

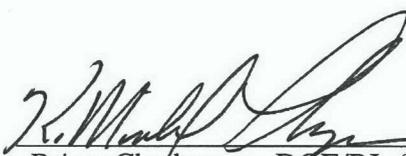
100/300 AREA UNIT MANAGERS MEETING  
 APPROVAL OF MINUTES

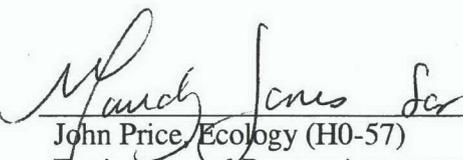
January 10, 2008

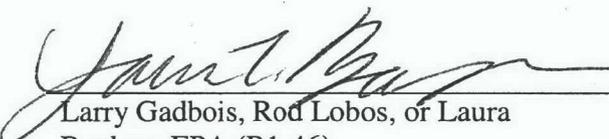
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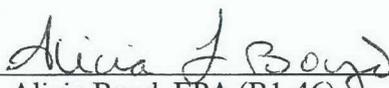
**EDMC**

APPROVAL:  Date 2/14/08  
 Stacy Charboneau, DOE/RL (A3-04)  
 River Corridor Project Manager

APPROVAL:  Date 2/14/08  
 Briant Charboneau, DOE/RL (A6-33)  
 Groundwater Project Manager

APPROVAL:  Date 2/14/08  
 John Price, Ecology (H0-57)  
 Environmental Restoration nager

APPROVAL:  Date 2/14/08  
 Larry Gadbois, Rod Lobos, or Laura  
 Buelow, EPA (B1-46)  
 100 Aggregate Area Unit Manager

APPROVAL:  Date 2/14/2008  
 Alicia Boyd, EPA (B1-46)  
 300 Aggregate Area Unit Manager

**100 & 300 AREA UNIT MANAGER MEETING MINUTES****Groundwater, Source Operable Units, Facility (D4 and ISS), and Mission Completion****January 10, 2008****Washington Closure Hanford (WCH) Building, 2620 Fermi Drive, Richland, Washington****ADMINISTRATIVE**

- Next Unit Manager Meeting (UMM) - The next meeting will be held February 14, 2008 at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209.
- Attendees/Delegations - Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM. Attachment B documents any delegations received from the agencies.
- Approval of Minutes – The November 2007 meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL).
- Action Item Status - Status of action items was performed, and updates provided (Attachment C).
- Agenda: Attachment D is the meeting agenda.

**EXECUTIVE SESSION (Tri-Parties Only)**

The executive session was not held.

**100/300 AREA GROUNDWATER**

Attachment 1 provides a status or information. No issues were identified, and no agreements were documented.

Action 1: RL/Fluor Hanford Inc. (FH) will review the extraction network for the 100-H pump and treat system, and provide recommendations to Ecology for optimization.

Action 2: RL shall provide EPA with an updated Sampling and Analysis Plan (SAP) for the 300-FF-5 Operable Unit.

**MISSION COMPLETION PROJECT**

Attachment 2 provides a status or information. No issues were identified, no actions were documented, and no agreements were documented.

**GROUNDWATER/SOURCE INTEGRATION**

EPA and RL stated updates on the 5-year Record of Decision action items would be provided at the next UMM. No issues were identified, no agreements were documented, and no actions were documented.

### **100/300 AREA FIELD REMEDIATION CLOSURE (FR)**

Attachment 3 through 9 provides a variety of information. Attachment 3 and Attachment 4 document backfill agreements at the 100-F Area. Attachment 5 covers the 300-FF-2 Area. Attachment 6 covers the 100-B/C Area. Attachment 7 documents a backfill agreement at the 100-B/C Area. Attachment 8 covers the 118-K-1 burial ground located in the 100-K Area. Attachment 9 covers the schedule for sampling and design. No issues were identified.

Action: RL shall provide EPA a schedule to meet the M-16-49 milestone.

Agreement 1: Attachment 3 documents EPA's approval to backfill 100-F-26:12.

Agreement 2: Attachment 4 documents EPA's approval to backfill 100-F-26:4.

Agreement 3: Attachment 7 documents EPA's approval to backfill 100-B-21:2.

### **DEACTIVATION, DECONTAMINATION, DECOMMISSION, DEMOLITION (D4)/ INTERIM SAFE STORAGE (ISS)**

Attachment 10 provides a status or information for the 300 Area and Attachment 11 provides a status or information for the 300 Area. No issues were identified.

Action 1: RL will schedule a meeting with Ecology on coordinating between D4 and FR activities at the 100-N Area.

Action 2: RL shall brief EPA and Ecology on alternative exposure scenarios for the 300 Area.

Agreement 1: Attachment 12 documents agreement between RL and Ecology regarding hazardous material removal from 100-N ancillary facilities.

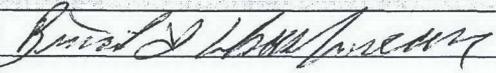
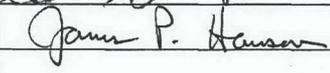
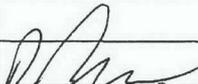
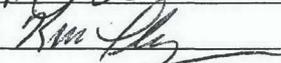
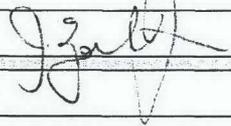
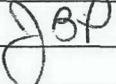
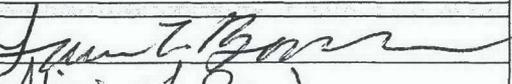
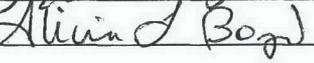
Agreement 2: Attachment 13 documents agreement between RL and Ecology on the extent of backfill performed at the 1312-N liquid effluent retention facility.

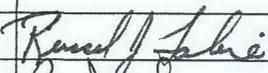
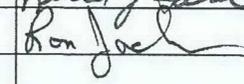
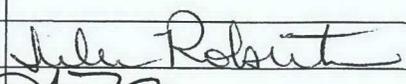
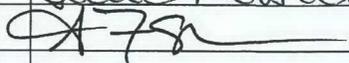
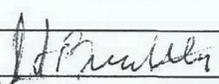
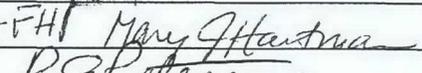
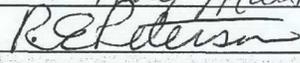
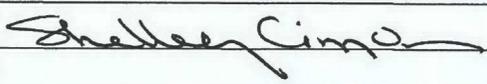
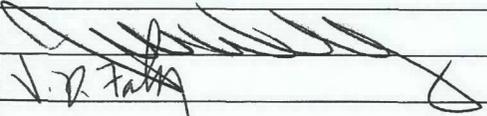
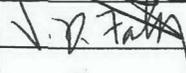
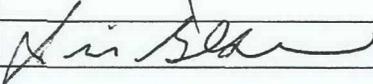
### **SPECIAL TOPICS**

Action: RL shall schedule a meeting with EPA and Ecology to discuss potential additional institutional controls at specific waste sites (e.g., concrete or other physical markers at 118-B-1 burial ground).

## **Attachment A**

100/300 AREA UNIT MANAGER MEETING  
ATTENDANCE AND DISTRIBUTION  
January 10, 2008

NAME	E-MAIL ADDRESS	MSIN	COMP	SIGNATURE
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Hartman, Mary J	Mary_J_Hartman@rl.gov	E6-35	<del>PNNL</del> FH	
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Cimon, Shelley	scimon@oregontrail.net		Oregon	
Lilligren, Sandra	sandral@nezperce.org		TRIBES	
Bignell, Dale	Dale.Bignell@wch-rcc.com	H4-25	WCH	
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Dieterle, Steven E	steven.dieterle@wch-rcc.com	L1-04	WCH	
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Golden, James W	james.golden@wch-rcc.com	X4-08	WCH	
Hadley, Karl A	karl.hadley@wch-rcc.com	T2-04	WCH	
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Landon, Roger J	roger.landon@wch-rcc.com	H4-21	WCH	



## **Attachment B**

## Donnelly, Jack W

---

**From:** Gadbois.Larry@epamail.epa.gov  
**Sent:** Thursday, January 03, 2008 2:20 PM  
**To:** Donnelly, Jack W  
**Subject:** {Spam?} Declined: 100/300 Area Unit Manager Meeting



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ATT2006174.txt  
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Jack, I'll be at the trustees meeting at that same time so won't be at the UMM. Rod and Dennis are acting for me on any issues that come up during the meeting.

## **Attachment C**

100/300 Area UMM  
Action List  
January 10, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	100-128	RL	R. Guercia	100-N	RL will schedule a briefing with Ecology in October 2007 on the piping near the 1310 and 1322-NB buildings.	Open: 1/11/07; Action: The RL point of contact person changed and the action item revised on 7/12/07. Item closed at the 1/10/08 UMM.
X	100-130	RL	J. Zeisloft	100 Areas	EPA and Ecology to discuss footnote in Cleanup Verification Packages/Remaining Site Cleanup Verification Packages (CVP/RSVPs) for immobile contaminates as related to the footnote stated in the Remedial Design Report/Remedial Action Work Plan for immobile contaminants.	Open: 1/11/07; Action: Item closed at 11/8/07 UMM.
O	300-008	RL	T. Post	100/300 Area	RL shall develop the instructions for documenting D4 completions in the 100 and 300 Areas where no known waste site is under the building, and no releases to soil are documented or expected based on existing data. These instructions shall be added into the respective Removal Action Work Plans after review and approval from the respective lead regulatory agency for the specific Removal Action Work Plans in the 100 and 300 Areas.	Open: 4/12/07; Action: Ongoing action, and are still under development. Instructions are developed and is complete for the 300 Area. RL will submit a TPA Section 9.0 document change notice for the 100 Area.

100/300 Area UMM  
Action List  
January 10, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	100-134	RL	J. Zeisloft	100-D Area	RL will respond to Ecology's electronic mail message sent on April 19, 2007 regarding the 126-D-1 Ash Pit.	Open: 5/10/07; Action: RL provided Ecology data on July 2, 07. Ecology sent comments, and is awaiting a response. Item was closed at 11/8/07 UMM.
X	100-140	RL	S. Weil	100/300 Area	EPA requested information for each operable unit on the following areas: 1) total operable unit acreage/boundary map, 2) waste site acreage within each operable unit, and 3) acreage within each operable unit that is cleaned up. Additional discussions are expected on this subject.	Open: 7/12/07; Action: EPA sent RL a letter regarding this request. EPA contacted RL regarding the urgency of the request, and this is on schedule. Item was closed at 11/8/07 UMM.
X	100-143	RL	J. Zeisloft	100-D	RL, with its contractors, will meet with Ecology to discuss their comments on the 100-D Orphan Site Report, and finalize the list of sites.	Open: 9/13/07; Action: Item was closed at 11/8/07 UMM.
X	100-145	RL	J. Hanson/J. Zeisloft	100-D	RL (groundwater staff) and RL (river corridor staff) shall provide each other their respective schedules regarding drilling and cleanup actions to assist in coordination efforts for the portion of the 100-D-56 pipeline that requires backfill prior to well installation.	Open: 9/13/07; Action: Item was closed at 11/8/07 UMM.
X	100-147	RL	C. Smith	100 Areas	RL shall provide EPA and Ecology with a red-line version of Appendix G of the 100 Area Remedial Design Report/Remedial Action Work Plan, Rev. 5 to assist in reviewing the proposed changes.	Open: 10/11/07; Action: Item was closed at 11/8/07 UMM.

100/300 Area UMM  
Action List  
January 10, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	100-148	RL	C. Smith	100 Areas	RL will set up a meeting with EPA and Ecology to discuss the Kd for Antimony.	Open: 11/8/07; Action: Item was closed at 1/10/08 UMM.
O	100-149	RL	J. Hanson	100-H	RL/Fluor Hanford Inc. (FH) will review the extraction network for the 100-H pump and treat system, and provide recommendations to Ecology for optimization.	Open: 1/10/08; Action:
O	100-150	RL	M. Thompson	300-FF-5	RL shall provide EPA with an updated Sampling and Analysis Plan (SAP) for the 300-FF-5 Operable Unit.	Open: 1/10/08; Action:
O	100-151	RL	C. Smith	100-F	RL shall provide EPA a schedule to meet the M-16-49 milestone.	Open: 1/10/08; Action:
O	100-152	RL	T. Post	100-N	RL will schedule a meeting with Ecology on coordinating between D4 and FR activities at the 100-N Area.	Open: 1/10/08; Action:
O	100-153	RL	C. Smith	100 Area	RL shall schedule a meeting with EPA and Ecology to discuss potential additional institutional controls at specific waste sites (e.g., concrete or other physical markers at 118-B-1 burial ground).	Open: 1/10/08; Action:
O	300-009	RL	R. Guercia	300 Area	RL shall brief EPA and Ecology on alternative exposure scenarios for the 300 Area.	Open: 1/10/08; Action:

**Attachment D**

100/300 Area Unit Manager Meeting  
January 10, 2008  
Washington Closure Hanford Building  
2620 Fermi Avenue, Richland, WA 99354  
Room C209  
1:00-4:30 p.m.

1:00 - 1:30 p.m.

**Executive Session (Tri-Parties Only):**

- None

1:35 p.m. - 2:00 p.m.

**Administrative:**

- Approval and signing of previous meeting minutes (November 2007)
- Update to Action Items List
- Next UMM (2/14/2008, Room C209)

2:00 - 4: 30 p.m.

**Open Session: Project Updates:**

- 100/300 Area Groundwater (Jim Hanson/Ann Shattuck)
- Mission Completion (Jamie Zeisloft/John Sands/Jeff Lerch/Jill Thomson)
- Groundwater/Source Integration
  - 5-year Record of Decision Review Update (Cliff Clark/Alicia Boyd)
- 100/300 Area Field Remediation and Closure (FR)
  - 100-F (Chris Smith/Jon Fancher)
  - 300-FF-2 (Chris Smith/John Darby)
  - 618-10/11 (Chris Smith/Scott Parnell)
  - 100-B/C (Chris Smith/Dean Strom)
  - 118-K-1 (Chris Smith/Nelson Little)
  - 100-D (Tom Post/Mark Buckmaster)
  - 100-H (Tom Post/Mark Buckmaster)
  - 100-IU-2/IU-6 (Chris Smith/Rich Carlson)
  - Sampling and FR Design (Chris Smith/Lorna Dittmer/Rich Carlson)
- D4/ISS
  - 300 Area D4 (Rudy Guercia/Megan Proctor)
  - 100 Area D4 (Tom Post/Dan Saueressig)
  - ISS (Chris Smith/Dan Saueressig)
- Special Topics

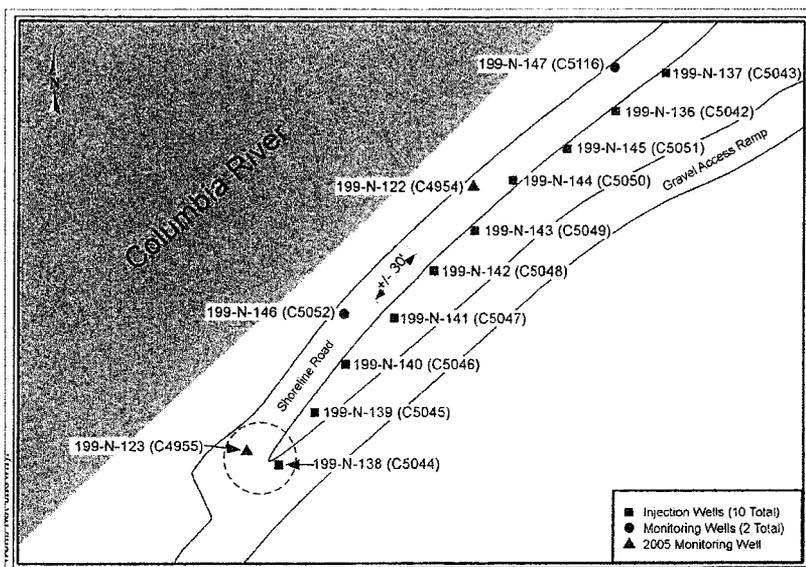
## **Attachment 1**

100/300 Areas Unit Managers Meeting,  
January 10, 2008

**100-NR-2 Groundwater OU - Russ Fabre**

**Apatite Barrier Injections**

- Sampling of the performance wells in December was postponed due to freezing weather conditions.
- Addendum to the Treatability Test Plan DOE/RL-2005-96 Revision 0 is being developed to allow for high concentration injections in the spring of 2008.
- A Statement of Work is being prepared to allow for the installation of 6 Ringold formation wells. This will further increase the effectiveness of the injections in that formation.
- Low concentration injection report is on schedule to be completed January 31, 2008.



**100-KR-4 Groundwater OU - Ron Jackson – Julie Robertson**

- Monthly monitoring of cultural resources for 100-KR-4 was performed on 11/16/2007 and 12/21/2007. No problems were observed in November. No Tribal representatives participated in the December monitoring. In December, new tracks of a single-axle vehicle were observed between the northwest corner of the well pad at 199-K-120A and the access road, covering a distance of approximately 60 feet. No cultural resources were observed in the area. Project team was advised to stay on gravel roads and additional gravel may be required on tight turns.
- 100-KR-4 Remediation Treatment Status
  - For the period of November 1-30, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 274 gpm.
    - Average influent hexavalent chromium concentration was 0.050 mg/L.
  - For the period of December 1-31, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 278 gpm.
    - Average influent hexavalent chromium concentration was 0.047 mg/L.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

- KR-4 Expansion
  - The change notice for the *Supplement to the 100-HR-3 and 100-KR-4 Remedial Design Report and Remedial Action Work Plan for the Expansion of the 100-KR-4 Pump-and-Treat System*, Rev. 0 (TPA-CN-197) was approved on 12/19/2007. The change notice and document have been submitted to the Administrative Record. EPA approval was granted with a caveat that existing text calling for use of wells 199-K-154 and K-155 as injection wells will be changed in a revision to be prepared as soon as replacement injection well locations are identified and agreed upon by the agencies. Planning is underway to convert existing monitoring well 199-K-143 to an injection well and to drill a new injection well on the east side of the Bonneville Power Agency substation at the north end of the 116-K-2 plume.
  - The KX expansion design package was completed in early October 2007.
  - RL has directed FH to double the FY2008 KR-4 system expansion to provide for increasing the system treatment capacity from 300 gpm to 600 gpm. The 600 gpm system will be constructed during FY2008.
  
- KW Groundwater Remediation
  - KW Remediation Treatment Status for the period of November 1-30, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 102 gpm.
    - Average influent hexavalent chromium concentration was 0.106 mg/L.
  - KW Remediation Treatment Status for the period of December 1-31, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 99 gpm.
    - Average influent hexavalent chromium concentration was 0.130 mg/L.
  - Over the past year, the hexavalent chromium concentrations in monitoring well 199-K-137 have increased from approximately 2200 ppb to 3500 ppb. A BCR has been drafted that would provide for the drilling of four new multipurpose wells in the vicinity of the 105-KW reactor.

**100-K Area Drilling Status—Ron Jackson/Chris Wright (FH)**

Drilling began on eighteen KR-4 Pump and Treat Expansion Wells on October 4<sup>th</sup>. As of January 7, ten wells have been constructed and developed, 1 well constructed but not yet developed, and 1 well has reached total depth.

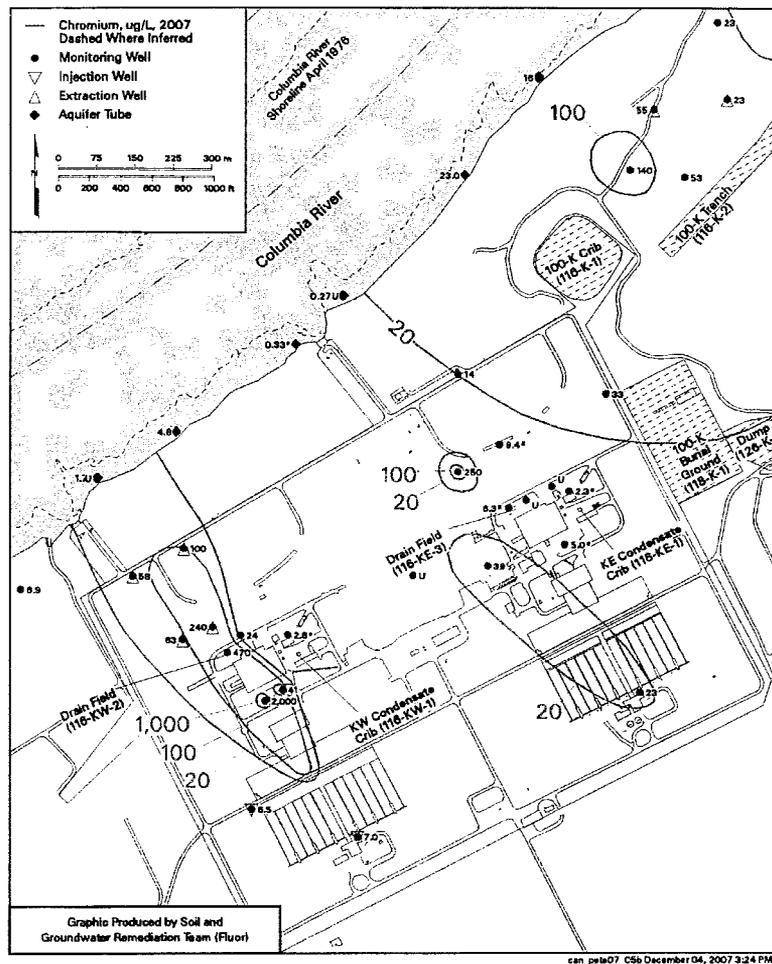
**100-KR-4: K-Basins Monitoring Task—Duane Horton**

- Leak Detection Monitoring Results:
  - The most recent results for routine quarterly sampling of wells in the K-Basins network are for samples collected in October 2007. Results are consistent with trends and expectations.
  - The most recent results for monthly sampling at three wells close to the KE Basin (199-K-27, 199-K-29, and 199-K-109A) are for samples collected in December 2007. Results are on trend.
  - Central Plateau D&D staff asked about decommissioning wells 199-K-27 and 199-K-109A in preparation for decommissioning the KE basin. The Soil and Groundwater Remediation Project recommended that the wells not be decommissioned until after shielding water is removed. Removal of shielding water from the KE basin is scheduled to begin in January 2008.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

- There is no evidence to indicate groundwater impacts attributable to leakage of shielding water from either Basin.
- Monitoring Well Network:
  - Routine quarterly sampling of K-Basins network wells were sampled in October and early November. The monthly sampling scheduled near KE basin is coordinated with the quarterly event. Next routine sampling is scheduled for January 2008.
  - New well 199-K-141, located between KE reactor and the Columbia River, was sampled on October 8. The results of that sampling confirm the anomalously high chromium results from earlier sampling. The latest chromium value in the well is 284  $\mu\text{g/L}$ . Other wells in the area have chromium concentrations on the order of 10  $\mu\text{g/L}$ . Also, the tritium concentration in new well 199-K-142 appears anomalously low at 330 pCi/L compared to concentrations of 4000 pCi/L and greater in nearby wells. There is no new information at this point to explain the anomalies.
  - The tritium concentration for the most recent sample from 199-K-106A, located near the KW reactor and downgradient of the former KW condensate crib, is dramatically lower than for previous samples. The current concentration (10,000 pCi/L) is comparable to the pre-2001 concentrations. (Note: Starting in 2001, concentrations began rising at this well and reached a peak value exceeding 2,000,000 pCi/L in January 2005 before beginning a rapid decline.) Apparently, the tritium plume has passed well 199-K-106A but has not yet encountered downgradient well 199-K-33.
- Reporting:
  - The most recent quarterly report was for April, May, and June 2007 (PNNL-16766).
  - The current annual groundwater report (for fiscal year 2007) is in preparation and due to Ecology March 1, 2008.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**



**100-HR-3 Groundwater OU - Ron Jackson**

- Remediation Treatment Status
  - For the period November 1-30, 2007:
    - The system operated normally.
    - Total average flow through the system was approximately 153 gpm.
    - Average influent hexavalent chromium concentration for H Area was approximately less than 0.019 mg/L.
    - Average influent hexavalent chromium concentration for D Area was approximately 0.174 mg/L.
  - For the period December 1-31, 2007:
    - The system operated normally.
    - Total average flow through the system was approximately 140 gpm. The 100-D transfer was down for 5 days in December.
    - Average influent hexavalent chromium concentration for H Area was approximately less than 0.020 mg/L.
    - Average influent hexavalent chromium concentration for D Area was approximately 0.192 mg/L.
- DR-5 Treatment Status
  - For the period November 1-30, 2007:
    - System operated normally.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

- Total average flow through the system was approximately 43 gpm.
- The average influent hexavalent chromium concentration was approximately 0.791 mg/L.
- For the period December 1-31, 2007:
  - System operated normally.
  - Total average flow through the system was approximately 39 gpm.
  - The average influent hexavalent chromium concentration was approximately 0.734 mg/L.
- “Horn” Investigation
  - As of January 1, eighteen wells (C5647, C5648, C5649, C5650, C5656, C5657, C5658, C5660, C5661, C5662, C5663, C5664, C5665, C5666, C5667, C5668, C5685 and C5687) have been constructed, developed, and accepted, one well (C5669) has been constructed and developed, and one well (C5659) has been constructed since field activities began on August 23. The last well construction (C5686) will begin on January 2nd. Aquifer tube installation is completed with eighteen aquifer tubes installed at nine different locations. All of the new aquifer tubes have been sampled for hexavalent chromium concentration.

Preliminary groundwater data collected from new wells and aquifer tubes installed between 100-D and 100-H Areas indicate that a widely dispersed continuous plume of hexavalent chromium contamination, larger than expected, is present. Hexavalent chromium concentrations in the wells range from approximately 15 to 120 ppb, with the highest concentration found just west of 100-H Area. Hexavalent chromium concentrations in the aquifer tubes range from approximately 1 to 65 ppb. A contamination reading of 42 ppb hexavalent chromium was found within the first semi-confined aquifer within the Ringold Upper Mud east of 100-D.

- Summary of ISRM Status
  - Chromium concentrations in groundwater sampled from select ISRM injection wells were similar to those collected last December.
- EM-22 Technology Developments
  - Investigation for mending ISRM Barrier. Completed the first screening tests, which evaluated the reactivity and injectability of eight different iron compounds (screened from an initial list of 30). Two of the compounds ranked high in both of these tests, so will be carried forward into the next round of tests beginning in January. The tests objectives are:
    - Evaluate changes in water chemistry when groundwater of similar composition to that at the 100-D Area reacts with ZVI emplaced in the aquifer with emphasis on pH, effect of ZVI-induced reducing conditions on nitrate (e.g., conversion to ammonia), and carbonate concentration due to high pH
    - Test the ability of ZVI-impregnated Ringold soil to remove/reduce  $\text{Cr}^{6+}$
    - Evaluate the potential for passivation of ZVI
  - EC Treatability Test- Finalizing subcontract EC report and the draft EC treatability test report for internal review.
  - December was the last month that the seven chromium source investigation wells were sampled every other week; the wells are now being sampled monthly. The four new wells planned to further refine the chromium source in this area will be drilled in January and February.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

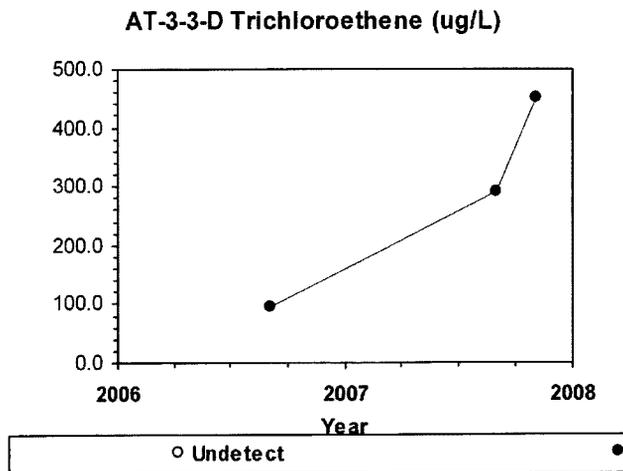
- A draft Field Investigation Plan for the 100-D northern plume chromium source investigation is undergoing internal review.
- Groundwater around the biostimulation wells is being sampled bi-weekly. The groundwater is maintaining a reduced condition.

**HR-3/KR-4 Waste Management Plan- John Winterhalder**

- A revision to the HR-3/KR-4 Waste Management Plan is being worked. The plan has been through internal RL and EPA reviews, and RL and FH are working with Ecology to resolve their questions and concerns, mostly having to do with a DR-5 Pump & Treat resin regeneration related discharge to the ISRM Pond. Previously obtained sample data has been provided to Ecology, and further sampling and analysis is underway to address questions regarding total chromium concentrations in the discharge to the pond. Data collected during the last three resin regeneration cycles will be presented and discussed with Ecology during the next week or two.

**300-FF-5 Operable Unit—Bob Peterson and Ron Smith (PNNL-updated 01/07/08)**

- Operations and Maintenance Plan Activities
  - 300 Area Sampling and Analysis: Some results for the December sampling event are now appearing in HEIS (e.g., metals). Other new results are for samples collected from several wells on monthly (RCRA) or quarterly schedules (e.g., new wells installed as part of VOC investigation). Uranium results are consistent with established trends and expectations. Trichloroethene is elevated in aquifer tube samples from late August and November. The tube is positioned in the same fine-grained unit that is the target of the VOC investigation (see chart below).



- 618-11 Burial Ground Subregion: No change since last UMM. (Most recent results are for samples collected in mid-September. Tritium at 699-13-3A, adjacent to burial ground, is at lowest level to date.)
- 618-10 Burial Ground Subregion: No change since last UMM. (Most recent results are for samples collected in mid-September. Uranium remains well below the drinking water standard. Tributyl phosphate remains very low or nondetected.)

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

- Report Describing Uranium Contamination in the 300 Area Subsurface (PNNL-17034): Revisions and updates based on review comments are nearly complete. Final publication expected this month.
- Groundwater Flow Model: Report describing FY 2007 activities is currently in internal review at PNNL.
- Update to Risk Report and LFI Report: Final versions of each of these reports have been distributed.
- Other Activities
  - VOC Investigation: All three additional characterization boreholes for this investigation have been completed as monitoring wells. VOC data collected during drilling are now in HEIS. Analysis of samples collected during the drilling did not reveal volatile organic compounds at levels of significance, with the majority of results nondetects. A drilling completion report is underway; an interpretive report will follow.
  - Treatability Testing (EM-22): No new information since last UMM. (Analysis of monitoring data following the June 2007 injection of polyphosphate solutions continues.)

**100-BC-5 Operable Units—Mary Hartman**

More data from the new wells near the 100-C-7 waste site were loaded into HEIS. The wells have been sampled monthly from September to December, though not all the December data have been received yet. Chromium and tritium data are listed in the table below and graphed on the following page.

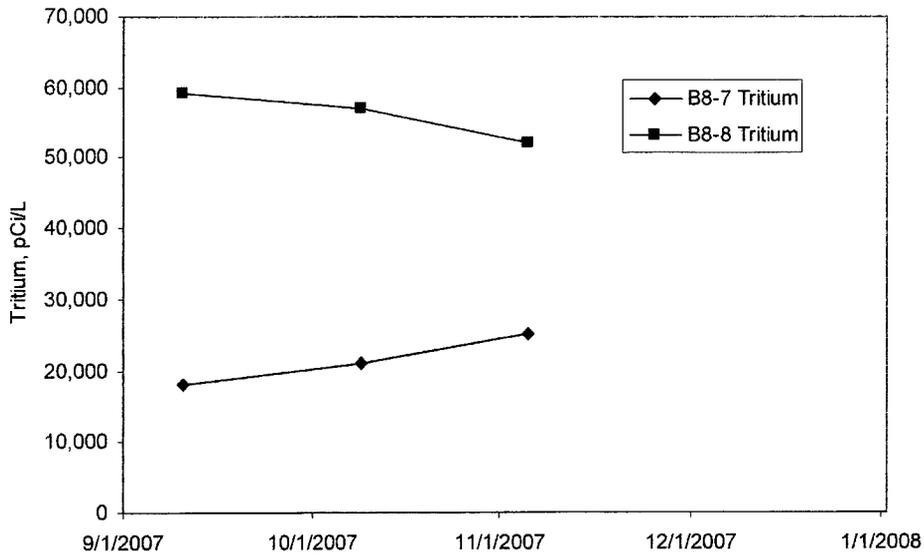
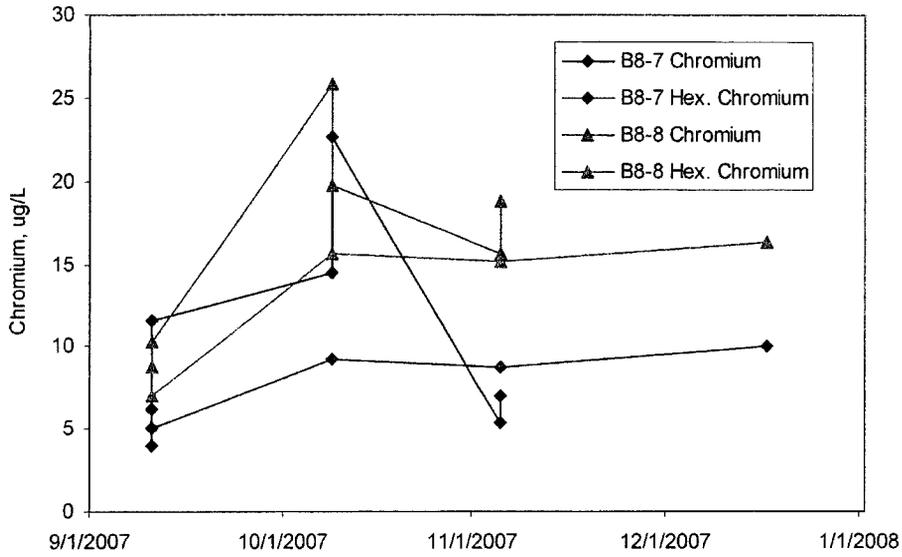
Chromium levels remained low in the new wells (<20 ug/L in all but 2 samples). Tritium remained elevated and exceeded the 20,000 pCi/L drinking water standard in both wells in October and November.

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**

Other wells are scheduled for annual sampling in January 2008. Aquifer tubes were sampled in November 2007 (all 14 sites).

Constituent	Well	Date	Result	Units	Lab Q	Rvw Q
Chromium	199-B8-7	9/10/2007	4	ug/L	U	
		9/10/2007	4	ug/L	U	
		9/10/2007	6.2	ug/L		
		9/10/2007	11.5	ug/L		
		10/9/2007	14.5	ug/L	C	
		10/9/2007	22.7	ug/L	C	
		11/5/2007	5.4	ug/L		
		11/5/2007	7	ug/L		
	199-B8-8	9/10/2007	8.7	ug/L		
		9/10/2007	10.3	ug/L		
		10/9/2007	25.8	ug/L	C	
		10/9/2007	19.7	ug/L	C	
		11/5/2007	15.7	ug/L		
		11/5/2007	18.8	ug/L		
Hexavalent Chromium	199-B8-7	9/10/2007	5	ug/L	U	
		9/10/2007	5	ug/L	U	
		10/9/2007	9.2	ug/L		
		11/5/2007	8.8	ug/L		
		12/17/2007	10	ug/L		
	199-B8-8	9/10/2007	7	ug/L		
		10/9/2007	15.7	ug/L		
		11/5/2007	15.2	ug/L		
Tritium	199-B8-7	9/10/2007	18000	pCi/L		
		9/10/2007	18000	pCi/L		
		10/9/2007	21000	pCi/L		
		11/5/2007	25000	pCi/L		
	199-B8-8	9/10/2007	59000	pCi/L		
		10/9/2007	57000	pCi/L		
		11/5/2007	52000	pCi/L		

**100/300 Areas Unit Managers Meeting,  
January 10, 2008**



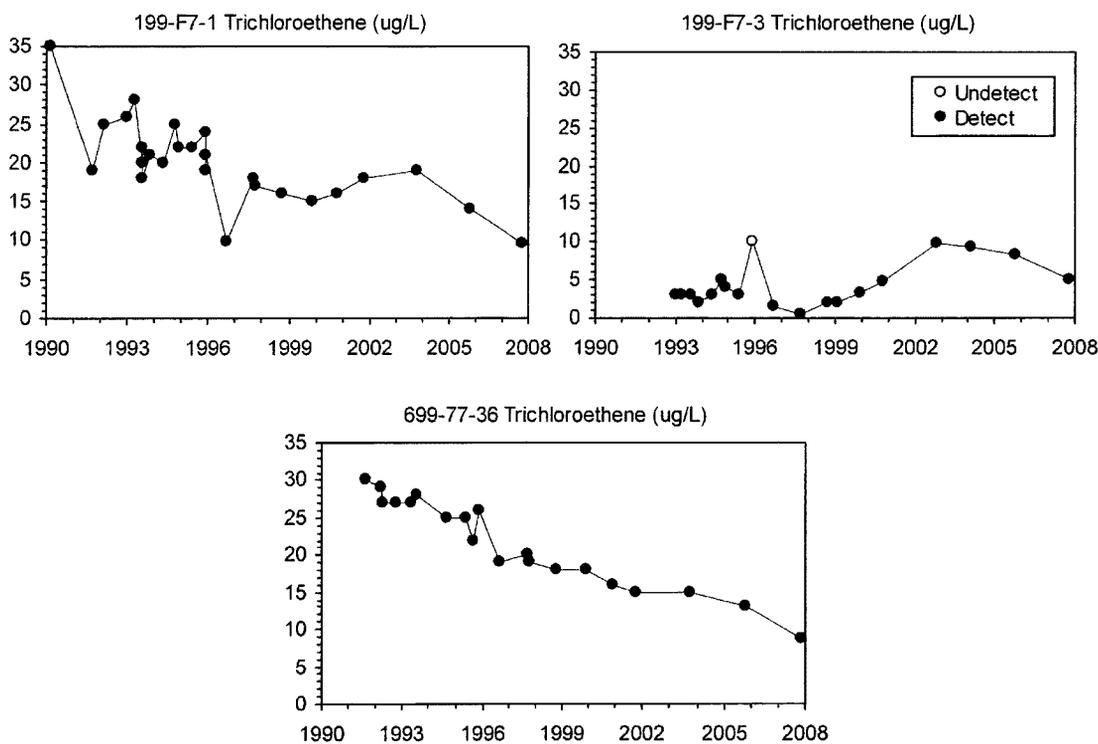
**Chromium and Tritium in Wells 199-B8-7 and 199-B8-8, Near 100-C-7 Waste Site.**

100/300 Areas Unit Managers Meeting,  
January 10, 2008

**100-FR-3 Operable Unit—Mary Hartman**

All FY 2008 scheduled wells were sampled in October and November 2007. Results were on trend. Nothing of note for chromium, strontium-90, nitrate, or tritium. See trend plots for TCE below; concentrations continued to decline in wells in the TCE plume in southwest 100-F Area and the nearby 600 Area.

Aquifer tubes were sampled in November and December 2007. This included tube site AT-75, which was “not found” in recent years and had nitrate at levels above the drinking water standard in previous year. It was located in fall 2007, the tubes repaired, and samples collected from the deep tube for analyses. Lab data haven’t yet been received.



## **Attachment 2**

## **Environmental Protection Mission Completion Project**

January 10, 2008

### **Orphan Sites Evaluations**

- 100-IU-2 and 100-IU-6 briefing continuation with EPA and RL scheduled for 1/16
- MP-14 checklists and D-Areas summary report updates being drafted based on Ecology feedback and agreements
- N-Area historical review in progress
- H-Area briefing with Ecology and RL anticipated to be scheduled mid February
- Working with PNNL for vendor selection to conduct flight surveys for collection of orthophotography and LiDAR data in support of inter-areas evaluation

### **Risk Assessment Status**

- 2-day comment resolution public meeting on 1/10 and 1/11
- All field work complete for Inter-Areas shoreline sampling
- Columbia River Component data gap sampling DQO interviews in progress

## **Attachment 3**

<b>Waste Site:</b> 100-F-26:12 1.8-m (72-in.) main process sewer pipeline	<h2 style="margin:0;">BACKFILL CONCURRENCE CHECKLIST</h2> <p style="margin:0;">(Concurrence to Proceed with Waste Site Backfill Operations)</p>	<b>WIDS Nos:</b> 100-F-26:12
Other Supporting Information	1. Sample location design calculation brief.	E
	2. Variance sampling calculation briefs	F, G, H
	3. GPERS Radiological Survey Gamma Track Maps	I
All citations above and references on attached sheet are on record with Washington Closure Hanford, Inc., Document Control. Above noted regulatory requirements have been attained.		
WCH Project Manager	11/13/07 Date	WCH Project Engineer
	11-13-07 Date	DOE Project Manager
		11/19/07 Date
Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.		
EPA Project Manager	11-19-07 Date	N/A Ecology Project Manager
		N/A Date

### Backfill Concurrence Checklist Attachments/References

Attachment/Reference	Description
A	100-F-26:12 Main Process Sewer Pipelines Cleanup Verification RESRAD Calculation Brief, Calculation No. 0100F-CA-V0326
B	100-F-26:12 Pipelines Cleanup Verification 95% UCL Calculation, Calculation No. 0100F-CA-V0317
C	100-F-26:12 Pipelines Hazard Quotient and Carcinogenic Risk Calculations, Calculation No. 0100F-CA-V0318
D	Reference (not attached): BHI, 2005a, 100 Area Analogous Sites RESRAD Calculations, 0100X-CA-V0050, Rev. 0, Bechtel Hanford, Inc., Richland, Washington.
E	100-F-26:12 Pipeline Shallow Zone and Stockpile (BCL) Soil, Soil/Debris Sampling Plan, Calculation No. 0100F-CA-V0308
F	100-F-26:12 Pipeline Shallow Zone Variance Calculation, Calculation No. 0100F-CA-V0299
G	100-F-26:12 Pipeline BCL Soil Variance Calculation, Calculation No. 0100F-CA-V0300
H	100-F-26:12 Pipeline BCL Soil/Debris Variance Calculation, Calculation No. 0100F-CA-V0310
I	GPERS Radiological Survey Gamma Track Maps (9 total)

<b>Waste Site:</b> 100-F-26:12 1.8-m (72-in.) main process sewer pipeline	<b>BACKFILL CONCURRENCE CHECKLIST</b> (Concurrence to Proceed with Waste Site Backfill Operations)	<b>WIDS Nos:</b> 100-F-26:12
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This checklist is a summary of cleanup verification results for the 100-F-26:12 1.8-m (72-in.) main process sewer pipeline. The checklist is intended as an agreement allowing the RCCC subcontractor to backfill the excavation prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. The maximum all pathways dose rate calculated by RESRAD is 9.14 mrem/yr over 1,000 years.	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	A, B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient of less than 1 for noncarcinogens.	1. The hazard quotients for individual nonradionuclide COCs in the shallow zone, overburden and BCL stockpiles are less than 1.	Yes	C
	2. Cumulative hazard quotient of less than 1 for noncarcinogens.	2. The cumulative hazard quotient is less than 1 for the shallow zone, overburden and BCL stockpiles.		C
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk values for individual nonradionuclide COCs are less than $1 \times 10^{-6}$ .		C
	4. Attain a total excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Total excess cancer risk is less than $1 \times 10^{-5}$ .		C
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. Tritium is the only radionuclide COC predicted to reach groundwater at a concentration of 14,400 pCi/L, which is less than the MCL of 20,000 pCi/L. Groundwater and river RAGs are therefore attained.	Yes	A
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. Because only tritium was predicted to reach groundwater it was not necessary to perform the calculation of cumulative organ specific dose via the groundwater (and river) pathway to determine that the 4 mrem/yr drinking water dose limitation was met.		A
	3. Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or 1/25 <sup>th</sup> of the derived concentration guide for DOE Order 5400.5.	3. There are no alpha emitting radionuclide COCs.		A
	4. Meet total uranium standard of 21.2 pCi/L.	4. The total uranium COCs (U-235 and U-238) are present at concentrations less than natural background.		B
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater and river cleanup requirements.	1. Residual concentrations of lead exceeded the soil RAG for the protection of groundwater and/or the Columbia River. However, it is predicted that this constituent will not migrate to groundwater (and thus the Columbia River) at concentrations exceeding groundwater or river criteria within 1,000 years. Therefore, residual concentrations achieve the remedial action objectives for groundwater and river protection.	Yes	D

## **Attachment 4**

<b>Waste Site:</b> <b>100-F-26:4 South</b> <b>Process Sewer Pipeline</b> <b>Subsite</b>	<h2 style="margin: 0;">BACKFILL CONCURRENCE CHECKLIST</h2> <p style="margin: 0;">(Concurrence to Proceed with Waste Site Backfill Operations)</p>	<b>WIDS Nos:</b> <b>100-F-26:4</b>
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This checklist is a summary of cleanup verification results for the 100-F-26:4 South Process Sewer Pipeline Subsite. The checklist is intended as an agreement allowing the RCCC subcontractor to backfill the excavation prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. The only radionuclide COPC detected was cesium-137. The maximum result was less than the single-radionuclide 15 mrem-yr dose-equivalence lookup value. The dose rate is therefore less than 15 mrem/yr.	Yes	A, C
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COPC concentrations are below the RAGS.	Yes	A, C
Meet Nonradionuclide Risk Requirements	1. Hazard quotient of less than 1 for noncarcinogens.	1. The hazard quotients for individual nonradionuclide COPCs are less than 1.	Yes	B
	2. Cumulative hazard quotient of less than 1 for noncarcinogens.	2. The cumulative hazard quotient is less than 1.		B
	3. Excess cancer risk of <math>1 \times 10^{-6}</math> for individual carcinogens.	3. Excess cancer risk values for individual nonradionuclide COPCs are less than <math>1 \times 10^{-6}</math>.		B
	4. Attain a total excess cancer risk of <math>1 \times 10^{-5}</math> for carcinogens.	4. Total excess cancer risk is less than <math>1 \times 10^{-5}</math>.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. No radionuclide COPCs were quantified above groundwater/river protection lookup values.	Yes	A, C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. No radionuclide COPCs were quantified above groundwater/river protection lookup values.		A, C
	3. Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or 1/25 <sup>th</sup> of the derived concentration guide for DOE Order 5400.5.	3. No alpha-emitting radionuclide COPCs were detected above background levels.		A
	4. Meet total uranium standard of 21.2 pCi/L.	4. No uranium isotopes were detected in verification soil samples.		A
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater and river cleanup requirements.	1. Residual concentrations of selenium, barium and lead exceeded the soil RAG for the protection of groundwater and/or the Columbia River. However, it is predicted that these constituents will not migrate to groundwater (and thus the Columbia River) at concentrations exceeding groundwater or river criteria within 1,000 years. Therefore, residual concentrations achieve the remedial action objectives for groundwater and river protection..	Yes	A, C
Other Supporting Information	1. GPERs Radiological Survey Gamma Track Maps			D
	2.			
	3.			

All citations above and references on attached sheet are on record with Washington Closure Hanford, Inc., Document Control. Above noted regulatory requirements have been attained.

<i>J. J. Smith</i>	12/5/17	<i>Stacy Celli</i>	12-5-07	<i>[Signature]</i>	12/6/07
WCH Project Manager	Date	WCH Project Engineer	Date	DOE Project Manager	Date

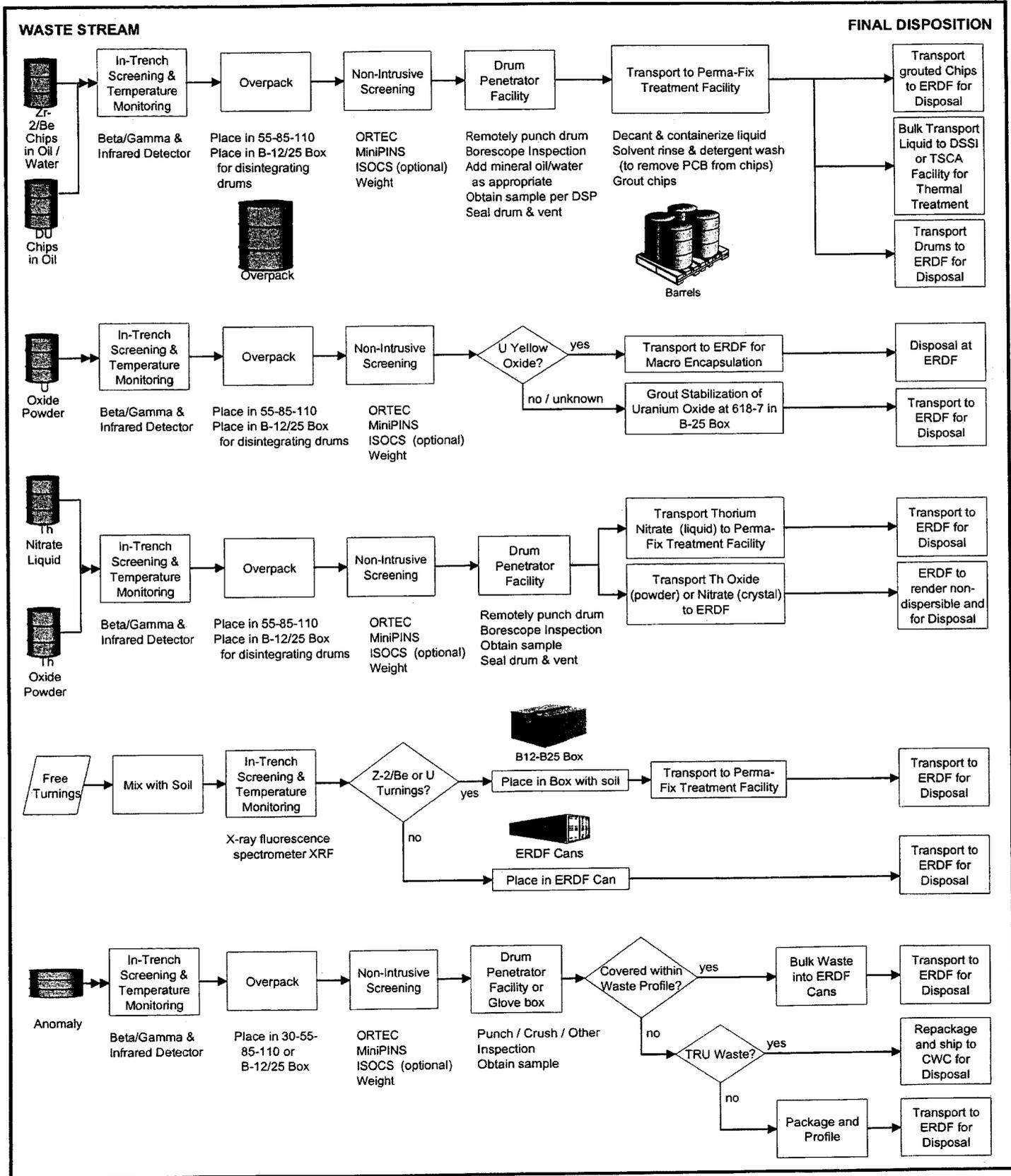
<b>Waste Site:</b> 100-F-26:4 South Process Sewer Pipeline Subsite	<b>BACKFILL CONCURRENCE CHECKLIST</b> (Concurrence to Proceed with Waste Site Backfill Operations)	<b>WIDS Nos:</b> 100-F-26:4
Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.		
	12-7-07	N/A
EPA Project Manager	Date	Ecology Project Manager
		Date

### Backfill Concurrence Checklist Attachments/References

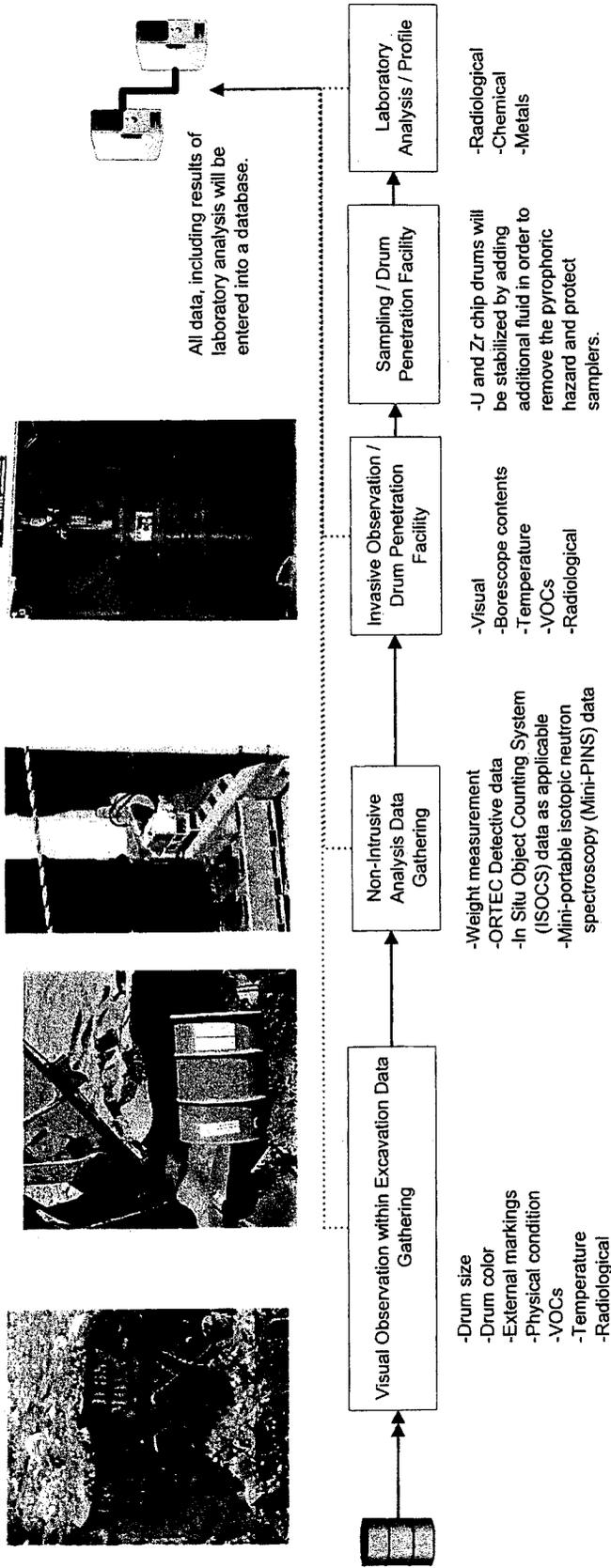
Attachment/ Reference	Description
A	100-F-26:4 Pipelines Cleanup Verification 95% UCL Calculation, Calculation No. 0100F-CA-V0331
B	100-F-26:4 Pipelines Hazard Quotient and Carcinogenic Risk Calculations, Calculation No. 0100F-CA-V0332
C	100-F-26:4 Pipelines Action Level Comparison Tables
D	GPERS Radiological Survey Gamma Track Maps (2 total)
E	100-F-26:4 Pipelines Verification Samples Location Map

**Attachment 5**

# 618-7 Burial Grounds Remediation Project – Waste Stream Flow Path



# 618-7 Burial Grounds Remediation Project – Waste Stream Sampling



Where patterns can be established in the characterization data based upon non-intrusive data gathering, prior analytical results, process knowledge, and visual inspection of drum contents, levels of confidence can be developed that will allow physical sampling to be reduced.

In addition to non-invasive data gathering, 100% of all drums will be subjected to visual inspection of drum contents and invasive sampling and laboratory analysis of the samples.

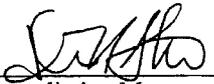
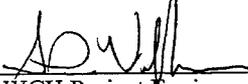
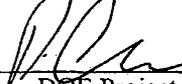
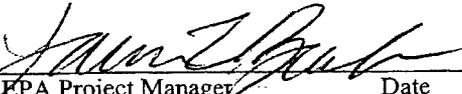
**Attachment 6**





## **Attachment 7**

Waste Site: 100-B-21:2 Pipeline (DS-100BC-002)	<b>BACKFILL CONCURRENCE CHECKLIST</b> (Concurrence to Proceed with Waste Site Backfill Operations)		WIDS No: 100-B-21:2	
This checklist is a summary of cleanup verification results for the 100-B-21:2 waste site remediation. The checklist is intended as an agreement allowing the RCCC subcontractor to backfill the excavation prior to the issuance of the final remaining sites verification package. Copies of calculations are included with this checklist with results summarized below.				
Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1,000 years.	1. Only cesium-137 was detected in verification samples, at activities significantly below the single-radionuclide 15-mrem/yr dose-equivalence lookup value. Maximum dose rate based on sum-of-fractions calculation is 0.116 mrem/yr.	Yes	A, B
Direct Exposure – Nonradionuclides	1. Attain individual RAGs.	1. All individual nonradionuclide contaminant of concern (COC) and contaminant of potential concern (COPC) concentrations are below the direct exposure RAGs.	Yes	A, B
Nonradionuclide Risk Requirements	1. Attain hazard quotient of less than 1 for noncarcinogens.	1. The hazard quotients for individual nonradionuclide COCs/COPCs are less than 1.	Yes	C
	2. Attain cumulative hazard quotient of less than 1 for noncarcinogens.	2. The cumulative hazard quotient for all decision units ( $7.6 \times 10^{-3}$ ) is less than 1.		C
	3. Attain excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk values for individual nonradionuclide COCs/COPCs are less than $1 \times 10^{-6}$ .		C
	4. Attain a total excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. The total excess carcinogenic risk for all decision units ( $1.3 \times 10^{-5}$ ) is less than $1 \times 10^{-5}$ .		C
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGs.	1. Only cesium-137 was detected in verification samples, at activities significantly below the single-radionuclide lookup values for protection of groundwater and the Columbia River.	Yes	A, B
	2. Attain National Primary Drinking Water Regulations 4 mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. Only cesium-137 was detected in verification samples, at activities significantly below the single-radionuclide lookup values for protection of groundwater and the Columbia River.	Yes	A, B
	3. Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or 1/25 <sup>th</sup> of the derived concentration guide for DOE Order 5400.5.	3. No alpha-emitting radionuclide COC/COPCs were detected in verification samples.	Yes	B
	4. Meet total uranium standard of 21.2 pCi/L.	4. No uranium isotopes were detected in verification soil samples.	Yes	B
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater and river cleanup requirements.	1. All individual nonradionuclide COC/COPC concentrations are below the soil RAGs for protection of groundwater and the Columbia River.	Yes	A, B
Other Supporting Information	1. Verification Sample Locations			D

<b>Waste Site:</b> 100-B-21:2 Pipeline (DS-100BC-002)		<b>BACKFILL CONCURRENCE CHECKLIST</b> (Concurrence to Proceed with Waste Site Backfill Operations)			<b>WIDS No:</b> 100-B-21:2	
Regulatory Requirement	Remedial Action Goals (RAG)	Results		RAG Attained	Ref.	
All citations above and attached sheets are on record with Washington Closure Hanford, Records and Document Control. Above noted regulatory requirements have been attained.						
D.N. Strom	 12-20-07	 12/20/07	 11/2/08			
WCH Field Remediation Manager	Date	WCH Project Engineer	Date	DOE Project Manager	Date	
Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met remedial action objectives and goals will occur with the submittal, review, and approval of the Remaining Sites Verification Package(s) by the lead regulatory agency.						
 1-3-08		N/A	N/A			
EPA Project Manager	Date	Ecology Project Manager	Date			

## Backfill Concurrence Checklist Attachments/References

<b>Attachment/ Reference</b>	<b>Description</b>
A	Comparisons of Results to Action Levels at the 100-B-21:2 Waste Site
B	100-B-21:2 Waste Site 95% Upper Confidence Limit Values Calculation
C	100-B-21:2 Waste Site Hazard Quotient/Excess Carcinogenic Risk Calculation
D	100-B-21:2 Waste Site Verification Sampling Locations

**Attachment 8**

19

Activity ID	Activity Description	% Comp	Rem Dur	Early Start	Early Finish	Calendar															
						FY07	FY08	FY09	J	J	A	S	O	N	D	J	J	A	S	O	N
<b>FKC8 - FY08 CPE 100K AREA RECURRENT</b>																					
<b>Total</b>						35	172	30MAY06A	29OCT08												
<b>118-K-1 Excavation Process</b>																					
CEC0602A Excavation - Rem BG - 118-K-1																					
RK18K16010	IN PROCESS SAMPLING - 118-K-1 BG FY06	69	104	30MAY06A	30JUN08																
RK18K16030	Anomalies Deferred with BCWS	0	99	07JAN08*	30JUN08																
RK18K16040	118-K-1 Excavation FY08 (13,330 bcm)	0	99	07JAN08*	30JUN08																
RK18K18010	Excavation/Sorting for 118-K-1	99	2	30MAY06A	27DEC07																
RKDPM6020A	Excavation/Sorting Process Revisions	99	2	30MAY06A	27DEC07																
RKICP20100	118-K-1 Excavation	0	3	31DEC07	03JAN08																
<b>118-K-1 Backfill</b>																					
CEC0602B Backfill - Rem BG - 118-K-1																					
RK18K18070	118-K-1 Loadout over IPB qty. (ICP 20)	82	20	26MAR07A	30JAN08																
RK18K18090	118-K-1 Trench Loadout FY08 over IPB (55,379 Ton)	0	84	31JAN08	30JUN08																
<b>118-K-1 Backfill</b>																					
CEC0602C Backfill - Rem BG - 118-K-1																					
RK18K18030	Backfill 118-K-1 Trenches (61,554 BCM)	0	14	29SEP08	21OCT08																
RK18K18100	Backfill over RCC Quantities (6,415 BCM)	0	5	22OCT08	29OCT08																
<b>118-K-1 Closure Sampling &amp; Documentation</b>																					
CEC0602D Closure Smplg - Rem BG - 118-K-1																					
RK18K12020	Sample Design - 118-K-1	0	8	01JUL08	15JUL08																
RK18K12030	Prepare Closure Document	0	41	16JUL08	25SEP08																
RK18K12040	Variance Analysis - 118-K-1 Burial Ground	0	8	16JUL08	29JUL08																
RK18K12050	RI/Reg Sign Rev. 0 Closure Doc	0	5	08SEP08	15SEP08																
RK18K12060	RI/Reg Review Draft A Closure Doc	0	26	14JUL08	26AUG08																
RK18K12070	Confirmation Analysis 118-K-1 Burial Ground	0	15	30JUL08	25AUG08																
RK18K12590	Confirmation Sampling Calculations 118-K-1	0	1	25AUG08	25AUG08																

Start Date: 29AUG05  
 Finish Date: 30APR13  
 Date Date: 24DEC07  
 Run Date: 10JAN08 11:20

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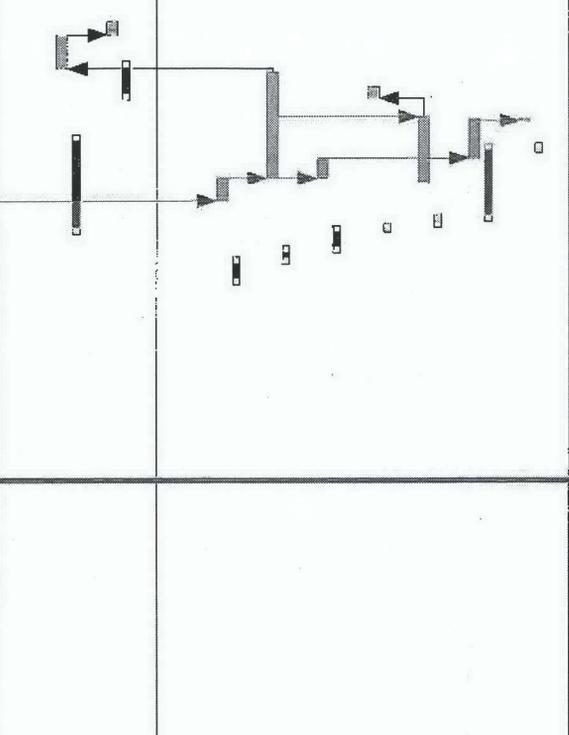
FKC8

WASHINGTON CLOSURE HANFORD

100-K

Status as of 12/23/07

Sheet 1 of 2





## **Attachment 9**

Mission Completion  
Sample Design and Cleanup Verification  
for the January 2008 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
<b>300 AREA</b>	RL/Regulator Review Draft A WI for 300-275	1/31/2008	3/17/2008
	RL/Reg rev. of Draft A Closeout Document 600-243	2/12/2008	3/27/2008
	300 Area ESD (FY07) RL/Reg Briefing	2/14/2008	2/14/2008
	300 Area ESD (FY07) RL/Ecology Rev of Draft A	2/14/2008	3/31/2008
	RL/Reg Sig & Issue Rev 0 Close Document 600-243	3/24/2008	3/31/2008
	300 Area ESD (FY07) Public Involvement Coordination	3/27/2008	4/28/2008
	RL/Regulator Sign Rev. 0 WI for 300-275	3/31/2008	4/3/2008
	RL/Regulator Review Draft A WI for 300-32	2/18/2008	4/2/2008
	RL/Regulator Review Draft A WI for 300-2	2/25/2008	4/2/2008
	RL/Regulator Review Draft A WI for 600-276	2/27/2008	4/14/2008
<b>100-B/C</b>	118-B-1 RL/Reg Rev of Draft A Closeout Doc	12/13/2007 A	1/29/2008
	RL Review FHC Update for 618-1	1/21/2008	3/6/2008
	RL Design Review Briefing, 300-A Central Sites	1/23/2008	1/24/2008
	Reg Design Review Briefing, 300-A Central Sites	1/28/2008	1/28/2008
	116-C-3 RL/Reg review of Draft A Closeout Doc.	1/31/2008	3/17/2008
	RL/Regulator Review Draft A WI for 100-B-19	2/6/2008	3/24/2008
<b>100-D</b>	RL/Regulator Review Draft A WI for 120-D-2	1/28/2008	3/12/2008
	RL/Regulator Sign Rev. 0 WI for 100-D-56 North Pipeline	2/4/2008	2/11/2008
	RL/Reg Review Draft A Closure Doc for 100-D-33	3/11/2008	4/10/2008
	RL/Reg Review Draft A Closure Doc for 100-D-35	3/11/2008	4/10/2008
	RL/Reg Review Draft A Closure Doc for 100-D-41	3/11/2008	4/10/2008
	RL/Reg Review Draft A Closure Doc for 100-D-40	3/11/2008	4/10/2008
	RL/Regulator Review Draft A WI for 100-D-32	3/19/2008	4/15/2008
	RL/Regulator Review Draft A WI for 100-D-43	3/19/2008	4/15/2008
	RL/Reg Review Draft A Closure Doc for 100-D-30	3/19/2008	4/21/2008
	RL/Regulator Sign Rev. 0 WI for 120-D-2	3/20/2008	3/26/2008
RL/Reg Review Draft A Closure Doc for 100-D-2	3/20/2008	4/24/2008	

Mission Completion  
Sample Design and Cleanup Verification  
for the January 2008 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
<b>100-F</b>	RL/Reg Review Draft A Closure Doc for 118-F-2	10/24/2007 A	1/9/2008
	RL/Reg Review Draft A Closure Doc for 118-F-8:4	12/13/2007 A	1/28/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:14 Pipeline	12/20/2007 A	2/4/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:13 Pipeline	1/8/2008 A	2/21/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:15	1/10/2008	2/25/2008
	RL/Reg Review Draft A Closure Doc for 118-F-5	1/16/2008	3/3/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:8 Pipeline	1/21/2008	3/5/2008
	RL/Reg Review Draft A Closure Doc for 1607-F1	1/21/2008	3/5/2008
	RL/Reg Sign Rev 0 Closure Doc for 118-F-2	1/22/2008	1/23/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:12 Pipeline	1/28/2008	3/5/2008
	RL/Reg Sign Rev 0 Closure Doc for 118-F-8:4	2/12/2008	2/14/2008
	RL/Reg Sign Rev 0 Closure Doc 100-F-26:14 Pipeline	2/12/2008	2/19/2008
	RL/Reg Review Draft A Closure Doc 100-F-26:4 Pipeline	2/23/2008	4/14/2008
	RL/Reg Sign Rev 0 Closure Doc-pipeline :13	3/3/2008	3/10/2008
	RL/Reg Sign Rev 0 Closure Doc 100-F-26:15 Pipeline	3/5/2008	3/11/2008
	RL/Reg Sign Rev 0 Closure Doc 100-F-26:12 Pipeline	3/17/2008	3/20/2008
	RL/Reg Sign Rev 0 Closure Doc for 118-F-5	3/18/2008	3/20/2008
	RL/Reg Sign Rev 0 Closure Doc 100-F-26:8 Pipeline	3/20/2008	3/24/2008
	RL/Reg Sign Rev 0 Closure Doc for 1607-F1	3/20/2008	3/24/2008
	<b>100-H</b>	100-H DOE Review Bid/Approve	1/21/2008
RL/Reg Rev of Draft A WI for 100-H-36		2/14/2008	4/1/2008
<b>100-N</b>	RL/Regulator Review Draft A WI for 100-N-55	11/29/2007 A	1/16/2008
	ESD - RL/Regulator Review of Draft 100 Area	1/3/2008	2/19/2008
	RL/Regulator Review Draft A WI for 100-N-53	1/14/2008	2/27/2008
	RL/Regulator Sign Rev. 0 WI for 100-N-55	1/31/2008	2/7/2008
	RL/Regulator Review Draft A WI for 100-N-79	2/26/2008	4/3/2008
	RL/Regulator Sign Rev. 0 WI for 100-N-53	3/13/2008	3/17/2008
	ESD - Public Review of Draft B 100 Area	3/31/2008	5/1/2008
	100 Area RDR RL/Reg review	3/31/2008	5/15/2008

**Attachment 10**

300 Area D4 Status  
January 10, 2008  
100/300 Area Combined Unit Manager Meeting

**Ongoing Hazardous Material Removal**

- 321
- 324
- 327
- 337B
- 308 – Duct fogging

**Ready for Demolition:**

- 3718E
- 337
- 384 – Staging dirt for demolition of the non-transite clad portion of the building.

**Demolition Activities:**

- 328/328A/328BA – Demolition complete, facility equipment being demobilized.
- 3718S – Demolition completed 12/07.

**60-Day Project Look Ahead**

- Begin demolition of 384 (transite and non-transite clad)
- Continue hazardous material removal at 337BA, 3718 (including A, B, C, and M)

## **Attachment 11**



100 Area D4/ISS Status  
January 10, 2008  
100/300 Area Combined Unit Manager Meeting

**Ongoing Activities**

- **163-N/183-N** –Below grade demolition at 163-N complete. Below grade demolition and load-out at 183-N ongoing.
- **1312-N LERF** – Final contouring operations ongoing.
- **109-N** – Asbestos abatement in Area 4 and 8E (basement) ongoing. Access scaffolding in Area 5 complete. Abatement in Area 3 complete and area cleared.
- **184-N/NA** – Demolition preparation activities ongoing.
- **117-N** – Hazardous material removal ongoing.
- **107-N** - Characterization ongoing.
- **1802-N** - Below grade demolition and load-out of above and below grade debris ongoing.
- **186-N** – Water leak identified on 1/2/08 repaired on 1/8/08.

**60-Day Project Look Ahead**

- 1312-N LERF inlet piping shipment to ERDF.
- 184-N demolition.
- 107-N hazardous material removal.
- 108-N demolition phase 1.
- Receive bids for 105-N/109-N demolition and Safe Storage Enclosure construction

**Documents for inclusion into the Administrative Record**

- Agreement on 1312-N LERF Backfill completion.
- Agreement to leave small amounts of hazardous materials in 184-N and 107-N.

**Other**

- 12/20/07 Ecology letter rejecting reclassification of 116-N-1 Waste Management Unit.

## **Attachment 12**

## HAZARDOUS MATERIAL REMOVAL FROM 100-N ANCILLARY FACILITIES

### AGREEMENT BETWEEN DOE-RL AND ECOLOGY

With the exception of the asbestos removal requirements in 40 CFR 61 Subpart M, there are no specific regulatory provisions that the parties are aware of requiring removal of hazardous materials prior to demolition. In fact, EPA preamble language discusses the notion of a "representative sample" of a building demolished with RCRA materials in place to determine if the matrix is designated, concluding that the material would not be designated if the sample did not exhibit TCLP (assuming the matrix exhibits no other characteristics and doesn't have any listed waste issues). (See 57 FR 990, January 9, 1992.) As EPA further notes in the final LDR debris rule, "Although it may be worthwhile (for environmental and economic reasons) to remove metal artifacts for recycling rather than destroying them when demolition occurs, today's rule does not mandate any such conduct." (See 57 FR 37237, August 18, 1992.)

There are some indirect drivers that could make hazardous material removal prior to demolition necessary or desirable. These include pre-demolition removal to:

- Prevent releases that could result in an exceedance of air toxics standards
- Avoid having to treat the entire demolition waste stream as a hazardous/dangerous waste if the hazardous materials would result in the entire matrix being designated
- Protect against worker exposure to hazardous materials during demolition
- Protect against a grab-sample exceedance of an LDR standard (noting that 40 CFR 268.40 bases compliance with standards on a grab, rather than representative, sample)

These considerations promote the reasonable removal of hazardous materials prior to demolition. Section 2.1.4 of the Removal Action Work Plan (DOE/RL-2002-70, Revision 2) for the 100-N Area Ancillary Facilities requires that unattached, not-in-use, and accessible lead bricks and sheeting, PCBs, mercury, and other hazardous materials be removed. Attached or inaccessible hazardous materials would not be subject to this provision - this is the situation with the incandescent lights, fluorescent lights, capillary tubes and lead pipes servicing the septic system in the 184-N Building and the sodium vapor and fluorescent lights and light ballasts in the 107-N Building. The parties agree that the industrial hazards associated with removing these materials outweighs the benefits of retrieving them. Note that the lead pipes in the 184-N Building will be demarcated so that they can be retrieved and segregated during demolition of the building.

The parties agree that leaving the remaining hazardous materials in place will not create an airborne or worker safety issue and that the LDR issues (if any) associated with the demolished matrix will be addressed based on the whitepaper below, therefore additional removal of attached or inaccessible hazardous materials is not required.

## **Disposition of Fluorescent Lamps and PCB Ballasts for 107-N Decommissioning**

### **Background:**

DOE/RL-2002-70, Rev. 2, Removal Action Work Plan for 100-N Area Ancillary Facilities (RAWP), identifies the Centralized Consolidated Recycling Center (CCRC) as the appropriate management location for recyclable wastes such as fluorescent lamps and PCB ballasts. These wastes must be certified as free of radioactive contamination for the CCRC to accept them. The disposal path for contaminated fluorescent lamps and PCB ballasts is not specifically identified in the RAWP. Currently, fluorescent tubes and PCB ballasts are removed during the deactivation process and separated into contaminated and non-contaminated waste streams. Those that meet CCRC requirements are shipped for recycle. Those that do not meet the requirements are staged pending treatment or disposal.

Older fluorescent lamps may have up to 50 milligrams of mercury per lamp. The 107-N facility has 33 fluorescent fixtures for a total 66 lamps. This would calculate to up to 3300 milligrams of mercury in the facility. The mass of the facility is conservatively estimated at 9,000 tons (8,165,000 kg). Using these values the mercury contribution to the waste matrix would be 0.0004 ppm.

### **Agreement:**

PCB ballasts meet the ERDF Waste Acceptance Criteria for disposal when they are part of an approved waste profile. For buildings slated and profiled for disposal at ERDF, it is acceptable to leave the PCB ballasts in place for disposal during building demolition. For buildings slated for disposal at a location other than ERDF, PCB ballasts will be either left in place or removed based on the acceptance criteria of the receiving facility. PCB ballasts removed and segregated during deactivation, for any reason, will continue to be evaluated for recycle or disposal.

Fluorescent tubes and other mercury containing lamps (i.e. high/low pressure mercury and sodium lamps) that are certified free of radioactive contamination can be sent to the CCRC for recycle. Mercury containing lamps removed from non-contaminated areas will continue to be recycled. Mercury containing lamps (primarily fluorescent tubes) located in radioactive contaminated areas will be left in place during building demolition based on their small contribution to the waste matrix. This approach may be used for other facilities scheduled for demolition at 100-N and Ecology will be informed any time plans to leave any hazardous material in buildings during demolition is planned.

**Attachment 13**

3

## **1312-N LIQUID EFFLUENT RETENTION FACILITY BACKFILL**

### **AGREEMENT BETWEEN DOE-RL AND ECOLOGY**

Ecology visited the 100-N Area on Thursday, December 6, 2007, to look at the 1312-N LERF backfill status to concur that the basin has been sufficiently backfilled. This is consistent with a past agreement reached with Ecology to place 15 feet of fill into the basin, followed by an Ecology visit to verify the backfill adequacy.

Ecology concurred that the 1312-N LERF was sufficiently backfilled. WCH plans to perform additional grooming to connect an area to the south of the LERF that is near the same elevation as the backfilled basin so that the area more closely matches the existing terrain. WCH will provide Ecology photographs of the basin when grooming is complete.

