 WASHINGTON STATE DEPARTMENT OF E C O L O G Y		<h2 style="margin: 0;">Addendum A</h2> <h3 style="margin: 0;">Part A Form</h3>																	
Date Received			Reviewed by:							Date:									
Month	Day	Year	Approved by:							Date:									
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																			
U.S. Department of Energy – Hanford Facility																			
IV. Facility Location (Physical address not P.O. Box or Route Number)																			
A. Street																			
Refer to Permit Attachment 2, Hanford Facility Permit Legal Description																			
City or Town										State				ZIP Code					
Near Richland										WA									
County Code			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		Refer to TOPO Map (Section XV)							1	1		1	9		1	9	8	0	
V. Facility Mailing Address																			
Street or P.O. Box																			
P.O. Box 450																			
City or Town										State				ZIP Code					
Richland										WA				99352					

VI. Facility contact (Person to be contacted regarding waste activities at facility)													
Name (last)						(first)							
Vance						Brian							
Job Title						Phone Number (area code and number)							
Manager						(509) 372-2315							
Contact Address													
Street or P.O. Box													
P.O. Box 450													
City or Town						State		ZIP Code					
Richland						WA		99352					
VII. Facility Operator Information													
A. Name										Phone Number			
U.S. Department of Energy Owner/Operator Washington River Protection Solutions, LLC Co-Operator for the Low-Activity Waste Pretreatment System.										(509) 372-2315 (509) 376-2574			
Street or P.O. Box													
P.O. Box 450 P.O. Box 850													
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			
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)							
U.S. Department of Energy Owner/Operator						(509) 372-2315							
Street or P.O. Box													
P.O. Box 450													
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	1	Waste Treatment & Disposal	5	6	2	9	1	0	Remediation Services
C. Third						D. Fourth							
5	4	1	7	1	5	Research & Development in the Physical, Engineering and Life Sciences	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs

X. Other Environmental Permits (see instructions)															
A. Permit Type			B. Permit Number										C. Description		
	E		A	O	P	0	0	-	0	5	-	0	0	6	Title V Air Operating Permit. Incorporation of current non-radiological Notice of Construction permits and FF-01 radiological licenses into the AOP may be delayed up to 2 years.
	E		S	T	0	0	0	4	5	1	1				WAC 173-216, State Waste Discharge Permit Program, Sitewide Permit for Miscellaneous Streams

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

The Tank-Side Cesium Removal [TSCR] unit represents Phase One of the Low-Activity Waste Pretreatment System (LAWPS) project. Phase One TSCR operations will account for approximately one half of the required 10-gallon per minute treatment capacity throughput necessary for full two-melter Waste Treatment and Immobilization Plant (WTP) Low Activity Waste (LAW) facility operations. The following information represents operational parameters for LAWPS Phase One (TSCR) alone.

TSCR is a mixed waste treatment and storage unit that treats Double-Shell Tank (DST) supernatant waste. The DST supernatant waste contains undissolved solids and radionuclides; to remove the undissolved solids and radionuclide content, the DST waste will be processed through the TSCR system. The TSCR system is housed in a Process Enclosure and is designed to remove undissolved solids and cesium-137, and discharge the pretreated low activity waste (LAW) stream to DST 241-AP-106. The pretreated LAW will be stored in DST 241-AP-106 until transferred to the WTP LAW facility for vitrification. The TSCR Process Enclosure is connected to the 241-AP Farm tanks 241-AP-107 (feed), 241-AP-106 (pretreated LAW), and 241-AP-108 (vent and drain) with hose-in-hose transfer lines. Hard walled pipe-in-pipe transfer lines are used to transfer pretreated LAW from the 241-AP Farm (241-AP-106) to WTP.

The TSCR Process Enclosure contains dead-end filters that separate undissolved solids from the supernatant waste prior to entering a series of three ion exchange (IX) columns. The three ion exchange (IX) columns remove cesium-137 from the supernatant waste. The IX columns will be replaced once the columns become loaded with cesium-137. Prior to replacement, waste remaining in the spent IX columns will be displaced with a caustic solution followed by a water flush followed by air drying to remove any free liquids. Once dry, the spent columns are removed from the TSCR Process Enclosure and transferred to the IXC storage pad. If the columns require additional work (e.g., decontamination) prior to being placed on the storage pad, they may be placed on the IXC staging area as an interim measure.

TSCR dangerous waste management units include:

T01. Tank Treatment: The TSCR tank treatment removes undissolved solids and radionuclides from DST supernatant waste. The filters remove undissolved solids, and IX columns remove cesium-137 to levels required by the WTP LAW facility acceptance criteria.

The process design capacity is 7,200 gallons per day (5 gallons per minute). The estimated annual quantity of waste is 14,725 tons per year, based on estimated liquid waste throughput operating at 100 percent capacity, converted to a mass using the density of water, multiplied by the maximum acceptable specific gravity (SpG) of 1.35.

S02. Tank Storage: The LAW waste stream from the IX columns discharges to a Delay Tank before being pumped to DST 241-AP-106.

The process design capacity of the Delay Tank is 300 gallons. The estimated annual quantity of waste for tank storage is 3,365 pounds per year based on design capacity of the Delay Tank (300 gallons), converted to a mass using the density of water, multiplied by the maximum acceptable SpG of 1.35 SpG.

S01. Container Storage: The container storage area consists of two outdoor concrete pads for the storage of the spent IX columns generated from TSCR operations. These include the IX column staging area and the IX column storage pad. The IX column staging area is only used on a temporary basis for decontamination or other corrective measures prior to placement of an IX column on the IX column storage pad. The IX column staging area is limited to three columns and the process design capacity is included within that for the IX column storage pad. Container storage also includes IX media traps, should that waste form be generated during waste processing. The IX media trap is a contingency feature located just downstream of the polish IX column and is designed to capture IX media in the unlikely event of a screen failure within an IX column that could result in IX media being released into the process stream. A media trap is a small component approximately 17 inches by 3 inches that resembles a small cartridge filter. Given the low probability of an IX column screen failure and the small nature of the component, storage of

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

this item is credibly bounded by the process design capacity for the IX columns.

The process design capacity of the outdoor concrete pad is 120 cubic yards, based on generating 30 IX columns per year (24 cubic yards per year) with a nominal internal volume of 0.8 cubic yards per column, multiplied by projected 5-year processing duration. The estimated annual quantity of waste for container storage is 450 tons per year based on 30 columns at a nominal mass of 30,000 pounds each.

NAICS Codes

NAICS codes listed in Section IX.B – IX.D apply to the Hanford Facility and not to this unit.

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 <i>vitrification</i> .																
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	4	1. Amount	2. Unit of Measure (enter code)			1	2	3	4	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	1	7,200	U	001		1							
	2	S	0	2	300	G	001		2							
	3	S	0	1	120	Y	002		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	D	0	0	2	14,725	T	T	0	1					
2	D	0	0	4										Included with above
3	D	0	0	5										Included with above
4	D	0	0	6										Included with above
5	D	0	0	7										Included with above
6	D	0	0	8										Included with above
7	D	0	0	9										Included with above
8	D	0	1	0										Included with above
9	D	0	1	1										Included with above
10	D	0	1	8										Included with above
11	D	0	1	9										Included with above
12	D	0	2	2										Included with above
13	D	0	2	8										Included with above
14	D	0	2	9										Included with above
15	D	0	3	0										Included with above
16	D	0	3	3										Included with above
17	D	0	3	4										Included with above
18	D	0	3	5										Included with above
19	D	0	3	6										Included with above
20	D	0	3	8										Included with above
21	D	0	3	9										Included with above
22	D	0	4	0										Included with above
23	D	0	4	1										Included with above
24	D	0	4	3										Included with above
25	F	0	0	1										Included with above

EPA/State ID Number	W	A	7	8	9	0	0	0	8	9	6	7
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Continuation of Section XIV. Description of Dangerous Waste




Line Number	A. Dangerous Waste No. (enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Process						(2) Process Description [If a code is not entered in D (1)]	
							(1) Process Codes (enter)							
26	F	0	0	2										Included with above
27	F	0	0	3										Included with above
28	F	0	0	4										Included with above
29	F	0	0	5										Included with above
30	W	P	0	1										Included with above
31	W	P	0	2										Included with above
32	W	T	0	1										Included with above
33	W	T	0	2										Included with above
34	D	0	0	2	3,365	P	S	0	2					
35	D	0	0	4										Included with above
36	D	0	0	5										Included with above
37	D	0	0	6										Included with above
38	D	0	0	7										Included with above
39	D	0	0	8										Included with above
40	D	0	0	9										Included with above
41	D	0	1	0										Included with above
42	D	0	1	1										Included with above
43	D	0	1	8										Included with above
44	D	0	1	9										Included with above
45	D	0	2	2										Included with above
46	D	0	2	8										Included with above
47	D	0	2	9										Included with above
48	D	0	3	0										Included with above
49	D	0	3	3										Included with above
50	D	0	3	4										Included with above
51	D	0	3	5										Included with above
52	D	0	3	6										Included with above
53	D	0	3	8										Included with above
54	D	0	3	9										Included with above
55	D	0	4	0										Included with above
56	D	0	4	1										Included with above

EPA/State ID Number	W	A	7	8	9	0	0	0	8	9	6	7
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Continuation of Section XIV. Description of Dangerous Waste

Line Number	A. Dangerous Waste No. (enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Process								
							(1) Process Codes (enter)							(2) Process Description [If a code is not entered in D (1)]	
57	D	0	4	3											Included with above
58	F	0	0	1											Included with above
59	F	0	0	2											Included with above
60	F	0	0	3											Included with above
61	F	0	0	4											Included with above
62	F	0	0	5											Included with above
63	W	P	0	1											Included with above
64	W	P	0	2											Included with above
65	W	T	0	1											Included with above
66	W	T	0	2											Included with above
67	D	0	0	2	450	T	S	0	1						
68	D	0	0	4											Included with above
69	D	0	0	5											Included with above
70	D	0	0	6											Included with above
71	D	0	0	7											Included with above
72	D	0	0	8											Included with above
73	D	0	0	9											Included with above
74	D	0	1	0											Included with above
75	D	0	1	1											Included with above
76	D	0	1	8											Included with above
77	D	0	1	9											Included with above
78	D	0	2	2											Included with above
79	D	0	2	8											Included with above
80	D	0	2	9											Included with above
81	D	0	3	0											Included with above
82	D	0	3	3											Included with above
83	D	0	3	4											Included with above
84	D	0	3	5											Included with above
85	D	0	3	6											Included with above
86	D	0	3	8											Included with above

<p>XV. Map</p> <p>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.</p>
<p>XVI. Facility Drawing</p> <p>All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).</p>
<p>XVII. Photographs</p> <p>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).</p>

<p>XVIII. Certifications</p> <p>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>		
<p>Operator Name and Official Title (type or print) Brian T. Vance, Manager U.S. Department of Energy Office of River Protection</p>	<p>Signature</p>  <p>Digitally signed by Brian T. Vance DN: cn=Brian T. Vance, o=Office of River Protection, ou=Department of Energy, email=brian.t.vance@orp.doe.gov, c=US Date: 2020.04.16 15:04:06 -07'00'</p>	<p>Date Signed</p>
<p>Co-Operator* Name and Official Title (type or print) John R. Eschenberg President and Project Manager Washington River Protection Solutions, LLC</p>	<p>Signature</p> 	<p>Date Signed</p> <p>4/9/20</p>
<p>Co-Operator – Address and Telephone Number* P.O. Box 850 Richland, WA 99352 (509) 376-3492</p>		
<p>Facility-Property Owner Name and Official Title (type or print) Brian T. Vance, Manager U.S. Department of Energy Office of River Protection</p>	<p>Signature</p>  <p>Digitally signed by Brian T. Vance DN: cn=Brian T. Vance, o=Office of River Protection, ou=Department of Energy, email=brian.t.vance@orp.doe.gov, c=US Date: 2020.04.16 15:04:28 -07'00'</p>	<p>Date Signed</p>