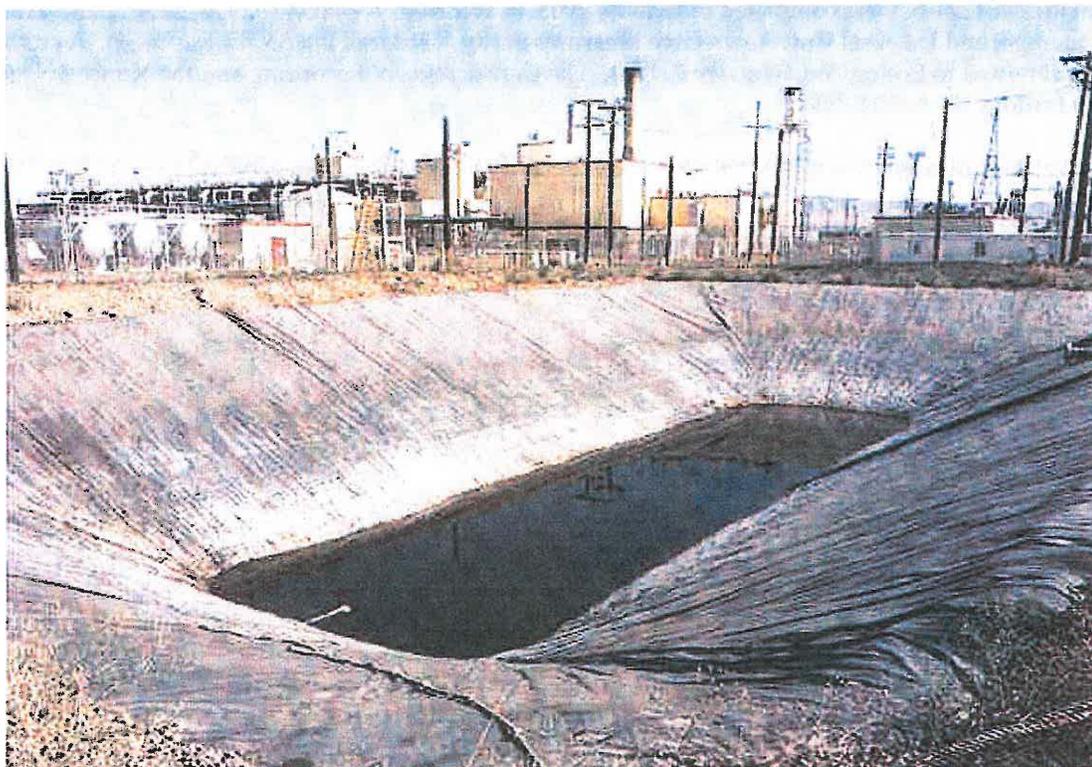
Closure activities at 1324-N were completed in January 2003, in accordance with WAC 173-303-610 and the approved Treatment, Storage, and Disposal Units Corrective Measures Study/Closure Plan (DOE/RL-96-39). A certification of closure was submitted to Ecology on February 7, 2003. The Certification of Recording and the Notice in Deed were submitted to Ecology on April 8, 2003.

The path forward for Ecology to approve the closure certification is specified in 16-NWP-122, dated July 15, 2016.

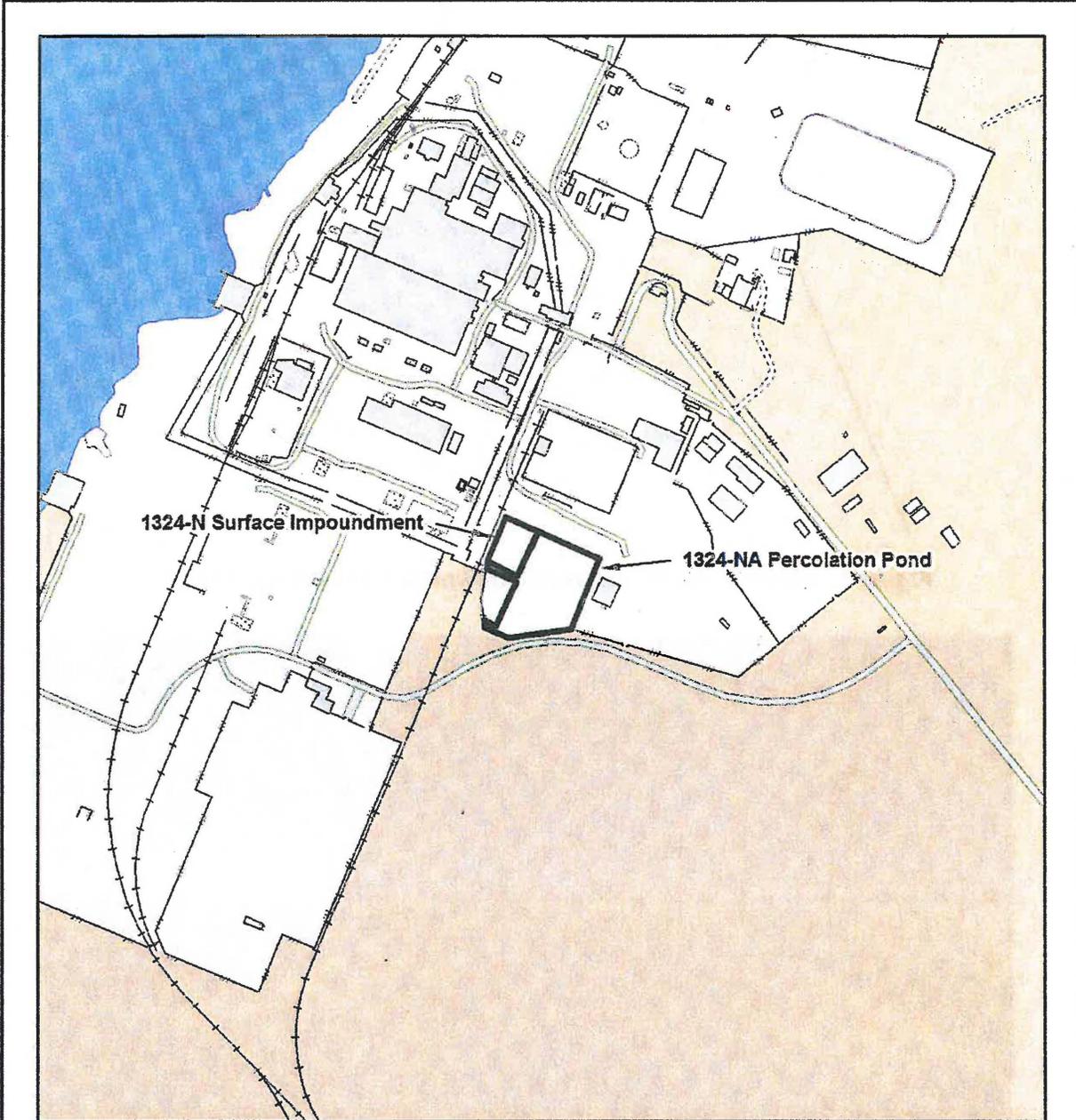
This document has been revised from Revision 4 to Revision 5 because of a change in the Co-Operator, which necessitated an addition to Section XI, Nature of Business. Figures 1 and 2 were added to show the ground contour as it existed on August 3, 2016.

1324-N Surface Impoundment

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9



94051304-3CN
(PHOTO TAKEN 1994)



**1324-N Surface Impoundment and
1324-NA Percolation Pond**

Prepared for:
US DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE



Created and Published by: Central Mapping Services
Fluor Hanford, Richland, WA. (509) 376-8759

INTENDED USE: REFERENCE ONLY

- | | |
|---------------------|-----------------------|
| TSD Unit Boundary | Buildings and Mobiles |
| DOE Operating Areas | Major Hanford Routes |
| Hanford Facility | Local Hanford Roads |
| Columbia River | Minor Roads |
| Structures | Railroads |
| Concrete | Fences |



1

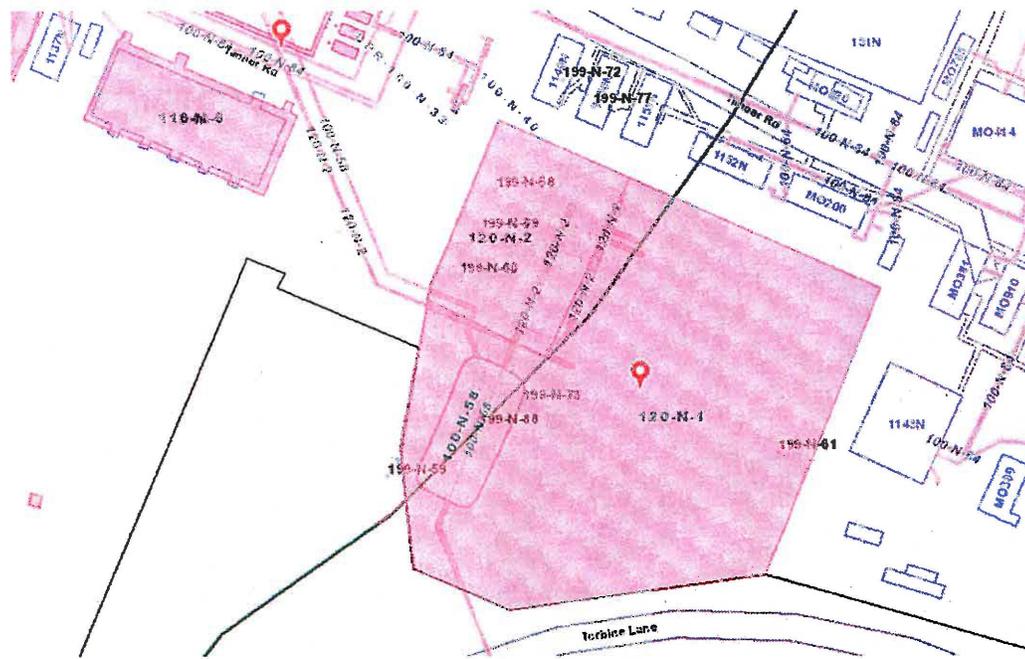


Figure 1. HMAPS (WIDS and Wells) Download: 1324-N and 1324-NA

2

3

4

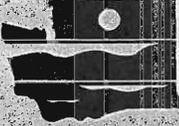


Figure 2. Looking East from Well A4704 (199-N-60)

5

6

1
2

 WASHINGTON STATE DEPARTMENT OF E C O L O G Y		Dangerous Waste Permit Application Part A Form																
Date Received			Reviewed by:						Date:									
Month	Day	Year	Approved by:						Date:									
Please refer to instructions for completing this form.																		
I. This form is submitted to: (place an "X" in the appropriate box)																		
<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:																		
II. EPA/State ID Number																		
W	A	7	8	9	0	0	0	8	9	6	7							
III. Name of Facility																		
US Department of Energy - Hanford Facility																		
IV. Facility Location (Physical address not P.O. Box or Route Number)																		
A. Street																		
825 Jadwin																		
City or Town								State		ZIP Code								
Richland								WA		99352								
County Code (if known)			County Name															
0	0	5	Benton															
B. Land Type	C. Geographic Location						D. Facility Existence Date											
	Latitude (degrees, mins, secs)						Longitude (degrees, mins, secs)			Month	Day	Year						
F	S	E	E	T	O	P	O	M	A	P	0	3	2	2	1	9	4	3
V. Facility Mailing Address																		
Street or P.O. Box																		
P.O. Box 550																		
City or Town								State		ZIP Code								
Richland								WA		99352								

1

VI. Facility contact (Person to be contacted regarding waste activities at facility)												
Name (last)						(first)						
Shoop						Doug S						
Job Title						Phone Number (area code and number)						
Manager						(509) 376-7395*						
Contact Address												
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
VII. Facility Operator Information												
A. Name						Phone Number (area code and number)						
Department of Energy * Owner/Operator CH2MHill Plateau Remediation Company ** Co-Operator for 1324-NA Percolation Pond						(509) 376-7395* (509) 370-0293**						
Street or P.O. Box												
P.O. Box 550 *												
2420 Stevens Center Place, P.O Box 1600 **												
City or Town						State		ZIP Code				
Richland						WA		99352* (99354**)				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VIII. Facility Owner Information												
A. Name						Phone Number (area code and number)						
Doug S Shoop, Operator/Facility-Property Owner*						(509) 376-7395*						
Street or P.O. Box												
P.O. Box 550												
City or Town						State		ZIP Code				
Richland						WA		99352				
B. Operator Type		F										
C. Does the name in VII.A reflect a proposed change in operator?						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If yes, provide the scheduled date for the change:						Month		Day		Year		
IX. NAICS Codes (5/6 digit codes)												
A. First						B. Second						
5	6	2	2	1	Waste Treatment & Disposal	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third						D. Fourth						

9	9	9	9	9	9	Unclassified Establishments	5	6	2	9	1	0	Remediation Services
---	---	---	---	---	---	-----------------------------	---	---	---	---	---	---	----------------------

X. Other Environmental Permits (see instructions)													
A. Permit Type			B. Permit Number										C. Description
													None

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

The 1324-NA Percolation Pond received waste from the 163-N Demineralization Plant. The waste consisted of acid and caustic backwashes from the regeneration of demineralization columns. Approximately 1,500,000,000 pounds (680,338,600 kilograms) of corrosive waste (D002) were managed each year.

T04, D83

The 1324-NA Percolation Pond received corrosive dangerous waste (D002) from the regeneration of demineralizer columns in the 163-N Demineralizer Plant. Acidic and caustic waste was discharged to the pond in series, which served to neutralize the waste in the pond. Any acidic or caustic waste that reached the soil was neutralized further by the calcareous nature of the soil. Discharge of dangerous waste to this pond was discontinued in April 1986. The pond also received nonregulated neutralized waste from the 1324-N Surface Impoundment and nonregulated process and cooling water from the 163-N Plant. The process design capacity reflects the maximum volume of water discharged daily rather than the physical capacity of the unit. The 1324-NA Percolation Pond no longer receives waste and will be closed under final status regulations (WAC 173-303-610).

Certain closure activities, including excavation, sampling, backfilling, and revegetation where required, have been completed. Unit group closure activities have been integrated with the CERCLA remedial action contained in the 100-NR-1 Operable Unit Interim Action Record of Decision.

Figures 3 and 4 show the current ground contour and relationship of the current ground contour to the removed structure via well orientation.

1
2
3
4

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. Amount	2. Unit of Measure (enter code)	1. Amount	2. Unit of Measure (enter code)	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	T	0	4	1,000,000	U	001	1							
2	D	8	3	1,000,000	G	001	2							
3							3							
4							4							
5							5							
6							6							
7							7							
8							8							
9							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							

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	1,500,000,000	P	T	0	4	D	8	3				Includes Debris
	2												
	3												
	4												
	5												
	6												
	7												
	8												
	9												
	1 0												
	1 1												
	1 2												
	1 3												
	1 4												
	1 5												
	1 6												
	1 7												
	1 8												
	1 9												
	2 0												
	2 1												
	2 2												
	2 3												
	2 4												
	2 5												

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.

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).

1

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.

Operator*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/14
Co-Operator** Name and Official Title (type or print) John A Ciucci President CH2MHill Plateau Remediation Company	Signature 	Date Signed 8/20/14

Co-Operator** – Address and Telephone Number
2420 Stevens Center Place
Richland, WA 99354
(509) 373-0293**

Facility-Property Owner*	Signature	Date Signed
Name and Official Title (type or print) Doug S Shoop, Manager U.S. Department of Energy Richland Operations Office		9/2/14

2

Comments

Closure activities at 1324-NA were completed in January 2003, in accordance with WAC 173-303-610 and the approved Treatment, Storage, and Disposal Units Corrective Measures Study/Closure Plan (DOE/RL-96-39). A certification of closure was submitted to Ecology on February 7, 2003. The Certification of Recording and the Notice in Deed were submitted to Ecology on April 8, 2003.

The path forward for Ecology to approve the closure certification is specified in 16-NWP-122, dated July 15, 2016.

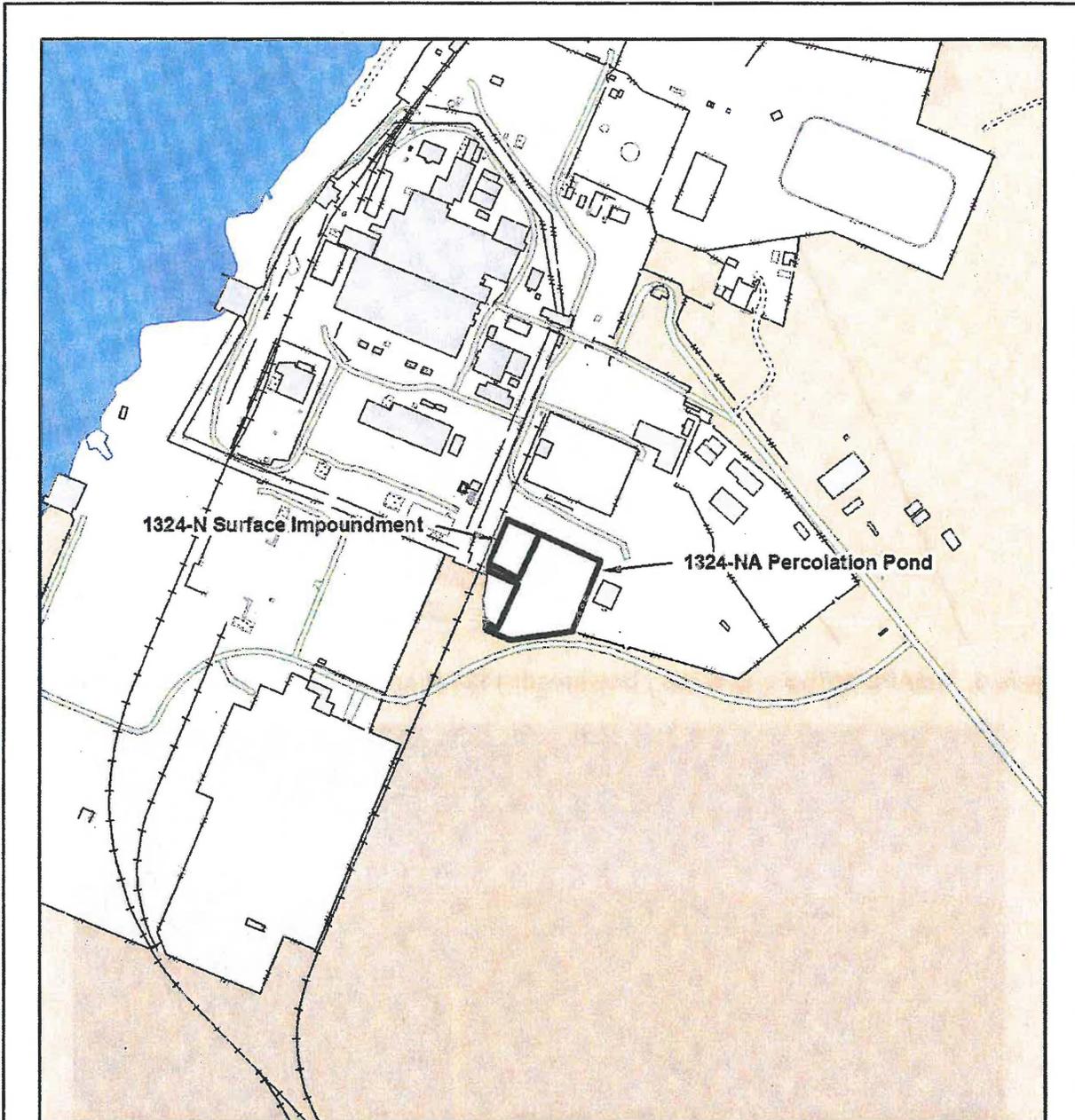
This document has been revised from Revision 4 to Revision 5 because of a change in the Co-Operator, which necessitated an addition to Section XI, Nature of Business. Figures 3 and 4 were added to show the ground contour as it existed on August 3, 2016.

1324-NA Percolation Pond

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0



94051304-3CN
(PHOTO TAKEN 1994)



**1324-N Surface Impoundment and
1324-NA Percolation Pond**

Prepared for:
US DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE



Created and Published by: Central Mapping Services
Fluor Hanford, Richland, WA (509) 376-8759

INTENDED USE: REFERENCE ONLY

- | | |
|---------------------|-----------------------|
| TSD Unit Boundary | Buildings and Mobiles |
| DOE Operating Areas | Major Hanford Routes |
| Hanford Facility | Local Hanford Roads |
| Columbia River | Minor Roads |
| Structures | Railroads |
| Concrete | Fences |



