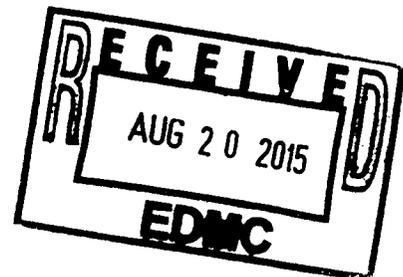


Please distribute to the following:

100/300 AREA UNIT MANAGER MEETING ATTENDANCE AND DISTRIBUTION

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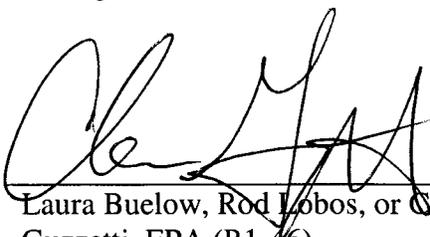
100/300 AREA UNIT MANAGERS MEETING
APPROVAL OF MEETING MINUTES

July 9, 2015

APPROVAL:  _____ Date 8/13/15
Mark French, DOE/RL (A6-38)
River Corridor Project Manager

APPROVAL:  _____ Date 8/13/15
Mike Cline, DOE/RL (A5-11)
Groundwater Project Manager

APPROVAL:  _____ Date 8/13/15
Nina Menard, Ecology (H0-57)
Environmental Restoration Project
Manager

APPROVAL:  _____ Date 8/13/15
Laura Buelow, Rod Lobos, or Christopher
Guzzetti, EPA (B1-46)
100 Area Project Manager

100 & 300 AREA UNIT MANAGER MEETING MINUTES

Groundwater and Source Operable Units; Facility Deactivation, Decontamination, Decommission, and Demolition (D4); Interim Safe Storage (ISS); Field Remediation (FR); Mission Completion; and 100-K Sludge Treatment Project and 100-K Facility Demolition and Soil Remediation Projects

July 9, 2015

ADMINISTRATIVE

- Next Unit Manager Meeting (UMM) – The next meeting will be held August 13, 2015, 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.
- Approval of Minutes – The June 11, 2015, 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 – The status of action items was reviewed and updates were provided (see Attachment B).
- Agenda – Attachment C is the Regular Session meeting agenda.

EXECUTIVE SESSION (Tri-Parties Only)

An Executive Session was not held by RL, EPA, and Ecology prior to the July 9, 2015, UMM.

PRESENTATION

Mary Hartman provided a presentation on Unfiltered Chromium Sampling and Analysis and proposed that ceasing collection of unfiltered samples for hexavalent chromium. The regulators requested that additional information should be provided before a decision could be reached. The presentation will be cleared for release and distributed separately.

100-K AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides a status of the 100-K Sludge Treatment Project and the 100-K Facility Demolition and Soil Remediation projects. No issues were identified and no action items were documented.

Agreement 1: Attachment 3 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-662 to modify Figure 3-2 and Table 3-1 of *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, DOE/RL-96-17, Revision 6, to update TPA Interim Milestone Due Date Changes per TPA Change Form M-16-15-03.

Agreement 2: Attachment 4 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-663 to modify Table 3 and Table 4 of *Remedial Design and Remedial Action Work Plan for the K Basins Interim Remedial Action: 105-K West Basin Deactivation*, DOE/RL-2010-52, Revision 0, to update TPA Interim Milestone Due Date Changes per TPA Change Form M-16-15-03.

Agreement 3: Attachment 5 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-664 to modify Table 4 and Table 5 of *Remedial Design/Remedial Action Work Plan for the 100 Area Remaining Sites Interim Remedial Action: 105-K West Basin Demolition and Removal*, DOE/RL-2010-53, Revision 0, to update TPA Interim Milestone Due Date Change per TPA Change Form M-16-15-03.

Agreement 4: Attachment 6 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-665 to modify Table 7 and Table 8 of *Remedial Design/Remedial Action Work Plan for the K Basins Interim Remedial Action: Removal of K Basins Sludge from the River Corridor to the Central Plateau; and Removal of Knock Out Pot Contents from the K Basins*, DOE/RL-2010-63, Revision 0, to update TPA Interim Milestone Due Date Changes and add one milestone per TPA Change Form M-16-15-03.

Agreement 5: Attachment 7 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-666 to modify Table 4 and Table 5 of *Remedial Design/Remedial Action Work Plan for the K Basins Interim Remedial Action: Treatment and Packaging of K Basins Sludge*, DOE/RL-2011-15, Revision 0, to update TPA Interim Milestone Due Date Change per TPA Change Form M-16-15-03.

Agreement 6: Attachment 8 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-667 to modify Table 1-3 and Table B-1 of *Removal Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities*, DOE/RL-2005-26, Revision 1, to update TPA Interim Milestone Due Date Changes and add one milestone per TPA Change Form M-93-15-01 and M-16-15-03.

100-B/C AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 9 provides status and information for Washington Closure Hanford (WCH) Closure Operations activities at 100-B/C, 100-D, 100-H, 100-N, 100-IU-2/6, and 618-10. Attachment 10 provides the Field Remediation schedule for 100-B, 100-D, 100-H, 100-N, and 100-IU-2/6. No issues were identified and no agreements or action items were documented.

100-N AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 9 provides status and information for WCH Closure Operations activities at 100-B/C, 100-D, 100-H, 100-N, 100-IU-2/6, and 618-10. Attachment 10 provides the Field Remediation schedule for 100-B, 100-D, 100-H, 100-N, and 100-IU-2/6. No issues were identified and no agreements or action items were documented.

100-D & 100-H AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 9 provides status and information for WCH Closure Operations activities at 100-B/C, 100-D, 100-H, 100-N, 100-IU-2/6, and 618-10. Attachment 10 provides the Field Remediation schedule for 100-B, 100-D, 100-H, 100-N, and 100-IU-2/6. No issues were identified and no action items were documented.

Agreement 1: Attachment 11 provides EPA's and Ecology's concurrences of a non-contiguous onsite approval request to place sample waste (PPE, plastic scoops, etc.) from 100-H-59:2 into an ERDF can staged at 100-D.

Agreement 2: Attachment 12 provides an Ecology and DOE approved Tri-Party Agreement change notice TPA-CN-671 to modify Section B.1.1 of Appendix B (Air Monitoring Plan) of *Removal Action Work Plan for 105-D and 105-H Building Interim Safe storage Projects and Ancillary Facilities*, DOE/RL-2000-57, Revision 1, to include the evaluation of 1713-H for demolition as new Section B.1.1.5.

100-F & 100-IU-2/100-IU-6 AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 9 provides status and information for WCH Closure Operations activities at 100-B/C, 100-D, 100-H, 100-N, 100-IU-2/6, and 618-10. Attachment 10 provides the Field Remediation schedule for 100-B, 100-D, 100-H, 100-N, and 100-IU-2/6. No issues were identified and no agreements or action items were documented.

300 AREA – 618-10/11 (GROUNDWATER, SOILS)

Attachment 1 provides status and information for groundwater. Attachment 9 provides status and information for WCH Closure Operations activities at 100-B/C, 100-D, 100-H, 100-N, 100-IU-2/6, and 618-10. No issues were identified and no action items were documented.

Agreement 1: Attachment 13 provides an EPA and DOE approved Tri-Party Agreement change notice TPA-CN-669 to modify Table 2-3 of *300-FF-5 Operable Unit Sampling and Analysis Plan*, DOE/RL-2002-11, Revision 2, to delete groundwater wells 699-S6-E4L and 699-S6-E4A, which will be decommissioned to support waste site remediation at the 618-10 Burial Ground/316 Crib.

300 AREA - GENERAL (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 14 provides status of the 300 Area Closure Project activities. No issues were identified and no agreements or action items were documented.

ORCHARD LANDS

Attachment 15 provides a status on the 100-OL-1 Orchard Lands Remedial Investigation.

OTHER TOPICS

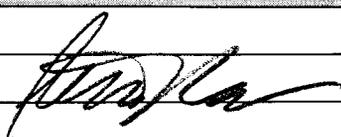
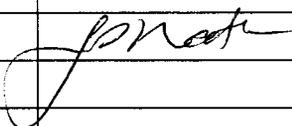
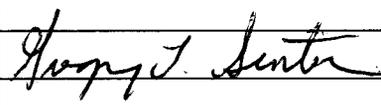
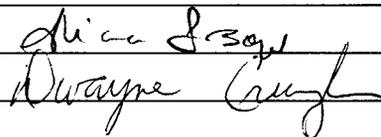
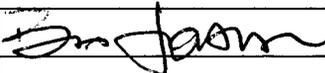
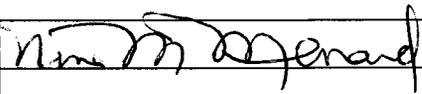
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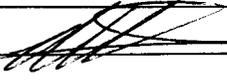
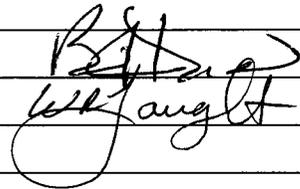
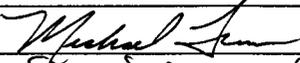
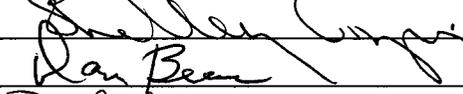
Attachment A

100/300 AREA UNIT MANAGER MEETING

ATTENDANCE

July 9, 2015

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<i>Mary Hartman</i>	<i>Mary-J-Hartman@ecy.wa.gov</i>		<i>CHPRC</i>	<i>Mary J Hartman</i>

Attachment B

100/300 Area UMM
Action List
July 9, 2015

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status

Attachment C

100/300 Area Unit Manager Meeting
July 9, 2015
Washington Closure Hanford Building
2620 Fermi Avenue, Richland, WA 99354
Room C209; 2:00 p.m.

Administrative:

- Approval and signing of previous meeting minutes (June 11, 2015)
- Update to Action Items List
- Next UMM (8/13/2015, Room C209)

Open Session: Project Area Updates - Groundwater, Field Remediation, D4/ISS:

- Presentation - Unfiltered Chromium Sampling and Analysis (Mary Hartman)
- 100-K Area (Jim Hanson, Roger Quintero)
- 100-B/C Area (Greg Sinton, Tom Post)
- 100-N Area (Greg Sinton, Rudy Guercia)
- 100-D & 100-H Areas (Jim Hanson, Tom Post)
- 100-F & 100-IU-2/6 Areas (Greg Sinton, Tom Post, Jamie Zeisloft)
- 300 Area - 618-10/11 exclusively (Jamie Zeisloft)
- 300 Area (John Sands/Rudy Guercia)
- Orchard Lands (John Sands)

Special Topics/Other

Adjourn

Attachment 1

Unit Managers Meeting- July 2015- June 2015 information

Remedy Selection & Implementation

Summary Hanford Sampling Program

Hanford's overall Site groundwater monitoring program managed by CHPRC (River Corridor and Central Plateau) coordinates collection of groundwater samples from wells and aquifer tubes, as well as surface water samples from springs. Sample trips are scheduled by target month and prioritized based on project needs. Target sample dates (months) are chosen to minimize the number of sample trips by temporally aligning requests from multiple activities for a single location into a single trip where practical.

Overall Progress Summary

For Fiscal Year 2015 Hanford's overall Site groundwater monitoring program has 3,018 sample trips scheduled. We have successfully completed 2,239 of 2,315 trips for the period of October 2014 through June 2015.

Sample Trip Status

Month Scheduled

Through June 2015 (FY15, month nine) the program successfully completed 259 of the 313 groundwater sampling trips scheduled for June 2015 and 10 trips scheduled for July which were collected in June ahead of schedule. This brings the total number of FY 2015 trips to be collected to 2,249.

The specific wells, aquifer tubes, and springs sampled in the river corridor areas during June 2015 are listed in Table 1.

Month Collected

During June 2015, 262 sample trips were successfully collected. This includes the 9 trips scheduled for October 2014 through May 2015, 243 trips scheduled for June, and 10 trips scheduled for July. This brings the total number of trips sampled during October 2014 through June 2015 to 2,231. Additionally 18 trips scheduled for October 2014 were sampled in September which brings the total number of FY 2015 trips to 2,249.

The specific wells, aquifer tubes, and springs sampled in the river corridor areas during June 2015 are listed in Table 1.

Sample Trips Awaiting

Of the sample trips scheduled for June 2015 and prior, there are 81 that are awaiting collection. Of these, 1 P&T well is not running, 11 require maintenance, 6 have access restrictions, 1 is being evaluated for cancelation or rescheduling, and 62 are awaiting collection at the month end.

Table 2 presents the sample trips for only the river corridor that were not successfully completed in June. The sample trips in Table 2 are grouped by fiscal month scheduled and groundwater interest area. This table clearly shows that the number of awaiting well trips decreases with time from the schedule date. Reasons for sample trips to be awaiting include but are not limited to issues such as well maintenance, weather conditions, access restrictions, and resource limitations.

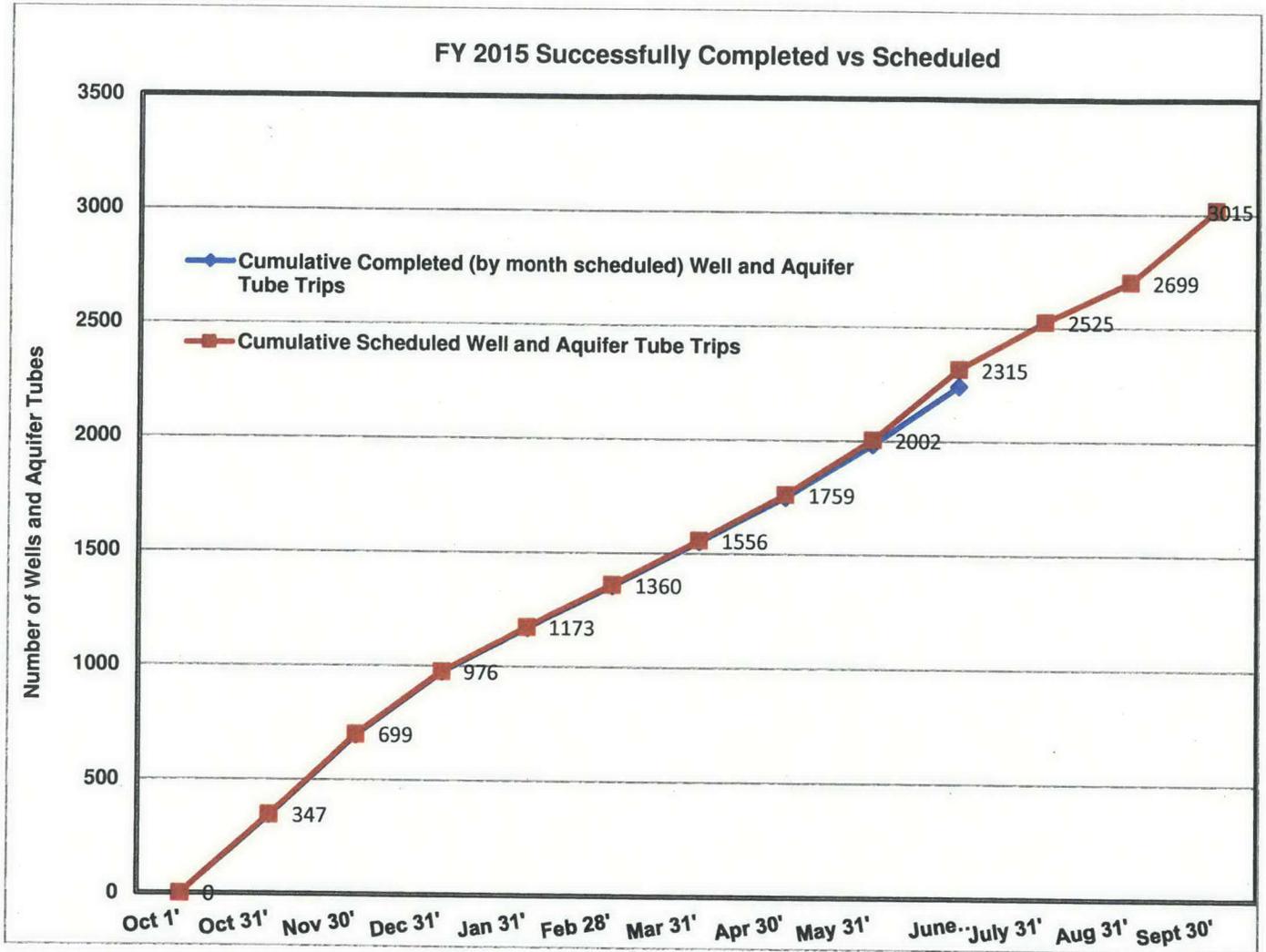
Upcoming Sample Trips

Sample trips for the river corridor only scheduled for collection in July 2015 (and not collected before the target sample month) are listed in Table 3.

Data Access

The sampling results are available in HEIS and can be accessed from the Environmental Dashboard Application which can be accessed from the HLAN at <https://ehs.chprc.rl.gov/eda/> or from the internet at <https://ehs.hanford.gov/eda/>.

100/300 Areas Unit Managers Meeting
July 9, 2015



**100/300 Areas Unit Managers Meeting
July 9, 2015**

Operable Unit Specifics

100-KR-4 Groundwater Operable Unit (Mike Drewett/Chuck Miller/Jason Hulstrom)

- CERCLA Process Implementation:
 - RI/FS, Proposed Plan and Additional Characterization: The RI/FS and PP documents are on hold pending 100-K East Reactor waste site characterization (wells 116-KE-3 and UPR-100-K-1) and modeling.
 - Drilling is complete at the 116-KE-3 Fuel Storage Basin Crib and Reverse Well. This boring is the first of two implemented at contaminant release areas in the vicinity of the former 105-KE Fuel Storage Basin. Vadose zone sample collection is proceeding according to the sampling instruction. Radiological contamination was encountered in the vadose zone beginning at about the top of the perforated interval in the former reverse well. Well construction activities at this location began June 30, 2015. The location of this well is shown in Figure K-1.
 - A hazard review board was conducted on June 30, 2015 which was required to begin the drilling at the UPR-100-K-1 waste site. The location of this borehole is shown in Figure K-1.
 - Monitoring Plan: The Draft A, O&M Plan, RD/RAWP, and Groundwater Monitoring Plan are still on hold pending resolution of 100-HR-3 comments and pH value engineering evaluation.
- Remedial Actions & System Modifications:
 - The volume of groundwater treated and mass of Cr(VI) removed for each 100-K P&T system (KX, KR-4, and KW) during June 2015 are:
 - Treated 64.1 million gallons (64.4 in May).
 - Removal 3.97 kg of hexavalent chromium (4.39 in May)
 - The current influent and effluent Cr(VI) concentrations (measure once weekly) for the three K systems (as measured on June 30, 2015) are:
 - 100-KR4 – Influent = 6 µg/L; Effluent = less than detection
 - 100-KW – Influent = 26 µg/L; Effluent = 2 µg/L
 - 100-KX – Influent = 20 µg/L; Effluent = less than detection
 - For the month of June, 2015, all three pump and treat systems at 100-KR-4 OU operated at 100% (fully on-line) and 30-day average pumping rates of 337 gpm, 332 gpm, and 816 gpm for the KR-4, KW, and KX systems, respectively. A summary of the number of extraction and injection wells in the three systems is shown in Table K-1.

**100/300 Areas Unit Managers Meeting
July 9, 2015**

Wells	KR4		KX		KW		Total	
	2014	2015	2014	2015	2014	2015	2015	Current
Number of extraction wells	12	12	18	19	11	11	42	42
Number of injection wells	5	5	9	9	4	4	18	18

Table K-1. Summary of the number of extraction and injection wells in the three systems

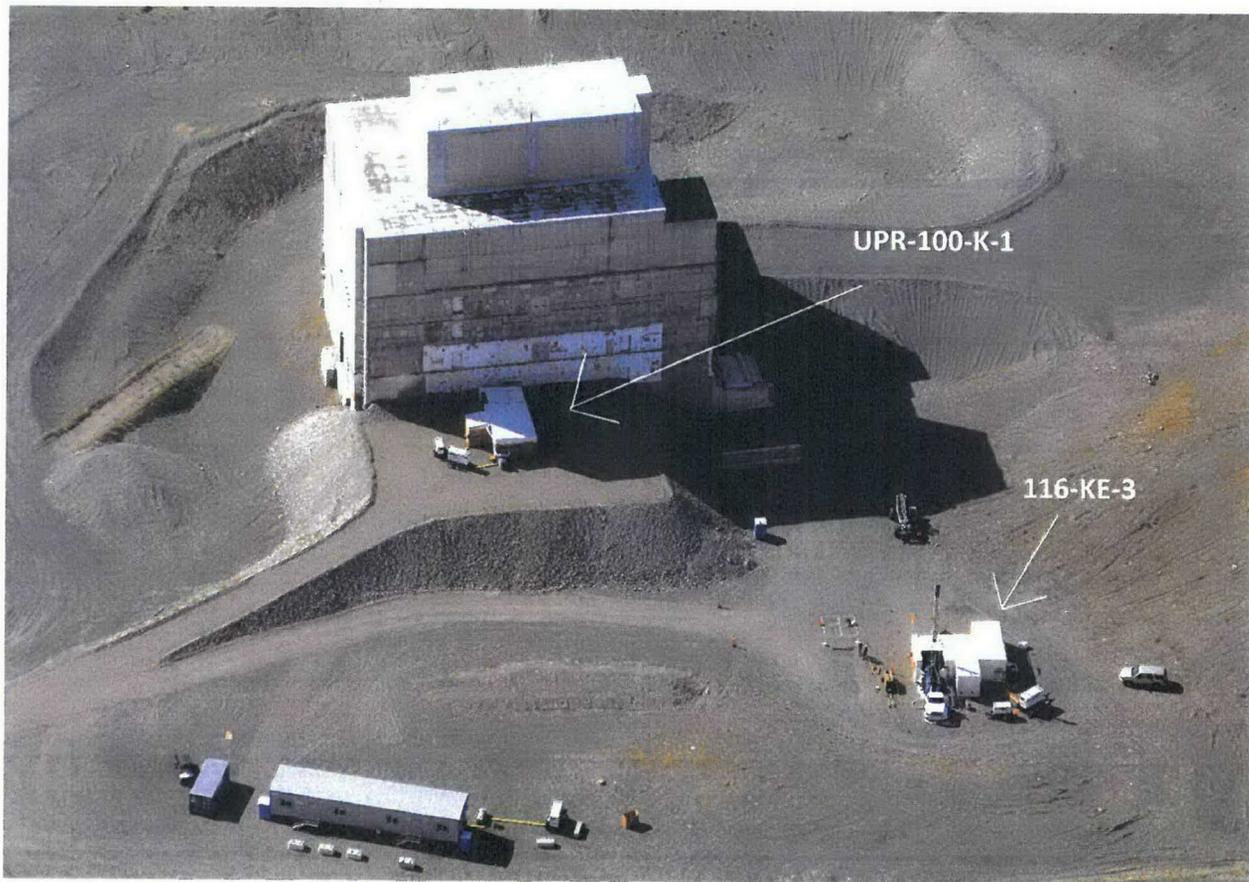


Figure K-1. Location of Drilling at 116-KE-3 and UPR-100-K-1 at KE Reactor

**100/300 Areas Unit Managers Meeting
July 9, 2015**

- All KR-4 system extraction wells and injection wells are currently in service. The hexavalent chromium concentration in extracted water at the KR-4 system is approaching non-detectable conditions. The system remains in service to provide continued hydraulic capture of groundwater inland of the river.
- At the KW system, wells 199-K-132, 199-K-139, and 199-K-166 are currently off-line and in standby mode to allow increased pumping rates along the central axis of the hexavalent chromium plume. Extraction well 199-K-205, located at the former 183-KW Head House vicinity, continues operating at an extraction rate of 120 gpm and provides the highest concentration of hexavalent chromium. All injection wells are in service.
- All KX system extraction wells are in service. Several wells exhibit seasonal decreases in extraction rates as the aquifer approaches the end of the low river stage period. As previously noted, new extraction well 199-K-208 entered service in May.
- Figures K-2 through K-4 present the groundwater treatment rate and hexavalent chromium removal information. As indicated in the curves below, Cr(VI) mass removal at KR-4, KW, and KX have generally decreased in recent months due to continued optimization of remedial performance (e.g., increasing the overall system pumping rates, while extracted groundwater concentrations decrease). Concentrations at some locations (e.g., 199-K-205, which still exhibits the highest single well concentration in the KW system at about 60 $\mu\text{g/L}$) have decreased with continued pumping. This single well continues to account for most of the Cr(VI) entering the KW system at this time due to pumping rate and persistent elevated chromium concentration. At the KW system, pumping is being currently focused on wells along the axis of the Cr(VI) plume where peripheral wells are exhibiting reduced Cr(VI) concentrations.

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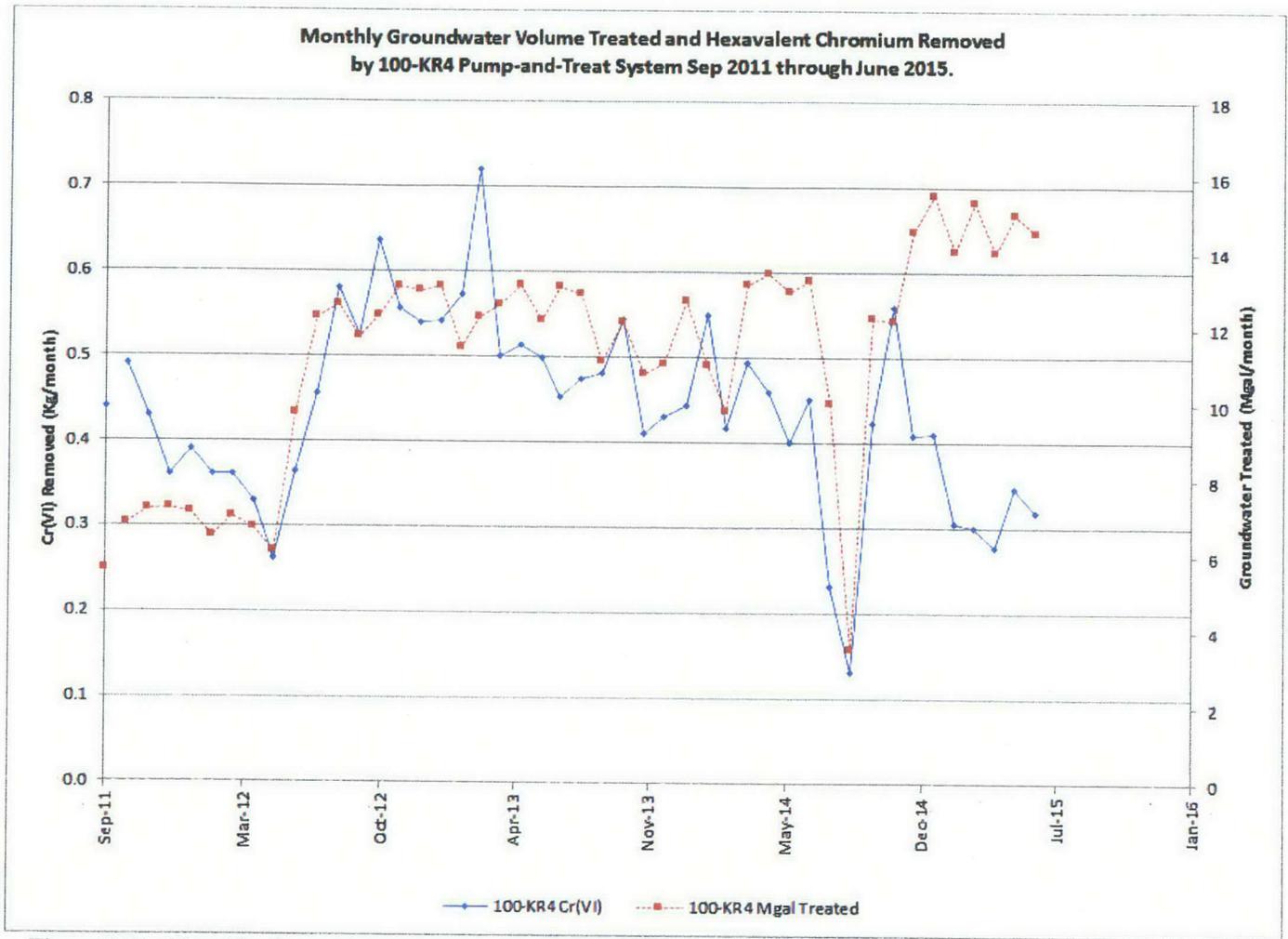


Figure K-2. Monthly Cr(VI) removed and groundwater volume treated by 100-KR4 pump-and-treat, September 2011 through June 2015.

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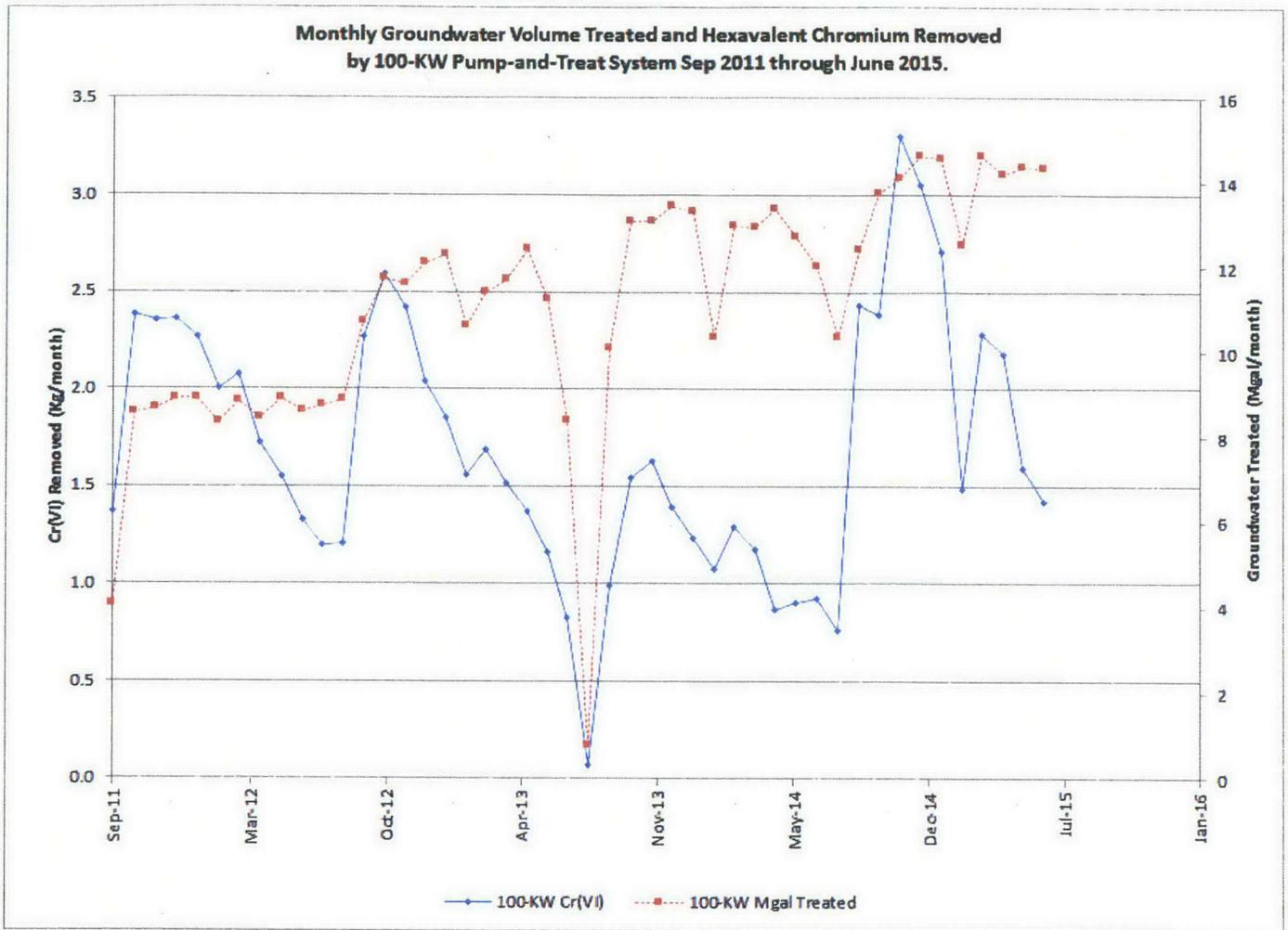


Figure K-3. Monthly Cr(VI) removed and groundwater volume treated by 100-KW pump-and-treat, September 2011 through June 2015.

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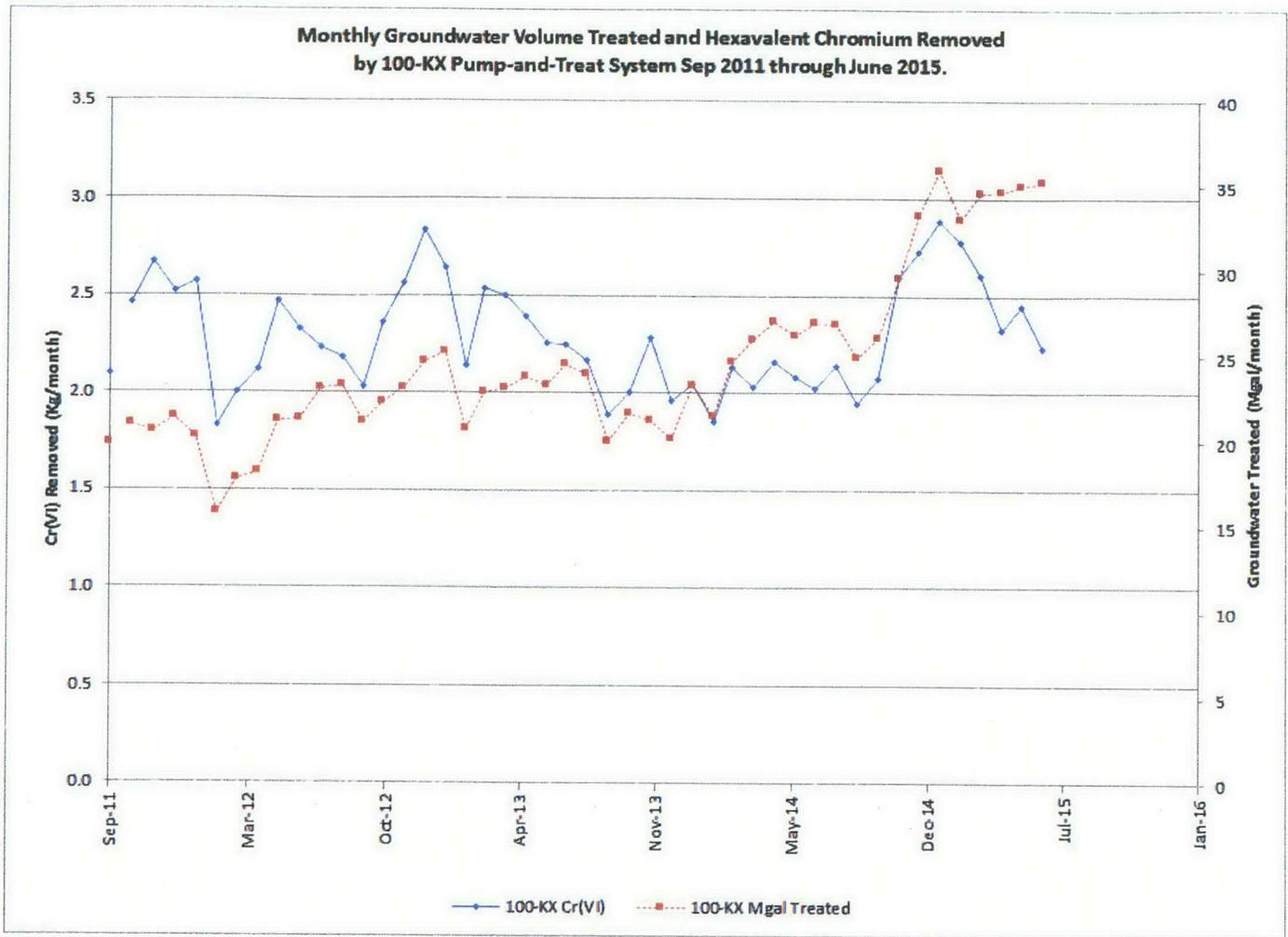


Figure K-4. Monthly Cr(VI) removed and groundwater volume treated by 100-KX pump-and-treat, September 2011 through June 2015.

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100-BC-5 Groundwater Operable Unit – Robert Evans/Mary Hartman

Milestone M-015-79: Due 12/15/2016 for the CERCLA RI/FS Report and Proposed Plan for the 100-BC-1, 100- BC-2 and 100-BC-5 Operable Units

- CERCLA Process Implementation:
 - Continued groundwater monitoring and hyporheic zone sampling.
 - The draft groundwater sampling and analysis plan that will cover the 3 to 5 year period between RI completion and groundwater remedy implementation has completed internal CHPRC review. It was received for review on June 15, 2015, and is scheduled to be completed by fall 2015.
- Monitoring & Reporting:
 - The HSPs were sampled as planned in June. In May and June 2015, river stage was 1 to 2 m lower than in spring 2014 (Figure BC-1). The maximum river stage so far in 2015 was in February.
 - Twelve monitoring wells were sampled in June. Sampling of two wells is pending resolution of electrical issues (*see note below*). Twelve more wells are scheduled for sampling in July.

Note: During a routine pre-sampling inspection, the samplers identified a need to replace the pump wiring protective cable gland/grommets that are installed on the wellhead landing plate. To date we have identified 36 wells that require the installation of the cable gland. Thirty four of the 36 wells have been repaired with the new cable gland. The repaired wells are being returned to service. The two outstanding wells are 199-F5-6 and 299-E28-25. Wells are inspected the month prior to sampling. It is likely we will continue to find a small number of wells with this issue each month. However, knowing about them a month ahead of time will allow the electricians to make the adjustments before they are backlogged on the sampling schedule.

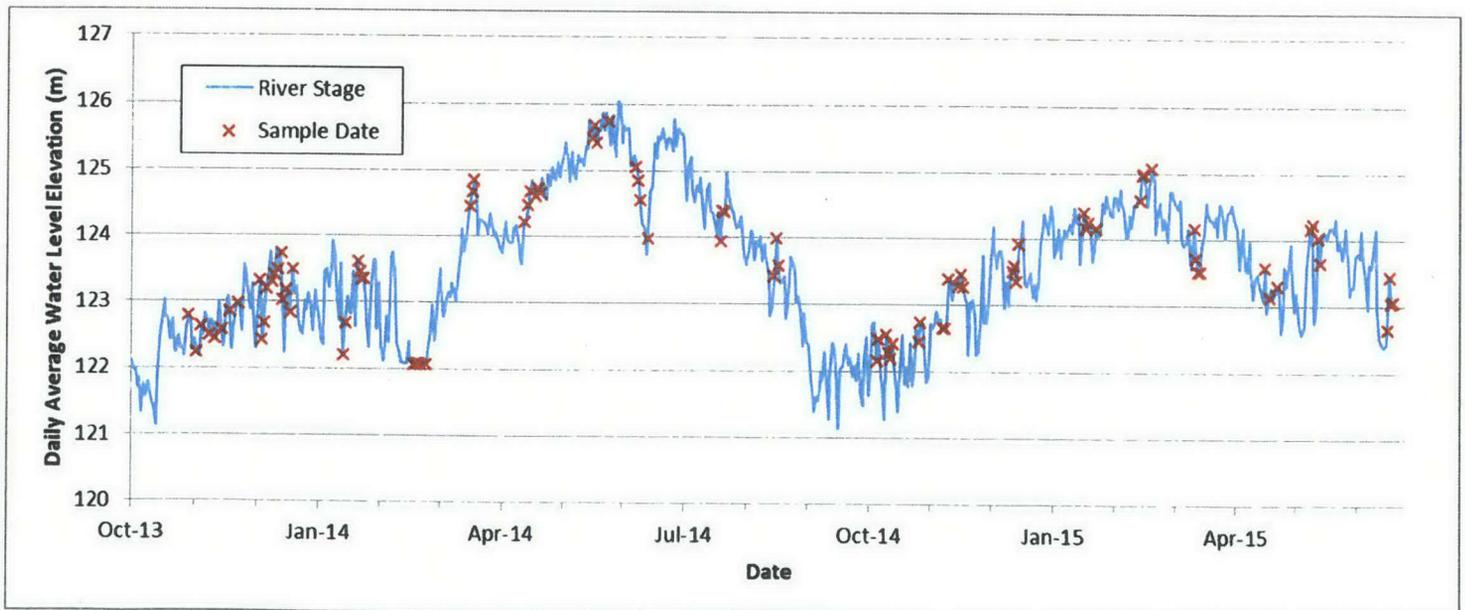


Figure BC-1. River Stage and Sampling Dates for 100-BC Hyporheic Sampling Points

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100-NR-2 Groundwater Operable Unit – Bill Faught/Virginia Rohay/Art Lee

- CERCLA Process Implementation:
 - The Draft A, RI/FS Report (DOE/RL-2012-15) and Proposed Plan (DOE/RL-2012-68) were transmitted to Ecology on June 24, 2013, completing TPA milestone M-015-75.
 - Ecology initial comments on the Draft A, RI/FS Report were received on October 2, 2013. We are preparing responses and redline changes to these comments. Chapters 1 to 8 are in progress and have completed discussion on informal comments on the “PRB and Hot Spots” and “P&T” position papers. “Surface Barriers” and “Phyto-Remediation” remain.
 - Revised Chapter 6 red-lines and the associated RCR form (incorporating the new waste sites) were provided to Ecology for review on February 9, 2015. Comments on this revised text arrived from Ecology on May 21, 2015. Responses are being prepared by CHPRC.
 - Revised Chapter 7 red-lines and the associated RCR form were completed and sent to Ecology February 26, 2015. On June 2, 2015, Ecology closed 2 of the 3 remaining comments on this chapter. We anticipate resolving the single remaining comment in July.
 - The numerical modeling performed for Draft A is being revisited at this time. Follow-up FS discussions and workshops will begin once the risk assessment comments are complete.
- Remedial Actions –
 - **Bioventing**- The bioventing system operated through June 22, 2015, without any shutdown periods. The bioventing system was shut down on June 22, 2015, in support of the summer respirometry testing event. The test is planned to run for 6 weeks. Figure NR-1 provides a chart showing bioventing well gas sample results for monitoring wells 199-N-171 and 199-N-169. Monthly vapor sample measurements for June were taken on June 22, 2015, prior to shutting down the system. Monthly measurements do not indicate significant biodegradation activity at well 199-N-169 which will be further evaluated in the respirometry test. Currently reviewing the December 2014 – January 2015 respirometry test report.

Vapor sampling conducted during the first week of respirometry testing. Daily vapor samples were collected the first week from 6 monitoring wells (199-N-167, 199-N-169, 199-N-171, 199-N-172, 199-N-183, and 199-N-18). Samples will be collected once a week for the remainder of the test. To support evaluation of the low biodegradation activity measured in the monthly sampling at well 199-N-169, the initial purge time was extended at 199-N-169 to 75 minutes. The extended purge was conducted to help determine if monthly high oxygen readings are due to:

 - 1) 199-N-169 being located very close to the 199-N-167 injection well, such that the volume and rate of injected air flowing through the subsurface completely replenishes all oxygen consumed by the bacteria, and/or
 - 2) There is a potential preferential pathway between the two well casings that allows short-circuiting. No change in oxygen utilization was observed at well 199-N-169 from the extended purge. First week of sampling does not indicate significant biological activity occurring at 199-N-169. Increased biological activity was not observed until after the third week during the previous respirometry test. Vapor sample data for the first week of sampling is provided in Table NR-1.

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Table NR-2 – Respirometry Test Vapor Sample Data

Well Name	Sample Date / Time	O₂ (%)	CO₂ (%)
199-N-167	6/22/2015 – 11:36	20.9	0
199-N-167	6/22/2015 – 14:26	20.5	0
199-N-167	6/23/2015 – 08:31	21.2	0
199-N-167	6/24/2015 – 08:29	21.2	0
199-N-167	6/25/2015 – 08:33	21.2	0
199-N-169	6/22/2015 – 08:43	21.0	0
199-N-169	6/22/2015 – 11:29	20.9	0
199-N-169	6/22/2015 – 14:18	20.6	0
199-N-169	6/23/2015 – 08:20	20.9	0
199-N-169	6/24/2015 – 08:15	20.8	0
199-N-169	6/25/2015 – 08:23	21.1	0
199-N-171	6/22/2015 – 09:00	19.9	0.7
199-N-171	6/22/2015 – 12:22	20.1	0.4
199-N-171	6/22/2015 – 14:38	19.7	0.5
199-N-171	6/23/2015 – 08:43	19.8	0.7
199-N-171	6/24/2015 – 08:43	19.8	0.7
199-N-171	6/25/2015 – 08:42	19.3	1.0
199-N-172	6/22/2015 – 12:59	20.9	0
199-N-172	6/22/2015 – 15:22	21	0
199-N-172	6/23/2015 – 09:27	21.2	0
199-N-172	6/24/2015 – 09:04	21.6	0
199-N-172	6/25/2015 – 09:01	21.4	0
199-N-183	6/22/2015 – 09:42	21.2	0
199-N-183	6/22/2015 – 12:56	20.7	0
199-N-183	6/22/2015 – 15:13	20.9	0
199-N-183	6/23/2015 – 09:18	21	0

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Table NR-2 – Respirometry Test Vapor Sample Data

199-N-183	6/24/2015 – 08:55	21.5	0
199-N-183	6/25/2015 – 08:54	21.4	0
199-N-18	6/22/2015 – 09:57	21.2	0
199-N-18	6/22/2015 – 13:49	20.8	0
199-N-18	6/22/2015 – 15:38	20.9	0
199-N-18	6/23/2015 – 09:40	21.1	0
199-N-18	6/24/2015 – 09:18	21.5	0
199-N-18	6/25/2015 – 09:15	21.3	0

- **Product Recovery**- The next smart sponge assembly change out is scheduled for late July when the sponges will be removed to allow for sampling as part of the bioremediation groundwater sampling event.

Smart Sponge Proposed Modification

CHPRC has been using AbTech Industries Smart Sponge as a remediation technique for TPH in the 100-N Area. The results to date indicate that the sponge has consistently not been absorbing TPH throughout the media. That is, the surface is wetted and blackened, but the interior is clean and dry. The goal is to optimize this TPH recovery technique and in doing so, reconfigure the sponge to increase the total surface area exposed directly to the TPH. Our proposed approach is to break-down the Smart Sponge into 2-inch sized pieces and then place them inside a plastic mesh tube, similar to the mesh used for the full length sponge. AbTech Industries sells a product similar to the proposed configuration, but it is too large to fit the installed wells.

The proposed configuration has a closed top and bottom mesh tube (zip tied) with a metal ring on the top for securing the sponge to the rope hanger. The new sponge configuration holds the same amount and type of product and is just slightly larger than the original tube shaped product. The thinking is that by increasing the amount of surface area exposed to TPH, the sponge material will absorb additional oils in a more unified pattern. The Smart Sponge is rated to absorb up to 3 times its weight, however the results to date for the original tube shapes are significant less. Figure 1 and Figure 2 below are examples of the proposed new and original shaped sponge materials.

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Figure 1. Original and reshaped sponge material.

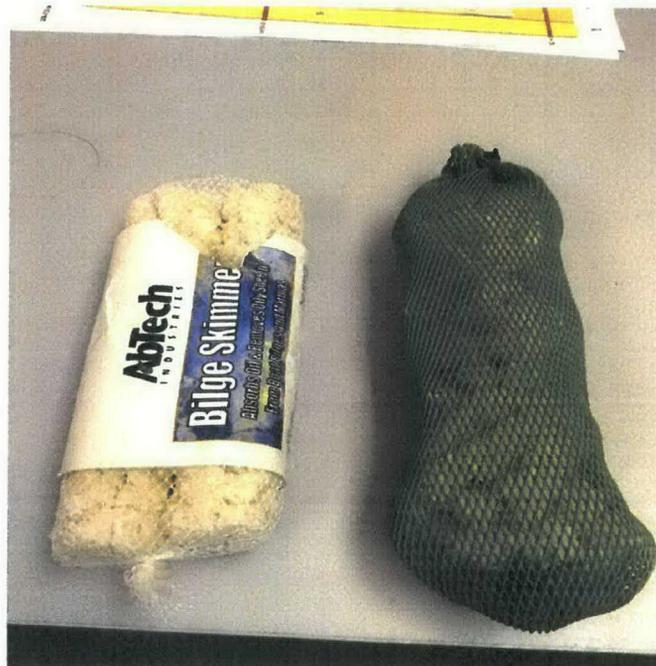


Figure 2. Original and reshaped and repackaged sponge material.

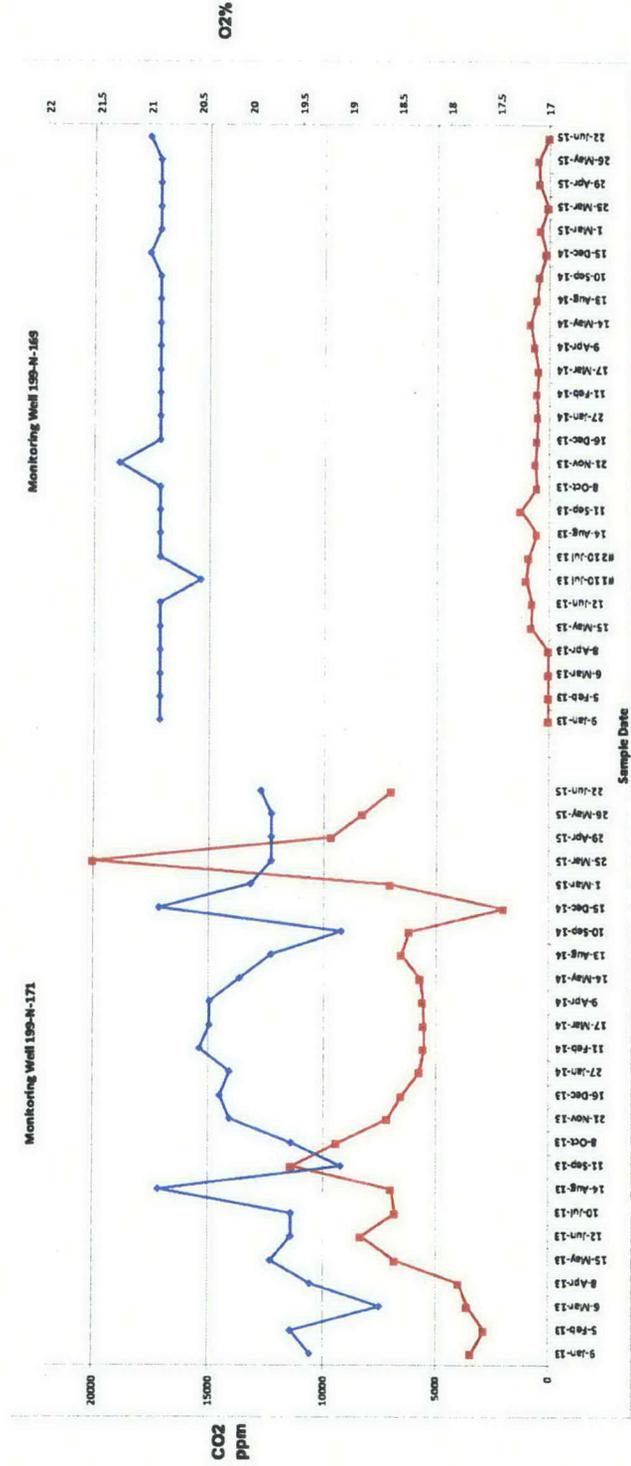
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- Monitoring & Reporting:
- Aquifer tubes C7934, C7935, and C7936 are located adjacent to one another (Figure NR-2), with screens at depths of 14.41 ft. (C7934), 18.75 ft. (C7935), and 29.19 ft. (C7936).

All three aquifer tubes were sampled on April 15, 2015, May 11, 2015, and June 19, 2015. Results through March 2015 have been received for aquifer tubes C7934 and C7936; results have been received through May 2015 for aquifer tube C7935. The delivery of this data package was delayed due to batch processing of Hanford groundwater samples at the Test America Richland lab. For efficiency purposes, CHPRC allows the laboratory to accumulate samples into analytical batches of up to 20 samples before analysis, as long as the analytical holding time are not compromised. In this case, the laboratory did not start the analysis until two weeks following sample receipt. Additional delay was incurred because the laboratory did not assign a correct delivery date for the data package. As of July 8, 2015, we have received both the hardcopy and electronic data for the data package (W07122). As part of the process, we normally status deliverables in a monthly phone conference call with the laboratories. Because of this and other recent data delivery problems, we are stepping up the review period to weekly. We will report this data in August once it's entered into HEIS.

- Tritium and strontium-90 concentration trends are shown in Figure NR-3 and Figure NR-4, respectively.
- The groundwater sampling event scheduled for June 2015 for the bioventing wells was performed in June during the next respirometry test.
- The June 2015 scheduled sampling event for the apatite barrier wells was performed in June.
- Results of the sampling of RCRA monitoring wells in March are presented below:
 - Specific conductance continued to be above the critical mean for 1324-N/NA down gradient monitoring wells (199-N-165, 199-N-72, and 199-N-73), and 1325-N down gradient monitoring wells (199-N-32, 199-N-41, and 199-N-81).
 - Previous assessments for the two RCRA sites identified the high specific conductance is caused by past discharges of non-regulated constituents (sulfate and sodium). Results did not exceed critical mean values for the remaining indicator parameters.
 - The next sampling event for RCRA monitoring wells is scheduled for September 2015.

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BIOVENT WELL SAMPLE RESULTS

Well #	Date	CO2 ppm	O2%	Well #	Date	CO2 ppm	O2%
199-N-171	9-Jun-13	3400	19.4	199-N-169	9-Jun-13	20.9	20.9
	5-Feb-13	2860	19.6		5-Feb-13	0	0
	8-Mar-13	3570	19.7		8-Mar-13	0	0
	14-Apr-13	6200	19.8		14-Apr-13	800	20.9
	15-May-13	6820	19.8		15-May-13	700	20.9
	12-Jun-13	6200	19.6		12-Jun-13	700	20.9
	10-Jul-13	6600	19.6		10-Jul-13	1020	20.5
	14-Aug-13	6040	20.9		14-Aug-13	530	20.9
	11-Sep-13	11400	19.1		11-Sep-13	20.9	20.9
	8-Oct-13	9380	19.6		8-Oct-13	1250	20.9
	21-Nov-13	7180	20.2		21-Nov-13	550	21.3
	16-Dec-13	6520	20.3		16-Dec-13	530	20.9
	27-Jan-14	5720	20.2		27-Jan-14	500	20.9
	11-Feb-14	20.5	20.5		11-Feb-14	550	20.9
	17-Mar-14	20.4	20.4		17-Mar-14	470	20.9
	9-Apr-14	5580	20.4		9-Apr-14	680	20.9
	14-May-14	3670	20.1		14-May-14	690	20.9
	13-Aug-14	6520	19.8		13-Aug-14	430	20.9
	10-Sep-14	6200	19.8		10-Sep-14	430	20.9
	15-Dec-14	20.9	20.9		15-Dec-14	100	21
	14-Mar-15	20	20		14-Mar-15	380	20.9
	25-Mar-15	19.8	20.000		25-Mar-15	15.6	20.9
	29-Apr-15	19.8	19.8		29-Apr-15	410	20.9
	28-May-15	19.8	19.8		28-May-15	460	20.9
	22-Jun-15	19.9	19.9		22-Jun-15	21	0

Figure NR-1. Bioventing Wells 199-N-169 and 199-N-171 Monthly Sampling Results

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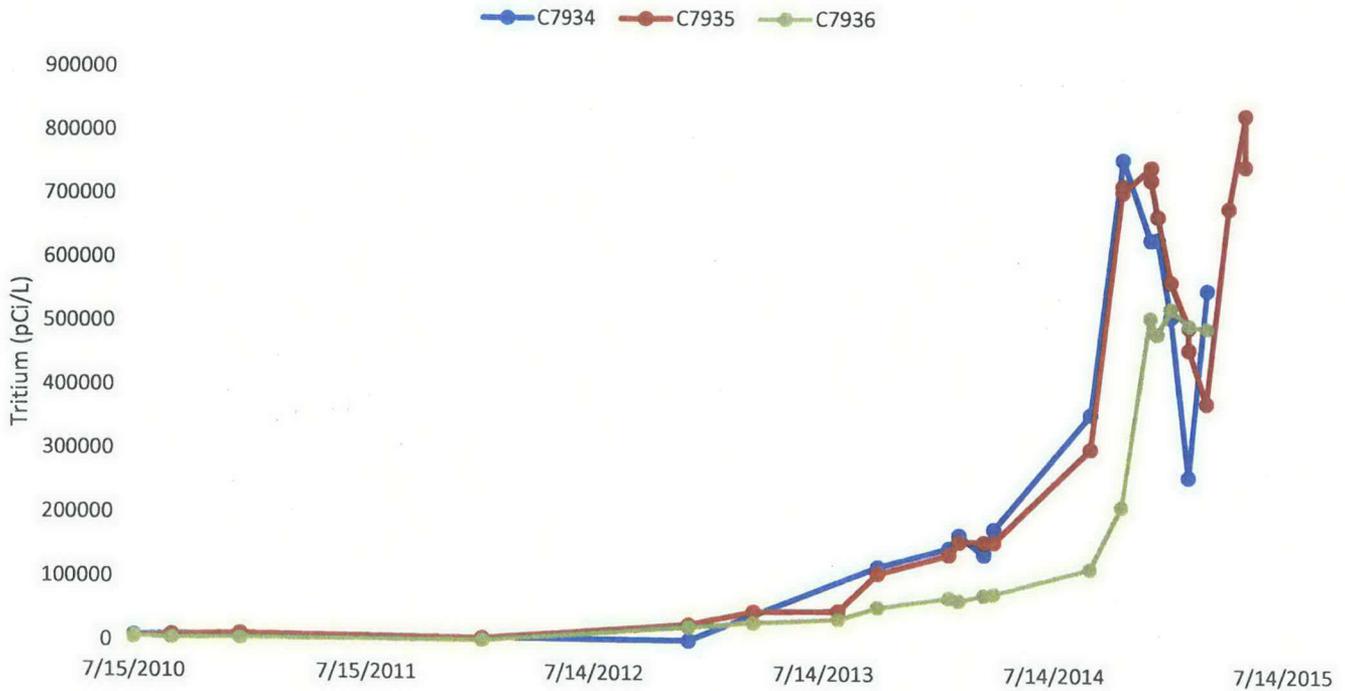


Figure NR-3. Tritium Trends through March 2015 at Aquifer Tubes C7934 and C7936 and through May 2015 at Aquifer Tube C7935

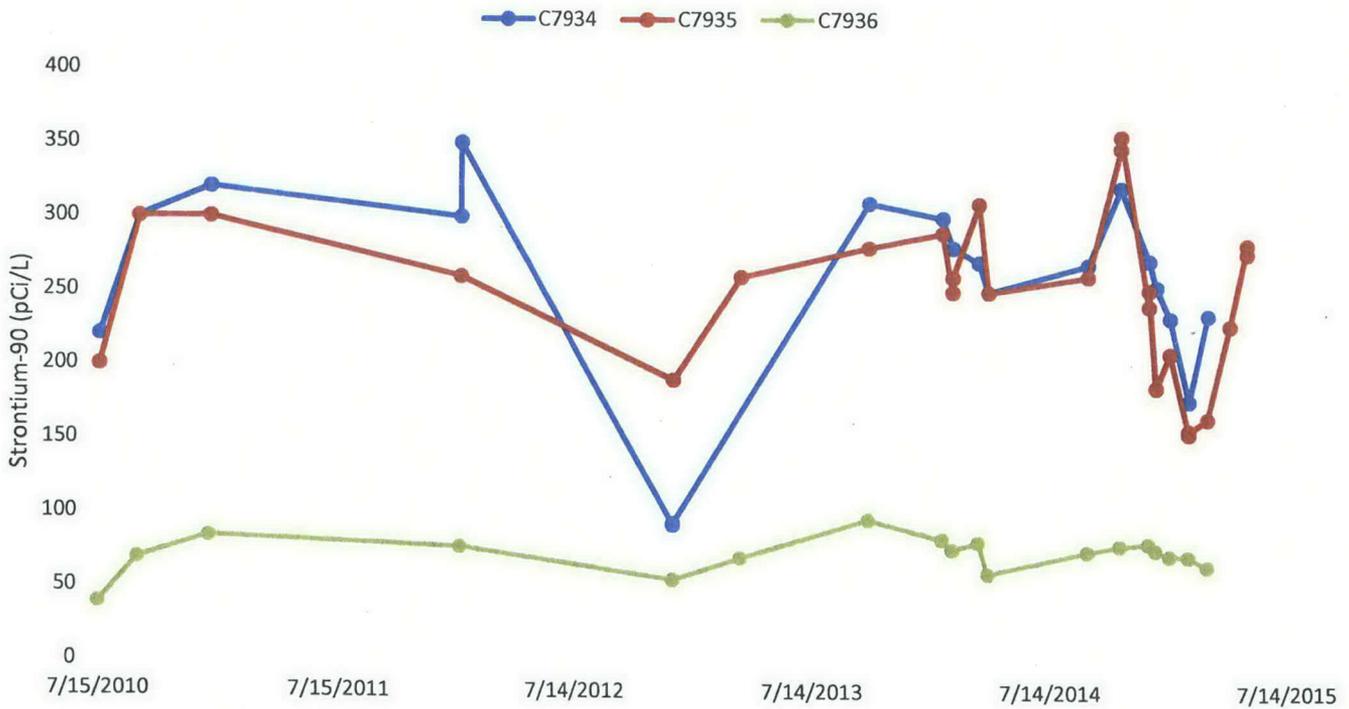


Figure NR-4. Strontium-90 Trends through March 2015 at Aquifer Tubes C7934 and C7936 and through May 2015 at Aquifer Tube C7935

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100-HR-3 Groundwater Operable Unit – Mike Drewett/Kris Ivarson/ Erika Garcia

- CERCLA Process Implementation:
 - RI/FS: Final Rev. 0 was transmitted to Ecology on October 17, 2014.
 - PP: Reviewed and resolved comments on Rev 0 during a May 28, 2015, meeting between RL, EPA and Ecology. Draft Rev 0 provided to Ecology on June 2, 2015 and forwarded for legal review on June 9, 2015.
 - RD/RAWP, Monitoring Plan, and O&M Plan, Draft A plans were received on September 30, 2014. Received comments from Ecology on three plans on April 30, 2015. RL requested a 90-day extension to respond to comments on May 27, 2015. Currently RL is working on resolution of comments with Ecology. ~~Ecology comments are due July 10, 2015.~~ *2/11/15*
- Remedial Actions & System Modifications
 - A summary of the number of extraction and injection wells in the DX and HX P&T systems is shown in Table H-1.

Table H-1. Summary of the number of extraction and injection wells in the three systems

Wells	DX		HX		Total
	2014	2015	2014	2015	Current- as of 7/1/2015
Number of extraction wells	44	44	31	30	74
Number of injection wells	14	10	14	14	24
Notes: DX system Well 199-D8-55 was not used for injection in 2014, but was operational as an extraction well Four injection wells for DX are not counted in 2015 since they are not operating. Well realignments not completed.					

- June 2015 performance for **DX** and **HX** systems:
 - Treated: 52.26 million gallons (56.67 in May)
 - Removed: 7.85 kg of Cr(VI) (8.69 in May).

Summaries of the volume of groundwater treated and Cr(VI) removed for the 100-DX and 100-HX pump-and-treat systems are shown in Figures H-2 and H-3, respectively. A general reduction in Cr(VI) mass removal over time, a function of progress of remediation with associated reduction in groundwater contaminant concentration, is exhibited at both DX and HX. The drop in concentrations is more pronounced at DX, where concentrations were previously at very high levels. Influent concentrations at DX continue to decline as remediation progresses.

- The current influent and effluent Cr(VI) concentrations (measure once weekly) for the two HR-3 systems (as measured on June 30, 2015) are:
 - DX – Influent = 42 µg/L; Effluent = less than detection
 - HX – Influent = 20 µg/L; Effluent = less than detection

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- Drilling activities include:
 - New well locations are shown in Figure H-1.
 - Eleven of the 12 wells have been completed and developed. The last well, 699-93-48C, has been constructed and awaiting well development.
- Well realignment activities are continuing, with piping and electrical work ongoing.

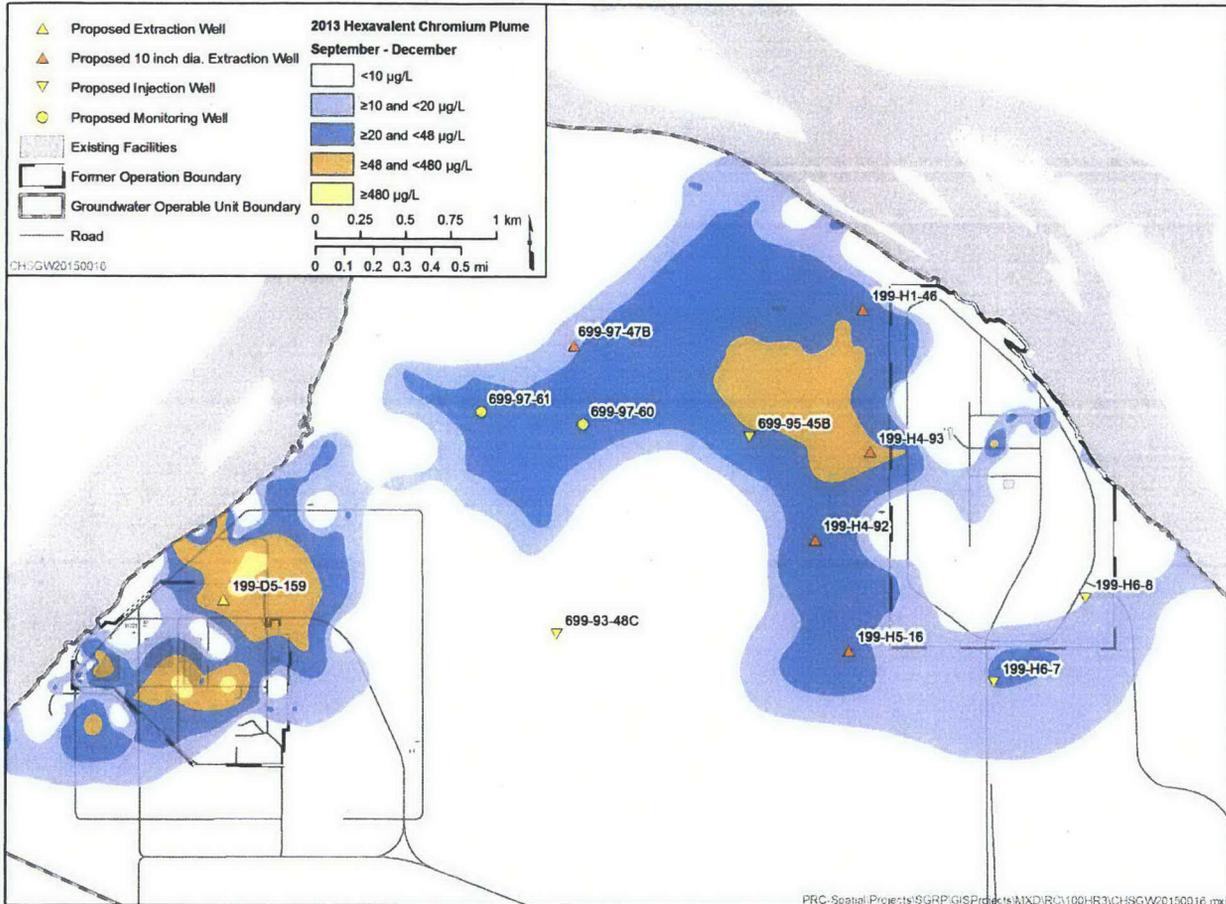


Figure H-1. New Well Locations Planned for FY15

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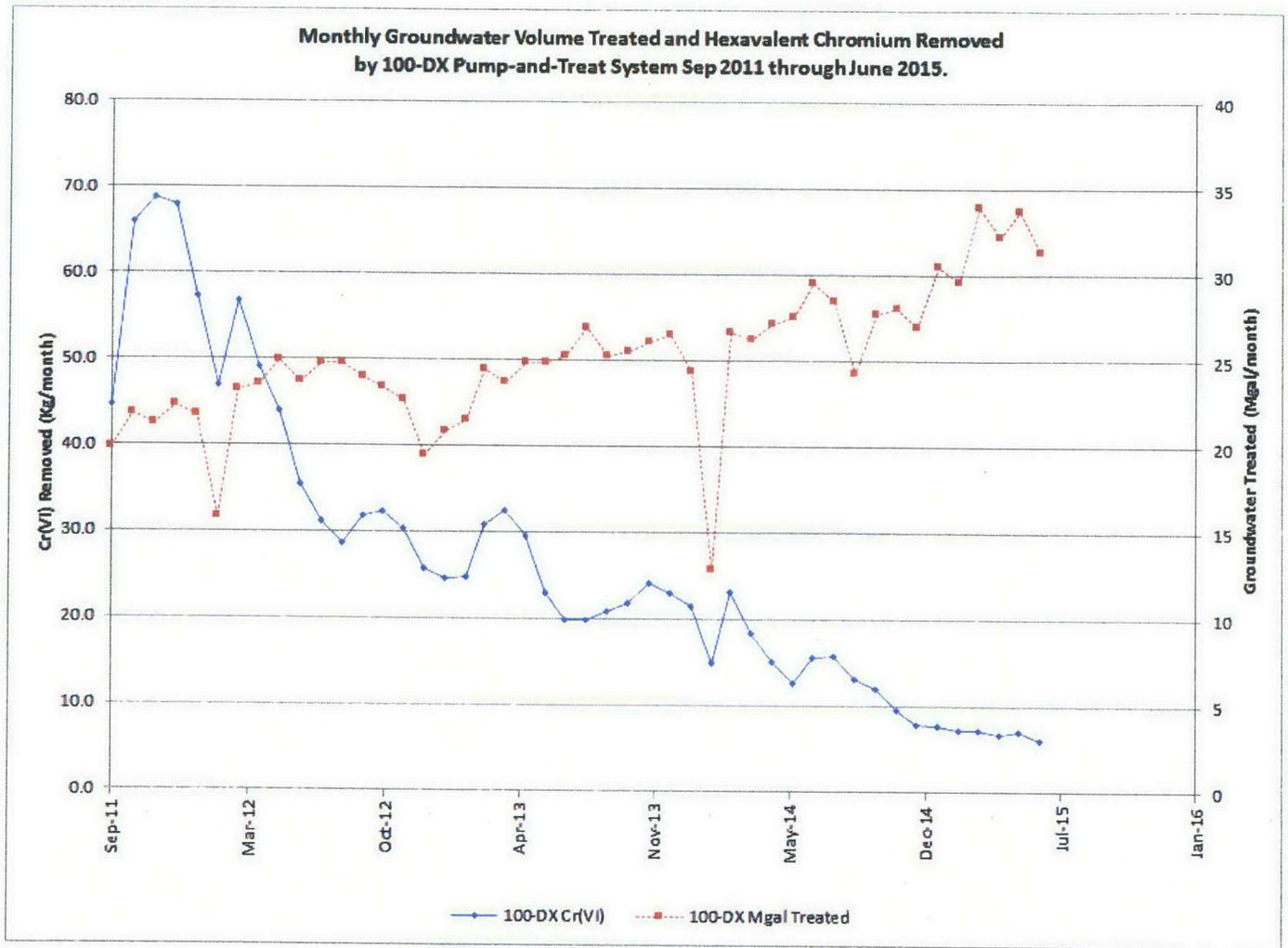


Figure H-2. Monthly Cr(VI) removed and groundwater volume treated by 100-DX pump-and-treat, September 2011 through June 2015.

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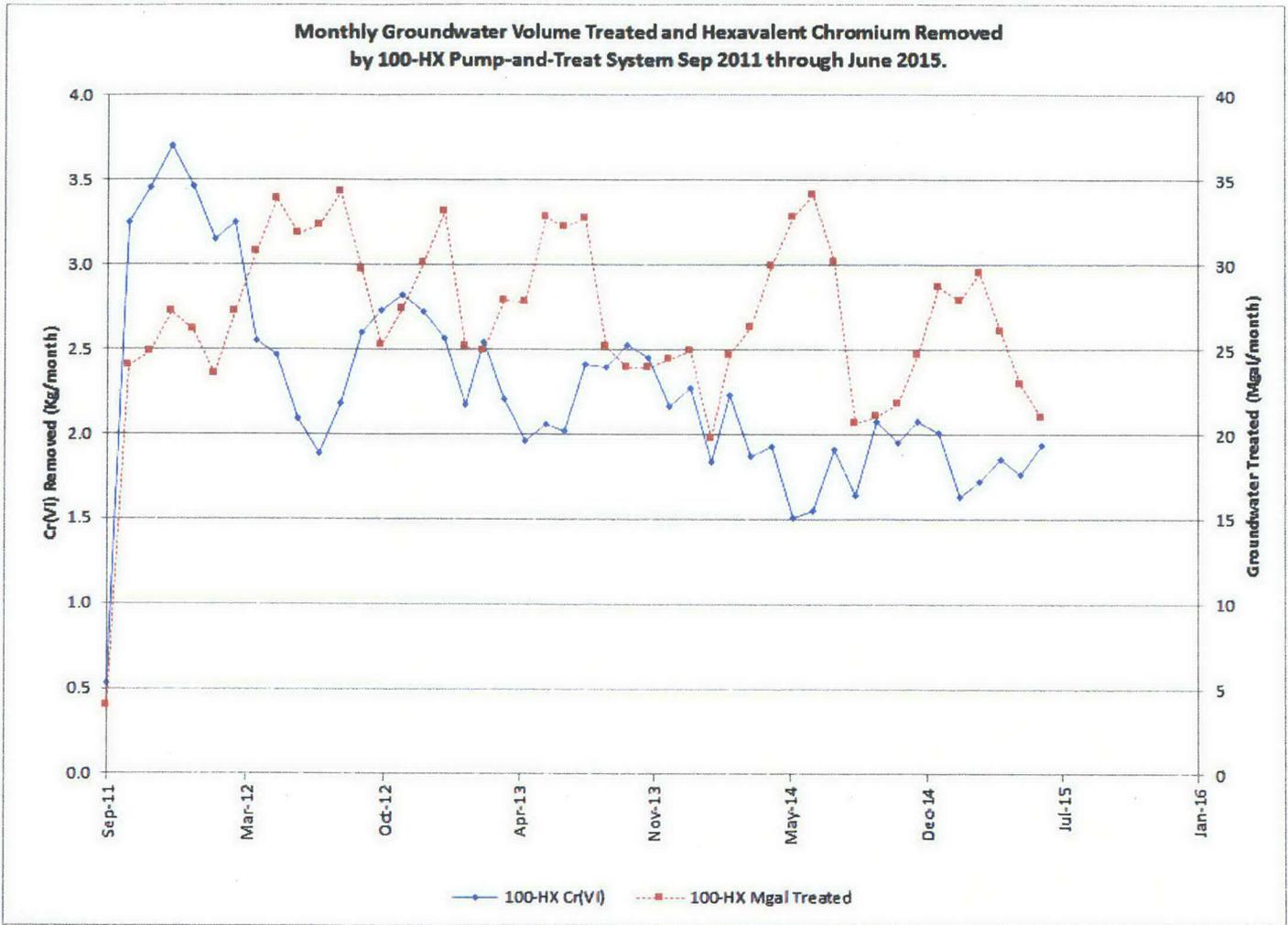


Figure H-3. Monthly Cr(VI) removed and groundwater volume treated by 100-HX pump-and-treat, September 2011 through June 2015.

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100-FR-3 Groundwater Operable Unit – Robert Evans/Mary Hartman

- CERCLA Process Implementation:
 - Completed revision to the Draft A RDR/RAWP and addressed/incorporated EPA's comments. Revision 0 is planned to be delivered by late summer.
- Monitoring & Reporting:
 - Three of four wells were sampled as scheduled in June. The fourth well will be sampled when an electrical issue is resolved (see note below). The full network will be sampled in October 2015.

Note: New grommets are scheduled to be installed on the wellhead landing plate in order to protect the power-cord that passes through the landing plate and then down to the pump. The existing grommets have deteriorated and posed a potential electrical safety hazard.

300-FF-5 Groundwater Operable Unit – Bert Day/Virginia Rohay/Randy Hermann

- CERCLA Process Implementation:
 - Issued Rev. 0 RDR/RAWP (DOE/RL-2014-13) integrated and groundwater addendum on June 16, 2015, with EPA and RL signatures (signed May 29, 2015).
- Remedial Actions:
 - Conducted TCE attainment calculation briefing with EPA on June 22, 2015.
 - Discussed Uranium remedy performance evaluation methodologies with EPA on June 29, 2015.
 - Completed well construction on 6 aquifer and 6 PRZ monitoring wells through June 24, 2015.
- Monitoring & Reporting:
 - Submitted Draft A, 300-FF-5 OU Remedy Implementation SAP (DOE/RL-2014-42) to EPA review; comments anticipated July 9, 2015.
 - Monitoring Overview:
 - 300 Area Industrial Complex: The March 2015 sample was collected on June 19, 2015. As of June 22, 2015, samples had been collected at 34 of the 44 wells scheduled for sampling.
 - 618-10 Burial Ground/316-4 Crib: As of June 22, 2015, samples had not been collected. TPA-CN-669 was approved on June 26, 2015, to discontinue monitoring at wells 699-S6-E4L and 699-S6-E4A, which will be decommissioned to support waste site remediation.
 - 618-11 Burial Ground: The next sampling event is scheduled for July 2015.
 - 300 Area Process Trenches (316-5) RCRA Monitoring: The wells were sampled on June 8 and June 9, 2015. The next sampling event is scheduled for July 2015.

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Hanford Sampling Program Information

Table 1 Wells, Aquifer Tubes, and springs in the River Corridor Areas Successfully Sampled in June 2015

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
199-B2-14	199-F5-1	199-D4-14	199-H1-1		199-K-150		399-1-10A
199-B2-16	199-F5-46	199-D4-22	199-H1-2		199-N-122		399-1-10B
199-B3-1	199-F5-55	199-D4-25	199-H1-34		199-N-123		399-1-11
199-B3-46		199-D4-38	199-H1-36		199-N-14		399-1-12
199-B3-47		199-D4-62	199-H1-39		199-N-146		399-1-15
199-B3-50		199-D5-103	199-H1-4		199-N-147		399-1-16A
199-B4-14		199-D5-104	199-H1-42		199-N-165		399-1-16B
199-B4-8		199-D5-125	199-H1-43		199-N-173		399-1-17A
199-B5-2		199-D5-126	199-H1-45		199-N-183		399-1-17B
199-B5-5		199-D5-13	199-H3-2C		199-N-201		399-1-18A
199-B8-6		199-D5-14	199-H4-12C		199-N-21		399-1-18B
199-B9-3		199-D5-145	199-H4-13		199-N-268		399-1-2
C8840		199-D5-146	199-H4-15A		199-N-269		399-1-21A
C8841		199-D5-17	199-H4-4		199-N-280		399-1-21B
C8842		199-D5-33	199-H4-5		199-N-281		399-1-57
C8843		199-D5-34	199-H4-6		199-N-297		399-1-59
C8844		199-D5-36	199-H4-63		199-N-298		399-1-7
C8845		199-D5-37	199-H4-64		199-N-3		399-1-8
C8847		199-D5-39	199-H4-69		199-N-315		399-2-2
C8848		199-D8-53	199-H4-70		199-N-316		399-2-32
C8849		199-D8-68	199-H4-77		199-N-32		399-2-5
C8851		199-D8-69	199-H4-84		199-N-332		399-3-10
C8852		199-D8-88	199-H4-90		199-N-333		399-3-12
C8853		199-H1-5	199-H4-91		199-N-342		399-3-19
C8855		199-H4-80	199-H6-7		199-N-343		399-3-20
C8856		199-H4-81	199-H6-7		199-N-346		399-3-20
C8859			199-H6-8		199-N-347		399-3-22
C8860					199-N-348		399-3-33
C8861					199-N-349		399-3-9
C9441					199-N-350		399-4-10
C9442					199-N-351		399-4-12
C9443					199-N-352		399-4-14
C9444					199-N-353		399-4-9
C9445					199-N-354		399-5-4B
C9446					199-N-355		399-6-3
					199-N-356		399-8-5A
					199-N-357		699-S6-E4A
					199-N-358		699-S6-E4K
					199-N-359		

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100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
					199-N-360		
					199-N-361		
					199-N-362		
					199-N-363		
					199-N-364		
					199-N-365		
					199-N-366		
					199-N-367		
					199-N-46		
					199-N-56		
					199-N-71		
					199-N-75		
					199-N-76		
					199-N-92A		
					199-N-96A		
					APT1		
					APT5		
					C6324		
					C7881		
					C7934		
					C7935		
					C7936		
					C7937		
					C7938		
					C7939		
					N116mArray-0A		
					N116mArray-10A		
					N116mArray-11A		
					N116mArray-13A		
					N116mArray-15A		
					N116mArray-2A		
					N116mArray-6A		
					N116mArray-8A		
					N116mArray-9A		
					NVP1-2		
					NVP1-3		
					NVP1-4		
					NVP1-5		
					NVP2-115.1		
					NVP2-115.4		
					NVP2-115.7		
					NVP2-116.0		

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100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
					NVP2-116.3		

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Table 2. Sample Trips in the River Corridor Areas awaiting at the end of June 2015

Quarter Scheduled	GWIA	Sample Type	Site Name	Date Scheduled	Frequency	Months Remain	Status	Comment
FY 2014 Q1	300-FF	WELL	399-1-63	12/1/2013	Annual	0	Late	FY-2014 Carry over, Maintenance Required
FY 2015 Q1	100-KR	WELL	199-K-132	11/1/2014	Biannual	0	Late	Maintenance Required
		SPRING	SK-077-1	10/1/2014	Annual	3	OK	
	100-NR	AQUIFER TUBE	C6135	10/1/2014	Biannual	0	Late	
FY 2015 Q3	100-BC	WELL	199-B4-1	6/1/2015	Biannual	5	OK	
		WELL	199-B5-1	6/1/2015	Biannual	5	OK	
	100-FR	WELL	199-F5-6	6/1/2015	Biannual	5	OK	
	100-HR-D	WELL	199-D5-40	5/1/2015	Quarterly	1	OK	Maintenance Required
		WELL	199-D8-54A	6/1/2015	Biannual	5	OK	
		WELL	199-D8-73	6/1/2015	Quarterly	2	OK	
		WELL	199-H4-82	6/1/2015	Quarterly	2	OK	
		AQUIFER TUBE	DD-39-1	5/1/2015	Biannual	4	OK	Unsuccessful 5-12-2015, Maintenance Required
	100-HR-H	WELL	199-H1-25	6/1/2015	Quarterly	2	OK	
		WELL	199-H1-27	6/1/2015	Quarterly	2	OK	
		WELL	199-H1-3	6/1/2015	Quarterly	2	OK	
		WELL	199-H1-6	6/1/2015	Quarterly	2	OK	
		WELL	199-H4-75	6/1/2015	Quarterly	2	OK	
		WELL	199-H4-76	6/1/2015	Quarterly	2	OK	
	100-KR	WELL	199-K-132	5/1/2015	Biannual	4	OK	Maintenance Required
		WELL	199-K-139	5/1/2015	Biannual	4	OK	
		WELL	199-K-166	4/1/2015	Quarterly	0	Late	P&T Not Running
		WELL	199-K-19	5/1/2015	Biannual	4	OK	
	100-NR	WELL	199-N-136	6/1/2015	Quarterly	2	OK	
		WELL	199-N-159	6/1/2015	Quarterly	2	OK	
		WELL	199-N-169	6/1/2015	Quarterly	2	OK	
		WELL	199-N-171	6/1/2015	Quarterly	2	OK	
		WELL	199-N-19	6/1/2015	Quarterly	2	OK	
		WELL	199-N-200	6/1/2015	Quarterly	2	OK	
		WELL	199-N-210	6/1/2015	Quarterly	2	OK	
		WELL	199-N-211	6/1/2015	Quarterly	2	OK	
		WELL	199-N-229	6/1/2015	Quarterly	2	OK	
		WELL	199-N-230	6/1/2015	Quarterly	2	OK	
		WELL	199-N-247	6/1/2015	Quarterly	2	OK	
		WELL	199-N-248	6/1/2015	Quarterly	2	OK	
		AQUIFER TUBE	C6132	6/1/2015	Quarterly	2	OK	
	AQUIFER TUBE	C6136	6/1/2015	Quarterly	2	OK		
	AQUIFER TUBE	N116mArray-1A	6/1/2015	Quarterly	2	OK		
AQUIFER TUBE	N116mArray-3A	6/1/2015	Quarterly	2	OK			
AQUIFER TUBE	N116mArray-4A	6/1/2015	Quarterly	2	OK			

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Quarter Scheduled	GWIA	Sample Type	Site Name	Date Scheduled	Frequency	Months Remain	Status	Comment
		AQUIFER TUBE	NVP1-1	6/1/2015	Quarterly	2	OK	
	300-FF	WELL	399-1-1	6/1/2015	Biannual	5	OK	
		WELL	399-1-6	6/1/2015	Biannual	5	OK	
		WELL	399-2-1	6/1/2015	Quarterly	2	OK	
		WELL	399-3-1	6/1/2015	Biannual	5	OK	
		WELL	399-3-18	6/1/2015	Biannual	5	OK	
		WELL	399-3-2	6/1/2015	Biannual	5	OK	
		WELL	399-3-6	6/1/2015	Biannual	5	OK	
		WELL	399-4-1	6/1/2015	Biannual	5	OK	
		WELL	399-4-7	6/1/2015	Biannual	5	OK	
		WELL	699-S6-E4B	6/1/2015	Biannual	5	OK	
		WELL	699-S6-E4E	6/1/2015	Biannual	5	OK	
		WELL	699-S6-E4L	6/1/2015	Quarterly	2	OK	

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Table 3. Groundwater Sampling Locations in the River Corridor Areas Scheduled to be sampled in July 2015

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
199-B4-14	699-87-42A	199-D4-19	199-H1-8	199-K-117A	199-K-150		399-1-10A
199-B4-16		199-D4-26	199-H4-92	199-K-166	199-N-167		399-1-10B
199-B4-18		199-D4-86	199-H4-93	199-K-173	199-N-169		399-1-16A
199-B4-7		199-D4-92	199-H5-16	199-K-18	199-N-171		399-1-16B
199-B5-10		199-D4-93	699-100-43B	199-K-20	199-N-172		399-1-17A
199-B5-11		199-D4-95	699-101-45	199-K-202	199-N-173		399-1-17B
199-B5-12		199-D4-96	699-88-41	199-K-205	199-N-183		399-1-18A
199-B5-13		199-D4-97	699-89-35	199-K-221	199-N-19		399-1-18B
199-B5-14		199-D4-98	699-90-34	199-K-222	199-N-3		699-12-2C
199-B5-6		199-D4-99	699-90-37B	C7641	199-N-56		699-13-2D
199-B5-9		199-D5-101	699-90-38	C7642	199-N-96A		699-13-3A
199-B8-9		199-D5-103	699-95-45B	C7643	C6132		
C8840		199-D5-104	699-97-60		C6135		
C8841		199-D5-127			C7934		
C8842		199-D5-130			C7935		
C8843		199-D5-131			C7936		
C8844		199-D5-145			N116mArray-0A		
C8845		199-D5-146					
C8847		199-D5-159					
C8848		199-D5-20					
C8849		199-D5-32					
C8851		199-D5-34					
C8852		199-D5-39					
C8853		199-D7-3					
C8855		199-D7-6					
C8856		199-D8-101					
C8859		199-D8-4					
C8860		199-D8-89					
C8861		199-D8-90					
C9441		199-D8-91					
C9442		199-D8-95					
C9443		199-D8-96					
C9444		199-D8-97					
C9445		199-D8-98					
C9446		699-93-48C					
		699-97-61					

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Documents for AR Submission

<i>100-300 Area Documents Cleared May-June 2015</i>	
<i>Number</i>	<i>Title</i>
ECF-Hanford-15-0016	Calculation of Critical Means for Calendar Year 2015 RCRA Groundwater Monitoring
ECF-300FF5-15-0014	Determination of Vadose Zone Uranium Concentration Distribution Extents and Establishment of the Stage A Enhanced Attenuation Area for 300-FF-5
SGW-58863, R0	Field Summary Report: Inspection, Repair, and Installation of Hyporheic Zone Sampling Points in the 100-BC-5 Operable Unit
SGW-58291, R0	Data Quality Objectives for 100-FR-3 Monitored Natural Attenuation

<i>Documents needed to support the 2015 RCRA groundwater monitoring plan updates</i>	
<i>Number</i>	<i>Title</i>
96-EAP-246, 1997	"Re: Acceptance of "Closure Certification for the 183-H Solar Evaporation Basins (T-1-4), 96-EAP-246"
PNL-6470, 1986	Revised Ground-Water Monitoring Compliance Plan for the 183-H Solar Evaporation Basins
DOE, 1987, 40 CFR 265	40 CFR 265 Interim Status Detection-Level Ground-Water Monitoring Compliance Plan for 216-A-29 Ditch
Luttrell, 1988	Effluent Monitoring Plan for 216-A-29 Ditch Monitoring Wells
WHC-EP-0052, 1988	Preliminary Evaluation of Hanford Liquid Discharges to Ground, Rev. 0
WHC-SD-EN-AP-045, 1991	Groundwater Monitoring Plan for the 216-A-29 Ditch, Rev. 0
WHC-SD-EN-TI-012, 1992	Geologic Setting of the 200 East Area: An Update, Rev. 0
WHC-SD-DD-TI-060, 1992	Ditch Interim Stabilization Final Report, Rev. 0A
Goswami, 2001	Statistical Assessment for the 300 Area Resource Conservation and Recovery Act of 1976 (RCRA) Ground Water Monitoring Plan
PNNL-11604, 1997	Results of RCRA Groundwater Quality Assessment at the 216-B-3 Pond Facility, Rev. 0
WHC-SD-EN-AP-042, 1991	Phase I Characterization of the 216-B-3 Pond System

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<i>Documents needed to support the 2015 RCRA groundwater monitoring plan updates</i>	
<i>Number</i>	<i>Title</i>
WHC-SD-EN-AP-043, 1993	Groundwater Monitoring Plan for the Solid Waste Landfill, Hanford, Washington, Rev 0
WHC-SD-EN-AP-043, 1996	Groundwater Monitoring Plan for the Solid Waste Landfill, Hanford, Washington, Rev 0A
PNNL-11709, 1997	Borehole Completion Data Package for Solid Waste Landfill Facility Wells 699-22-35 and 699-23-34B
PNL-7147, 1989	Final Report: Soil-Gas Survey at the Solid Waste Landfill
01-RCA-034, 2000	"Submission of Revised Hanford Solid Waste Landfill (SWL) Closure Plan"
DOE/RL-2015-21, 2015	Hanford Site Solid Waste Landfill Annual Monitoring Report, Rev 0
WHC-EP-0021	Interim Hydrogeologic Characterization Report and Groundwater Monitoring System for the Nonradioactive Dangerous Waste Landfill, Hanford Site, Washington.
DYN-SWL-LWCP-397, 1997	Liquid Waste Certification Plan for the Solid Waste Landfill Leachate, Rev 0
DOE/RL-90-38, 1991	Hanford Site Solid Waste Landfill Permit Application, Rev 0
ECF-300FF5-11-0152, 2012	VOC Modeling in Support of 300 Area FF-5 RI/FS Document, Rev. 0
WHC-SD-EN-EV-002, 1990	Interim Hydrogeologic Characterization Report for the 216-B-3 Pond
HNF-7173, 2000	Hanford Solid Waste Landfill Closure Plan, Rev 0
01-RCA-034, 2000	"Submission of Revised Hanford Solid Waste Landfill (SWL) Closure Plan"
PNL-6671, 1986	Ground-Water Monitoring Compliance Plan for the 300 Area Process Trenches

<i>Documents needed to support the 2015 Annual Groundwater Report</i>	
<i>Number</i>	<i>Title</i>
BHI-00012, 1994	300-FF-3 Operable Unit Technical Baseline Report, Rev. 0
ECF-Hanford-13-0013, 2014,	Calculation of Critical Means for Calendar Year 2013 RCRA Groundwater Monitoring, Rev. 1

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ECF-Hanford-14-0043, 2014	Calculation of Critical Means for Calendar Year 2014 RCRA Groundwater Monitoring, Rev. 1
HW-76258, 1963	Reactor Gas Drier Condensate Waste – Decontamination Studies, Hanford Atomic Products Operation
SGW-49370, 2011	Columbia River Pore Water Sampling in 100-N Area, December 2010, Rev. 0
SGW-58308, 2015	100-BC-5 Remedial Investigation: 2014 Status Report, Rev. 0
WHC-EP-0877, 1995	K Basin Corrosion Program Report

Attachment 2

100K Area Report
100/300 Area Unit Manager Meeting
July 9, 2015

RL-0012 Sludge Treatment Project

TPA Milestone **M-016-177**, *Complete 105-KW sludge transfer equipment installation.*

(9/30/17) – On Schedule

- Fifteen of a total 20 Engineered Container Retrieval & Transport System (ECRTS) process component procurement packages have been fully developed and are in the formal acquisition process.
- The design for the safety-related The Sludge Transport and Storage Container Auxiliary Ventilation System design is being re-established to support nuclear safety requirements.
- Planning in support of in-basin construction continues.

TPA Milestone **M-016-175**, *Begin sludge removal from 105-KW Fuel Storage Basin*

(9/30/18) – On Schedule

- EPA has provided a letter to RL formalizing expectations to satisfy new TPA milestone dates. Expectations include revising remedial design/ remedial action work plans and submitting an Explanation of Significant Difference to modify the 100 K Area K Basins Record of Decision necessary to provide for long term storage of K basins sludge.
- Ecology to provide feedback to RL on T Plant activities that need to be completed to prepare for receipt and storage of sludge.
- ECRTS tooling and equipment fabrication, testing, and operating procedure and training development continue.

TPA Milestone **M-016-176**, *Complete sludge removal from 105-KW Fuel Storage Basin*

(12/31/19) – On Schedule

- Initiation of this milestone follows completion of Milestone M-016-175.

TPA Milestone **M-016-178**, *Initiate deactivation of 105-KW Fuel Storage Basin.*

(12/31/19) – On Schedule

- Initiation of this milestone follows completion of Milestone M-016-176.
- Integrated Water Treatment System garnet filter media removal system design, and Skimmer System sand filter media sampling and characterization activities continue.
- Dose to curie modeling of basin below-water debris, utilizing data collected by KW Basin operations while clearing the ECRTS footprint, continues. The characterization data produced from these models will become a key input to the KW Basin ERDF compliant calculation.

TPA Milestone **M-016-173**, *Select K Basin sludge treatment and packaging technology and propose new interim sludge treatment and packaging milestones.*

(9/30/22) – On Schedule

- The preliminary treatment and packaging site evaluation report and remedial design/remedial action work plan DOE/RL-2011-15 for sludge treatment and packaging have been issued.

TPA Milestone **M-016-181**, *Complete deactivation, demolition and removal of 105-KW Fuel Storage Basin*
(9/30/23) – On Schedule

TPA Milestone **M-016-186**, *Initiate soil remediation under the 105-KW Fuel Storage Basin.*
(12/31/23) – On Schedule

RL-0041 K Facility Demolition and Soil Remediation

TPA Milestone **M-016-143**, *Complete the interim response actions for 100 K Area within the perimeter boundary and to the Columbia River for Phase 2 actions. Phase 2 is defined in the 100 K Area RD/RA Work Plans.*
(9/30/24) – On Schedule

TPA Milestone **M-093-28**, *Submit a change package for proposed interim milestones for 105-KE and 105-KW Reactor Interim Safe Storage*
(12/31/19) - On Schedule

TPA Milestone **M-093-27**, *Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with the Removal Action Work Plan.*
(9/30/2024) - On Schedule

TPA Milestone **M-016-00C**, *Complete all response actions for the 100 K Area*
(9/30/24) - On Schedule

Other Information and Status Updates

105KW Roof Repairs

Field work commenced on June 15th and the roof repairs have been completed. Demobilization was completed on July 6th.

100K Bore Holes

The boring at the 116-KE-3 waste site has reached a depth of 101.3 feet below ground surface, and well construction continues through July 7, 2015. The HRB for the upper well at UPR-100-K-1 waste site was conducted, and actions necessary due to the review are being performed. Drilling is expected to begin on July 7, 2015.

Attachment 3

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 662	TPA CHANGE NOTICE FORM	Date: May 26, 2015
Document Number, Title, and Revision: <i>Remedial Design Report/Remedial Action Work Plan for the 100 Area, DOE/RL-96-17, Revision 6.</i>		Date Document Last Issued: September 2009
Originator: M. K. Stewart		Phone: 509-373-5818

Description of Change:
Modification of Figure 3-2 and Table 3-1 to update TPA Interim Milestone Due Date Changes per TPA Change Form M-16-15-03.

M.S. French **DOE** and R.A. Lobos **Lead Regulatory Agency** agree that the proposed change modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

Figure 3-2. Tri-Party Agreement Milestones for 100 Area CERCLA Cleanup and Table 3-1. Summary of Relevant Tri-Party Agreement Milestones are modified to match Milestones M-016-00C, M-016-186, and M-016-143 due dates of 9/30/2024, 12/31/2023, and 9/30/2024, respectively, per TPA Change Form M-16-15-03.

Figure 3-2 and Table 3-1 are attached (Pages 3-29, 3-32, 3-33, and 3-34).

Figure 3-2 has been replaced entirely, the outdated figure is included with a strikeout. Modifications to Table 3-1 are denoted by using strikeout to indicate deletions and double underline to indicate text additions.

Justification and Impacts of Change:

This change modifies the work plan to align with the due date per TPA Change Form M-16-15-03.

Approvals:

DOE Project Manager	6/5/15 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
EPA Project Manager N/A	6/8/15 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
Ecology Project Manager	_____ Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved

Figure 3-2. Tri-Party Agreement Milestones for 100 Area CERCLA Cleanup.

M-16 MILESTONES	Fiscal Year 2002	Fiscal Year 2003	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012	Fiscal Year 2013
M-016-10A		▲	Initiate remedial actions in the 100-KR-1 Operable Unit (8/1/03)									
M-016-13B			▲	Complete remediation and backfill of 16 liquid waste sites and process effluent pipelines in the 100-FR-1 and 100-FR-2 Operable Units (10/29/04)								
M-016-26B	▲	Complete remediation and backfill of 51 liquid waste sites and complete revegetation of 36 liquid waste sites (0/3/02)										
M-016-26E			▲	Complete excavation and removal of 100-B/C process effluent pipelines (09/30/04)								
M-016-26F				▲	Complete backfill of 100-B/C process effluent pipelines and excavations (02/28/05)							
M-016-00A											△	Complete all interim response actions for the 100 Areas (12/31/12)
M-016-45							▲	Complete interim remedial action for 100-B/C Area (12/31/07)				
M-016-46					▲	Initiate remedial actions for remaining waste sites for 100-D Area (07/31/06)						
M-016-47										△	Complete interim remedial actions for 100-D Area (12/31/11)	
M-016-48				▲	Initiate remedial actions for remaining waste sites for 100-F Area (7/31/05)							
M-016-49							▲	Complete interim remedial actions for 100-F Area (12/31/08)				
M-016-50							▲	Initiate remedial actions for remaining waste sites for 100-H Area (10/31/08)				
M-016-51										△	Complete interim remedial actions for the 100-H Area (12/31/11)	
M-016-51-T01									△	Complete excavation of 1 of 5 100-H Area Burial Grounds (12/31/09)		
M-016-51-T02										△	Complete excavation of a total of 3 of 5 100-H Area Burial Grounds (12/31/10)	
M-016-52								△	Initiate response actions for remaining waste sites for 100-K Area including closure of 1706-KE waste treatment system (7/31/09)			
M-016-53										△	Complete interim response actions for 100-K Area (12/31/12)	
M-016-56									△	Complete interim remedial actions for 100-IU-2 and 100-IU-6 (2/28/02)		
M-016-57									△	Initiate K-East Basin soil remediation (10/31/09)		
M-016-58								△	Initiate soil remediation at K-West Basin (4/30/09)			
M-016-94									△	Complete interim remedial actions at 100-B/C Area (not covered by M-016-45) (11/30/10)		
M-016-94A								▲	Initiate interim remedial actions at 100-B-28 waste site (3/16/09)			
COMMITMENTS	C-16-06A C-16-06B						●	Submit the B/C Risk Assessment Pilot Study to EPA & Ecology				
							●	Submit an Engineering Evaluation of the final disposition of the river pipelines and outfall structures to EPA & Ecology (07/31/05)				

LEGEND
 △ TPA Milestone
 ▲ Completed TPA Milestone
 ● Completed Commitment

Note: Milestones subject to change per Tri-Party Agreement negotiations.

**Figure 3-2. Tri-Party Agreement Milestones
for 100 Area CERCLA Cleanup.**

100 Area Milestones	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FISCAL YEAR
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025-	
M-016-149	▲	Complete 100-IJ-2/6 interim response actions for the specified waste sites (3/31/2016)									
M-016-161	▲	Complete 100-D and 100-H Area interim response actions for the specified waste sites (3/31/2016)									
M-016-00A		▲	Complete all response actions for the specified 100 Areas units.								
M-016-186									▲	Initiate Soil Remediation Under 105-KW Fuel Storage Basin.	
M-016-143										▲	Complete the interim response actions for 100-K within the perimeter boundary and to the river for Phase 2.
M-016-00C										▲	Complete all response actions in the 100K Area.
M-016-00										▲	Complete remedial actions for all non-tank farm and non-canyon operable units.

Remedial Action Approach and Management

Table 3-1. Summary of Relevant Tri-Party Agreement Milestones. (23 Pages)

Milestone	Description	Due Date/ Complete Date
<i>General 100 Area Milestones</i>		
M-16-00	<p>Complete remedial actions for all non-tank farm and non-canyon operable units.</p> <p>Note: See operable unit LRA designation listing in Appendix C. It is assumed that the Record of Decision will be signed 6 months after the public comment period closes on the proposed plan. Per Action Plan Section 11.6 a day-for-day slip in the RD/RA Work Plan due date will be given for each day the remedy decision is not issued past the 6 month date. The document review, comment and approval process prescribed in the Action Plan of the HFFACO Section 9 will be followed. The schedule for completion of the construction of the remedy will reflect the scope and complexity of the selected remedial action. The schedule for remedial action implementation will be established upon regulatory agency approval of the RD/RA Work Plans and is enforceable as a HFFACO requirement.</p>	September 30, 2024
M-016-00A	<p>Complete all response actions for the 100 Areas units (except groundwater actions which are covered under Major Milestone M-016-00 and 100K Area response actions addressed in M-016-00C) by the specified due date as approved in a Remedial Design/Remedial Action Work Plan.</p> <p>Completion of response actions is defined as the completion of the ROD or action memorandum requirements in accordance with an approved RD/RA work plan or removal action work plan and EPA and/or Ecology approval of waste site reclassification forms.</p>	March 31, 2017
M-16-00C	Complete all response actions in the 100K Area.	December 31, 2020 <u>September 30, 2024</u>
M-016-143	<p>Complete the interim response actions for the 100K Area within the perimeter boundary and to the river for Phase 2 actions.</p> <p>Phase 2 is defined in the 100 K Area RD/RA Work Plans.</p>	December 31, 2015 <u>September 30, 2024</u>
M-016-149	Complete 100-IU-2/6 interim response actions for the following waste sites: 600-293, 600-294, 600-298, 600-299, 600-300, 600-301, 600-303, 600-305, 600-309, 600-310, 600-313, 600-316, 600-318, 600-319, 600-320, 600-321, 600-328, 600-329, 600-331, 600-332, 600-334, 600-326, 600-349, 600-358, 600-368, 600-369, 600-370, 600-371, 600-372, 600-373, 600-374, 600-375, 600-376, 600-377, 600-378, 600-379.	March 31, 2016
M-016-161	<p>Complete 100-D and 100-H Area interim response actions for the following waste sites: 100-D-30, 100-D-31, 100-D-50 (except 100-D-50:2), 100-D-69, 100-D-72, 100-D-77, 100-D-83, 100-D-84, 100-D-85, 100-D-86, 100-D-97, 100-D-98:2, 100-D-99, 100-D-100, 100-D-103, 100-D-104, 100-D-105, 100-D-106, 100-H-28, 100-H-38, 100-H-42, 100-H-44, 100-H-46, 100-H-49, 100-H-51, 100-H-53, 100-H-56, 100-H-59, and 600-385, including revegetation of 100-D and 100-H waste sites.</p> <p>Complete decommissioning of the in-situ redox manipulation pond (147-D), a surface impoundment constructed as part of the 100-HR-4 Operable Unit interim remedial action</p>	March 31, 2016
M-016-186	Initiate Soil Remediation Under 105-KW Fuel Storage Basin	December 31, 2019 <u>December 31, 2023</u>

Remedial Action Approach and Management**Table 3-1. Summary of Relevant Tri-Party Agreement Milestones. (23 Pages)**

Milestone	Description	Due Date/ Complete Date
<i>Completed Milestones</i>		
M-016-10A	Initiate remedial actions in the 100-KR-1 OU.	August 01, 2003 Completed Dec. 11, 2002
M-016-13B	Complete remediation and backfill of 16 liquid waste sites and process effluent pipelines in the 100-FR-1 and 100-FR-2 OUs.	October 29, 2004 Completed May 20, 2003
M-016-26B	Complete remediation and backfill of 51 liquid waste sites in the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, and 100-HR-1 OUs. Complete revegetation of 36 liquid waste sites in the 100-BC-1, 100-DR-1, 100-DR-2, and 100-HR-1 OUs.	March 31, 2002 Completed Dec. 11, 2001
M-016-26E	Complete excavation and removal of 100-B/C process effluent pipelines.	September 30, 2004 Completed Nov. 5, 2003
M-016-26F ^a	Complete backfill of 100-B/C process effluent pipelines and excavations.	February 28, 2005 Completed May 7, 2004
M-016-45	Complete the interim remedial action for the 100-B/C Area.	December 31, 2007 Completed Dec. 30, 2007
M-016-46	Initiate remedial actions for remaining waste sites for the 100-D Area.	July 31, 2006 Completed June 13, 2006
M-016-48	Initiate remedial actions for the remaining waste sites for the 100-F Area.	July 31, 2005 Completed March 29, 2005
M-016-49	Complete the interim remedial actions for the 100-F Area.	December 31, 2008 Completed Dec. 1, 2008
M-016-50	Initiate remedial actions for the remaining waste sites for the 100-H Area.	October 31, 2008 Completed July 22, 2008
M-016-94A	Initiate interim remedial actions at 100-B-28 waste site.	March 16, 2009 Completed Feb. 5, 2009
M-016-94A	Initiate interim remedial actions at 100-B-28 waste site.	March 16, 2009 Completed Feb. 5, 2009
M-016-47	Complete the interim remedial actions for the 100-D Area.	December 31, 2011 Completed December 8, 2011
M-016-51	Complete the interim remedial actions for the 100-H Area.	December 31, 2011 Completed December 8, 2011
M-016-51-T01	Complete excavation of 1 of 5 100-H Burial Grounds (118-H-1, 118-H-2, 118-H-3, 118-H-4, or 118-H-5).	December 31, 2009 Completed September 30, 2009

Remedial Action Approach and Management**Table 3-1. Summary of Relevant Tri-Party Agreement Milestones. (23 Pages)**

Milestone	Description	Due Date/ Complete Date
M-016-51-T02	Complete excavation of a total of 3 of 5 100-H Burial Grounds (118-H-1, 118-H-2, 118-H-3, 118-H-4, or 118-H-5).	December 31, 2010 Completed September 9, 2010
M-016-52	Initiate response actions for the remaining waste sites from the 100-K Area including closure of the 1706-KE Waste Treatment System in accordance with Section 5.5 of the Agreement Action Plan.	July 31, 2009 Completed July 9, 2009
M-016-53	Complete the interim response actions for the 100-K Area.	December 31, 2012 Completed November 29, 2012
M-016-56	Complete the interim remedial actions for the 100-IU-2 and 100-IU-6 OUs.	Feb. 28, 2012 Completed Feb. 6, 2012
M-016-57	Initiate K-East Basin soil remediation.	October 31, 2009 Completed September 9, 2009
M-016-94	Complete the interim remedial actions at 100-B/C (not covered by M-16-45).	Nov. 30, 2010 Completed April 16, 2010
M-016-145	Complete the interim response actions for 100-K Area facilities and waste sites not included as Phase 1, Phase 2, or Phase 3 work. These are the facilities and waste sites which are outside the 100-K perimeter boundary. Phase 1, Phase 2, and Phase 3 facilities and waste sites are defined in the 100-K Area RD/RA work plans.	December 31, 2012 Completed December 31, 2012
M-016-158	Complete interim response actions for the following 100-D and 100-H Area waste sites: 100-D-8, 118-D-2, 118-D-3, 116-H-5, 126-H-2, 128-H-1, 132-H-3 (Backfill and revegetation of 116-H-5 and revegetation of 118-D-2, 118-D-3, and 132-H-3 will be deferred to M-16-161 to support the remaining waste site remediation activities.)	March 31, 2013 Completed January 3, 2013
M-016-159	Complete interim response actions for the following 100-D and 100-H Area waste sites: 100-D-14, 100-D-56, 100-D-62, 100-D-63, 100-D-65, 100-D-66, 100-D-71, 100-D-73, 100-D-75:2, 100-D-76, 100-D-78, 100-D-80, 100-D-81, 100-D-96, 100-D-101, 100-D-102, 116-DR-3, 118-D-6:4, 1607-D1, 1607-D2, 100-H-37, 100-H-43, 100-H-48, 100-H-52, 100-H-57.	March 31, 2015 Completed March 16, 2015
Additional Commitments		
C-16-06A	Submit the 100-B/C risk assessment pilot study to EPA and Ecology.	July 31, 2005 Completed July 13, 2005
C-16-06B	Submit an engineering evaluation of the final disposition of the river pipelines and outfall structures to EPA and Ecology.	July 31, 2005 Completed April 19, 2005

^a Tri-Party Agreement Milestone M-016-26F has an associated commitment to submit the 100-B/C risk assessment pilot study to EPA and Ecology (completed July 13, 2005).

Ecology = Washington State Department of Ecology

EPA = U.S. Environmental Protection Agency

OU = operable unit

Attachment 4

TRI-PARTY AGREEMENT

Change Notice Number
TPA-CN- 663

TPA CHANGE NOTICE FORM

Date:
May 26, 2015

Document Number, Title, and Revision:
*Remedial Design and Remedial Action Work Plan for the K Basins
Interim Remedial Action: 105-K West Basin Deactivation, DOE/RL-
2010-52, Revision 0.*

Date Document Last Issued:
March 2011

Originator: M. K. Stewart

Phone: 509-373-5818

Description of Change:

Modification of Table 3 and Table 4 to update TPA Interim Milestone Due Date Changes per TPA Change Form M-16-15-03.

M.S. French **DOE** and R.A. Lobos **Lead Regulatory Agency** agree that the proposed change modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

Table 3. Summary of Relevant Tri-Party Agreement Milestones and Table 4. Estimated Cost and Schedule on page 39 are modified to match Milestone M-016-178 and M-016-181 due dates of 12/31/2019 and 9/30/2023, respectively, per TPA Change Form M-16-15-03.

Table 3 and Table 4 are attached.

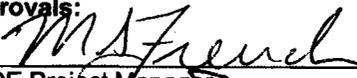
Modifications are denoted by using ~~strikeout~~ to indicate deletions and double underline to indicate text additions.

Note: Include affected page number(s)

Justification and Impacts of Change:

This change modifies the work plan to align with the due date per TPA Change Form M-16-15-03.

Approvals:


DOE Project Manager

6/5/15
Date

Approved Disapproved


EPA Project Manager

6/8/15
Date

Approved Disapproved

N/A

Approved Disapproved

Ecology Project Manager

Date

6 Remedial Action Completion

Completion of the 105-KW Basin deactivation activities identified in this RD/RAWP will be achieved by meeting the end-point criteria specific to this work scope.

6.1 End-Point Criteria

The end-point criteria described in HNF-20632 that are applicable to deactivation of the 105-KW Basin are identified in Section 2.3. The qualified process that describes the plan by which work will be performed to satisfy the end-point criteria is identified in DOE/RL-2010-107, *105-KW Basin Qualified Process and Plan to Satisfy End-Point Criteria (Fuel, Sludge, and Below-Water Debris)*.

6.2 Project Completion Documentation

Project completion documentation will be prepared to document the completion of the scope covered by this work plan. The report will describe achievement of the RAOs identified in Section 2.2 and describe the activities performed to meet the end-point criteria identified in Section 2.3.

7 Milestones, Cost, and Schedule

7.1 Milestones

The M-016-140 Milestone was negotiated in 2008 to promote integration of the K Basins Sludge Treatment Project (STP) with 100-K Area closure activities. Modifications to the TPA milestone schedule relevant to activities described in this RD/RAWP are presented in Table 3.

Table 3. Summary of Relevant Tri-Party Agreement Milestones

Milestone No.	Description	Schedule
M-016-178	Initiate deactivation of 105-KW Fuel Storage Basin.	December 31, 2015 <u>December 31, 2019</u>
M-016-181	Complete deactivation, demolition and removal of 105-KW Fuel Storage Basin.	September 30, 2019 <u>September 30, 2023</u>

7.2 Cost and Schedule

The estimated costs and schedule for deactivation activities described in this RD/RAWP are presented in Table 4.

Table 4. Estimated Cost and Schedule

	FY 1520	FY1621	FY1722	Total FY2023
Deactivation Activities	\$11,650	\$3,840	\$965	\$16,455
	<u>\$10,000,000</u>	<u>\$6,000,000</u>	<u>\$21,000,000</u>	<u>\$37,600,000</u>

Note: dollar amounts are shown in thousands.

Attachment 5

TRI-PARTY AGREEMENT

Change Notice Number
TPA-CN- 664

TPA CHANGE NOTICE FORM

Date:
May 26, 2015

Document Number, Title, and Revision:
Remedial Design/Remedial Action Work Plan for the 100 Area Remaining Sites Interim Remedial Action: 105-K West Basin Demolition and Removal, DOE/RL-2010-53, Revision 0.

Date Document Last Issued:
June 2011

Originator: M. K. Stewart

Phone: 509-373-5818

Description of Change:

Modification of Table 4 and Table 5 to update TPA Interim Milestone Due Date Change per TPA Change Form M-16-15-03.

M.S. French and R.A. Lobos agree that the proposed change
DOE **Lead Regulatory Agency**
modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

Table 4. Summary of Relevant Tri-Party Agreement Milestones and Table 5. Estimated Cost and Schedule on page 29 are modified to match Milestone M-016-181 due date of 9/30/2023 per TPA Change Form M-16-15-03.

Table 4 and Table 5 are attached.

Modifications are denoted by using ~~strikeout~~ to indicate deletions and double underline to indicate text additions.

Justification and Impacts of Change:

This change modifies the work plan to align with the due date per TPA Change Form M-16-15-03.

Approvals:



DOE Project Manager

6/5/15
Date

Approved Disapproved



EPA Project Manager
N/A

6/8/15
Date

Approved Disapproved

Ecology Project Manager

Date

Approved Disapproved

7 Milestones, Cost, and Schedule

7.1 Milestones, Cost, and Schedule

The M-016-140 Milestone was negotiated in 2008 to promote integration of the K Basins Sludge Treatment Project (STP) with 100K Area closure activities. Modifications to the TPA milestone schedule relevant to activities described in this RD/RAWP are presented in Table 4.

Table 4. Summary of Relevant Tri-Party Agreement Milestones

M-016-181	Complete deactivation, demolition, and removal of 105-KW Fuel Storage Basin	9/30/2019 9/30/2023
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7.2 Cost and Schedule

Table 5 summarizes the estimated cost and schedule for demolition of the 105-KW Basin and sludge transfer annex structure.

Table 5. Estimated Cost and Schedule

	<u>FY 16</u> <u>FY 2021</u>	<u>FY 17</u> <u>FY 2022</u>	<u>Total</u> <u>FY 2023</u>
Demolition Activities	\$15,000,000 <u>\$6,000,000</u>	\$11,000,000 <u>\$21,000,000</u>	\$26,000,000 <u>\$37,600,000</u>

8 References

10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title10-vol4/xml/CFR-2010-title10-vol4-part830-subpartA.xml>.

29 CFR 1910.120, "Occupational Safety and Health Standards," "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title29-vol5/xml/CFR-2010-title29-vol5-sec1910-120.xml>.

36 CFR 60, "National Register of Historic Places," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title36-vol1/xml/CFR-2010-title36-vol1-part60.xml>.

36 CFR 65, "National Historic Landmarks Program," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title36-vol1/xml/CFR-2010-title36-vol1-part65.xml>.

36 CFR 800, "Protection of Historic Properties," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title36-vol3/xml/CFR-2010-title36-vol3-part800.xml>.

Attachment 6

TRI-PARTY AGREEMENT

Change Notice Number
TPA-CN- 665

TPA CHANGE NOTICE FORM

Date:
May 26, 2015

Document Number, Title, and Revision:

Remedial Design/Remedial Action Work Plan for the K Basins Interim Remedial Action: Removal of K Basins Sludge from the River Corridor to the Central Plateau; and Removal of Knock Out Pot Contents from the K Basins, DOE/RL-2010-63, Revision 0.

Date Document Last Issued:
March 2011

Originator: M. K. Stewart

Phone: 509-373-5818

Description of Change:

Modification of Table 7 And Table 8 to update TPA Interim Milestone Due Date Changes and add one milestone per TPA Change Form M-16-15-03.

M.S. French and R.A. Lobos agree that the proposed change
DOE **Lead Regulatory Agency**

modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

Table 7. Summary of Relevant Tri-Party Agreement Milestones and Table 8. Estimated Cost and Schedule on page 42 are modified to match Milestone M-016-175 and M-016-176 due dates of 9/30/2018 and 12/31/2019, respectively, per TPA Change Form M-16-15-03. Additionally, Table 7 is modified to add Milestone M-016-177, Complete 105-KW sludge transfer equipment installation by 9/30/2017, per TPA Change Form M-16-15-03.

Table 7 and Table 8 are attached.

Modifications are denoted by using ~~strikeout~~ to indicate deletions and double underline to indicate text additions.

Justification and Impacts of Change:

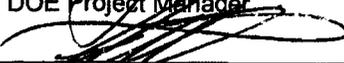
This change notice modifies the Remedial Design/Remedial Action work plan to align with milestones per TPA Change Form M-16-15-03. This change notice used DOE/RL-2010-63 as amended by TPA-CN-570.

Approvals:


DOE Project Manager

6/5/15
Date

Approved Disapproved


EPA Project Manager

6/8/15
Date

Approved Disapproved

N/A

Approved Disapproved

Ecology Project Manager

Date

7 Milestones, Cost, and Schedule

7.1 Milestones

The M-016-140 Milestone was negotiated in 2008 to promote integration of the K Basins Sludge Treatment Project (STP) with 100-K Area closure activities. Modifications to the TPA milestone schedule relevant to activities described in this RD/RAWP are presented in Table 7.

Table 7. Summary of Relevant Tri-Party Agreement Milestones

Milestone No.	Description	Schedule
M-016-170	Complete KOP material pre-treatment	September 30, 2011
M-016-172	Complete KOP material removal from 105-KW Fuel Storage Basin	September 30, 2012
M-016-174	Complete final design of sludge retrieval and transfer system	September 30, 2013
M-016-175	Begin sludge removal from 105-KW Fuel Storage Basin	September 30, 2014 <u>September 30, 2018</u>
M-016-176	Complete sludge removal from 105-KW Fuel Storage Basin	December 31, 2015 <u>December 31, 2019</u>
<u>M-016-177</u>	<u>Complete 105-KW sludge transfer equipment installation</u>	<u>September 30, 2017</u>

7.2 Cost and Schedule

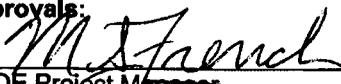
Table 8 summarizes the key schedule elements for the planned work under this RD/RAWP.

Table 8. Estimated Cost and Schedule

Activity	Estimated Cost	Baseline Schedule
KOP Processing and Removal (EPC and Testing)	\$23.7M	October 1, 2008 – October 31, 2011
KOP Pretreatment Material	\$1.6M	April 1, 2011 – May 31, 2011
KOP Product Material (MCO Operations)	\$9.4M	November 1, 2011 – May 31, 2012
ECRTS Processing and Removal (EPC and Testing)	\$72.8M	October 1, 2008 – September 30, 2013
KW Annex Demolition	\$1.0M	February 1, 2011 – July 31, 2011
New Annex Addition	\$18.4M	October 1, 2012 – September 30, 2013 <u>2015</u>
<u>Sludge Transfer Equipment Installation</u>	<u>\$124.5M</u>	<u>October 1, 2014 – September 30, 2017</u>
ECRTS Processing (STSC Operations)	\$41.6M	October 1, 2013 – December 31, 2014
<u>Sludge Removal</u>	<u>\$161.6M</u>	<u>September 30, 2018 – December 31, 2019</u>

Attachment 7

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 666	TPA CHANGE NOTICE FORM	Date: May 26, 2015
Document Number, Title, and Revision: <i>Remedial Design/Remedial Action Work Plan for the K Basins Interim Remedial Action: Treatment and Packaging of K Basins Sludge, DOE/RL-2011-15, Revision 0.</i>		Date Document Last Issued: June 2011
Originator: M. K. Stewart		Phone: 509-373-5818
Description of Change: Modification of Table 4 and Table 5 to update TPA Interim Milestone Due Date Change per TPA Change Form M-16-15-03.		
<p> <u>M.S. French</u> and <u>R.A. Lobos</u> agree that the proposed change DOE Lead Regulatory Agency modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>. Table 4. Summary of Relevant Tri-Party Agreement Milestones on page 33 and Table 5. Estimated Cost and Schedule on page 34 are modified to match Milestone M-016-173 due date of 9/30/2022 per TPA Change Form M-16-15-03. Table 4 and Table 5 are attached. Modifications are denoted by using strikeout to indicate deletions and <u>double underline</u> to indicate text additions. </p>		
Justification and Impacts of Change: This change modifies the work plan to align with the due dates per TPA Change Form M-16-15-03.		
Approvals:		
 DOE Project Manager	<u>6/5/15</u> Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
 EPA Project Manager	<u>6/8/15</u> Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
N/A Ecology Project Manager	Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved

Services Quality Assurance Requirements Documents (HASQARD) (DOE/RL-96-68). Applicable SAPs also include the quality requirements applicable to work performed using a graded approach.

6 Remedial Action Completion

Completion of the sludge management activities identified in this RD/RAWP will be achieved by meeting the end-point criteria specific to this work scope.

6.1 End-Point Criteria

End-point criteria for the sludge treatment are identified in HNF-20632, *End Point Criteria for the K Basins Interim Remedial Action*.

6.2 Project Closure Documentation

Project closure documentation will be prepared to document completion of the scope covered by this work plan. The report will describe the activities performed to meet the end-point criteria and describe achievement of the RAOs identified in Section 2.2.

7 Milestone, Cost, and Schedule

7.1 Milestones

The M-016-140 Milestone was negotiated in 2008 to promote integration of the K Basins Sludge Treatment Project (STP) with 100-K Area closure activities. Modifications to the TPA milestone schedule relevant to activities described in this RD/RAWP are presented in Table 4.

Table 4. Summary of Relevant Tri-Party Agreement Milestones

M-016-171	Complete K Basin sludge treatment and packaging technology evaluation report and submit a schedule including proposed new interim milestones for bench scale or identified testing in order to meet M-016-173	March 31, 2012
M-016-173	Select K Basin sludge treatment and packaging technology and propose new interim sludge treatment and packaging milestones	March 31, 2015 September 30, 2022

7.2 Cost and Schedule

Table 5 summarizes the key cost and schedule elements for the planned work included in this RD/RAWP.

Table 5. Estimated Cost and Schedule

Activity	Cost	Schedule Date
Complete Conceptual Design	\$60M	October 2012— March 2015
Complete Preliminary Design*	\$110M	TBD September 30, 2022
Complete Final Design*	\$60M	TBD
Construction and Readiness Reviews*	\$290M	TBD
Complete Treatment and Packaging of First Container of Sludge*	\$10M	TBD
Complete Treatment and Packaging of Last Container of Sludge*	\$195M	TBD

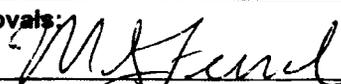
*Note: costs are rough order-of-magnitude estimates based on pre-conceptual design and will be updated in accordance with TPA Milestone M-016-173.

8 References

- 10 CFR 20, "Standards for Protection Against Radiation," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title10-vol1/xml/CFR-2010-title10-vol1-part20.xml>.
- 10 CFR 61, "Licensing Requirements for Land Disposal of Radioactive Waste," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title10-vol2/xml/CFR-2010-title10-vol2-part61.xml>.
- 61.40, "General Requirement."
- 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title10-vol4/xml/CFR-2010-title10-vol4-part830-subpartA.xml>.
- 10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title10-vol4/xml/CFR-2010-title10-vol4-part835.xml>.
- 29 CFR 1910.120, "Occupational Safety and Health Standards," "Hazardous Waste Operations and Emergency Response," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title29-vol5/xml/CFR-2010-title29-vol5-sec1910-120.xml>.
- 36 CFR 60, "National Register of Historic Places," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title36-vol1/xml/CFR-2010-title36-vol1-part60.xml>.
- 36 CFR 65, "National Historic Landmarks Program," *Code of Federal Regulations*. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title36-vol1/xml/CFR-2010-title36-vol1-part65.xml>.

Attachment 8

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 667	TPA CHANGE NOTICE FORM	Date: May 26, 2015
Document Number, Title, and Revision: <i>Removal Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities, DOE/RL-2005-26, Revision 1.</i>		Date Document Last Issued: February 2007
Originator: M. K. Stewart		Phone: 509-373-5818
Description of Change: Modification of Table 1-3 and Table B-1 to update TPA Interim Milestone Due Date Changes per TPA Change Form M-93-15-01 and M-16-15-03.		
<p> <u>M.S. French</u> and <u>R.A. Lobos</u> agree that the proposed change DOE Lead Regulatory Agency modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>. </p> <p> Table 1-3. Tri-Party Agreement Milestones for the 100-K Area ISS and D4 Removal Action and Table B-1. Tri-Party Agreement Milestones for the 100-KE and 100-KW Reactor Facilities and Ancillary Facilities are modified to match Milestones M-093-27 and M-093-28 due dates of 9/30/2024 and 12/31/2019, respectively, per TPA Change Form M-93-15-01. Additionally, both tables are being changed to match Milestone M-016-00C due date of 9/30/2024 per TPA Change Form M-16-15-03. </p> <p> Tables 1-3 and B-1 (Pages 1-12, 1-13 and B-1) are attached. </p> <p> Modifications are denoted by using strikeout to indicate deletions and <u>double underline</u> to indicate text additions. </p>		
Justification and Impacts of Change: This change modifies the work plan to align with the due dates per TPA Change Form M-93-15-01 and M-16-15-03.		
Approvals:		
 _____ DOE Project Manager	<u>6/5/15</u> _____ Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
 _____ EPA Project Manager	<u>6/8/15</u> _____ Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
_____ Ecology Project Manager	_____ Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved

Complete D4 of the portions of the 105-KE and 105-KW facilities located outside the ISS enclosure

Complete D4 of the remaining 100-K Area ancillary facilities addressed by the 105-KE and 105-KW reactor facilities and ancillary facilities EE/CA (DOE-RL 2005b) and the related action memorandum (EPA 2007)

Decommission groundwater wells encountered during D4 and ISS of the facilities, if required to facilitate D&D/D4 and ISS

Remediate contaminated soils within the footprint of the facilities or defer to a later remedial action (with approval from EPA)

Ensure impacted waste sites (e.g., french drains) within the footprint of the facilities are adequately defined and/or updated within the *Waste Information Data System* (WIDS)

Manage and dispose of all waste generated during these actions.

This RAWP was developed in response to the requirement in the 105-KE and 105-KW action memorandum to submit a work plan to EPA for approval prior to initiation of activities (EPA 2007). This RAWP was prepared in accordance with Section 7.2.4 of the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1989).

This RAWP implements the removal action activities including development of specific project tasks that are described in work packages and subcontract task orders. Using the most recent information concerning facility conditions, field-level work packages will be developed to direct work activities and instruct workers in the most applicable work methods. Existing contractor procedures and specifically developed instructions will be used to perform and control the facility removal and disposal actions.

Table 1-3 presents the Tri-Party Agreement milestones associated with the 100-K Area.

**Table 1-3. Tri-Party Agreement Milestones for the 100-K Area
ISS and D4 Removal Action. (2 Pages)**

Milestone	Description	Due Date
M-016-00	Complete remedial action for all non-tank farm operable units	9/30/2024
M-016-00C	Complete all response actions for the 100-K Area.	12/31/2020 9/30/2024
M-016-52	Initiate response actions for the remaining waste sites for the 100-K Area including closure of the 1706-KE waste treatment system in accordance with Section 5.5 of the Agreement Action Plan	7/31/2009
M-016-53	Complete the interim response actions for the 100-K Area	12/31/2012

**Table 13. Tri-Party Agreement Milestones for the 100-K Area
ISS and D4 Removal Action. (2 Pages)**

Milestone	Description	Due Date
M-093-00	Complete final disposition of 100 Area surplus production reactor buildings	To be determined
M-093-27	Complete 105-KW Reactor Interim Safe Storage	12/31/2019 <u>9/30/2024</u>
M-093-28	Submit a change package for proposed interim milestones for 105-KE and 105-KW Interim Safe Storage	12/31/2015 <u>12/31/2019</u>

D4 = deactivation, decontamination, decommissioning, and demolition
 ISS = interim safe storage
 KE = K East
 KW = K West

1.2 OBJECTIVES

The primary goal of CERCLA removal actions is to minimize or eliminate threats to public health or the environment caused by the presence of hazardous substances. The EE/CAs for the 100-K Area facilities (DOE-RL 2004, 2005b) each presented three alternatives for future facility management and the resulting levels of protection of public health and the environment that may be anticipated.

The recommended alternative for the 27 ancillary facilities was deactivation followed by demolition. The recommended alternative for the reactor and remaining ancillary facilities was ISS of the reactors followed by long-term S&M and D4 of the ancillary facilities and portions of the 105-KE and 105-KW Reactor Facilities. This alternative includes deactivation where needed, demolition of the buildings, removal of contaminated waste/demolition debris, and disposal of the material at the Environmental Restoration Disposal Facility (ERDF) or another approved facility and is consistent with the remedial action to be taken per 40 *Code of Federal Regulations* (CFR) Part 300.415(b)(5)(ii). This alternative also requires maintaining the Hanford Site institutional controls during the long-term S&M of the SSE.

These alternatives were chosen based on their overall ability to protect human health and the environment and their effectiveness in maintaining that protection in both the short term and the long term. The alternatives remove the threat of release of radiological and nonradiological hazardous substances to the environment resulting from facility deterioration or animal intrusion, and reduces potential exposure to personnel caused by continued S&M of aging facilities. In addition, these alternatives contribute to the efficient performance of long-term remedial actions for the 100-KR-1 and 100-KH-2 OUs. Removal actions will either attain the cleanup standards set forth in the existing 100-KR-1 and 100-KR-2 RODs and documented as directed in the RODs, or additional cleanup work beyond the removal action will be performed under the RODs. The deferral of work from the removal action to a remedial action is outlined in Section 2.1.4.1.

These alternatives protect human health and the environment, protect workers, meet the removal action objectives, achieve cost effectiveness, and provide an end state that is consistent with

The 100-K Area Interim Safe Storage, long-term surveillance and maintenance, and deactivation and demolition/deactivation, decontamination, decommissioning, and demolition (D4) removal action is scheduled to begin in 2007, or when the facilities are released for D4 by the other projects, with completion of the removal action by December 31, 2012, as governed by the associated Tri-Party Agreement (Ecology et al. 1989) milestones shown in Table B-1.

Table B-1. Tri-Party Agreement Milestones for the 100-KE and 100-KW Reactor Facilities and Ancillary Facilities.

Milestone	Description	Due Date
M-016-00	Complete remedial actions for all non-tank farm operable units	9/30/2024
M-016-00C	Complete all response actions for the 100 Areas	12/31/2020 9/30/2024
M-016-52	Initiate response actions for the remaining waste sites for the 100K Area including closure of the 1706-KE waste treatment system in accordance with Section 5.5 of the Agreement Action Plan	7/31/2009
M-016-53	Complete the interim response actions for the 100-K Area	12/31/2012
M-093-00	Complete final disposition of all 100 Area surplus production reactor buildings	To be determined
M-093-27	Complete 105-KW Reactor Interim Safe Storage	12/31/2019 9/30/2024
M-093-28	Submit a change package for proposed interim milestones for 105-KE and 105-KW Interim Safe Storage	12/31/2015 12/31/2019

ISS = interim safe storage
KE = K East
KW = K West

The fiscal year schedules, which encompass the work scope of the 100-K Area Interim Safe Storage facilities' removal action, including assumptions, resources, and activity breakdown, will be developed with the detailed work plans for each fiscal year based on available funding.

This removal action will be scheduled and estimated using the contractor's hierarchy of schedules, which include activity logic and restraints. Activities will be resource loaded for both nonmanual and manual personnel. Equipment needs will be identified, and other materials estimated and included in the budgeted cost of work scheduled.

References

Ecology, EPA, and DOE, 1989, *Hanford Federal Facility Agreement and Consent Order*, 2 vols., as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.

Attachment 9

July 9, 2015 Unit Manager's Meeting
Closure Operations Status

100-B/C

- Completed backfill for 100-B-35:1

100-D

- Exhausted material in Pit 21 for backfill of 100-D waste sites. Minor quantities of borrow is still required from the 100-H pit to complete 100-D-31:11 and 12 and 100-D-86:3.
- Preparing work orders and scheduling for replacement wells.

100-H

- Collected closure samples at 100-H-59:2
- Preparing for restart of backfill operations.
- Finalizing closure documentation for several sites.
- Preparing work orders and scheduling for replacement wells.

100-N

- Finalizing closure documentation for 100-N-96
- Backfill of 100-N-96 will occur as fire danger levels allow.

618-10 Trench Remediation

- Continued load-out of previously processed concrete drum batches
- Continued preparations for re-start of concrete drum processing
- Continued preparations for remediation of VPU-like anomalies
- Continued Non-destructive examination of concrete drums

618-10 VPU Remediation

- Continued preparations and mock-ups for VPU augering
- VPU characterization SAP comments from EPA being incorporated; preparing final SAP for approval

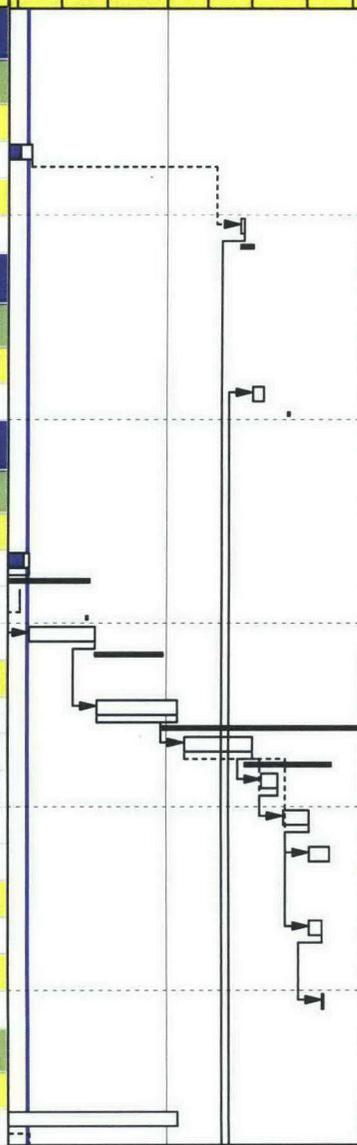
100-IU-2/6

- Finalizing closure documentation for 600-358 and 600-20
- Prepare for startup of 600-326 as fire danger level and crew availability allows.

Attachment 10

100 Area UMM Schedule

Activity ID	Activity Name	Start	Finish	FY2015			FY2016		
				J	A	S	O	N	D
100 B/C									
100-B-35:1									
Backfill									
BB524C10	100-B-35 Backfill (30,000 BCM)	23-Jun-15 A	08-Jul-15						
Revegetation									
BB524E10	100-B-35 Reveg (11.5 Acres)	16-Nov-15*	18-Nov-15						
100 D									
100-D-100									
Revegetation									
100D100A280	Reveg 100-D-100 (10 acres)	24-Nov-15	30-Nov-15						
100 H									
100-H-59:2									
WI and Closeout Sampling									
H592031	Prepare Verification Work Instruction 100-H-59:2	05-May-15 A	06-Jul-15						
H592051	RL/Reg Sign Work Instruction 100-H-59:2	01-Jul-15 A	01-Jul-15 A						
H592061	Closure Sampling 100-H-59:2	07-Jul-15	17-Aug-15						
Final Project Closeout									
H592071	Prepare Closure Doc 100-H-59:2	18-Aug-15	08-Oct-15						
H592081	RL/Reg Review Draft A Closure Doc 100-H-59:2	12-Oct-15	24-Nov-15						
H592083	Resolve RL/Reg Comments Draft A Clos Doc 100-H-59:2	30-Nov-15	10-Dec-15						
H592091	RL/Reg Sign Rev 0 Closure Doc 100-H-59:2	14-Dec-15	29-Dec-15						
H592111	Prepare and Issue Rev 0 Closure Doc 100-H-59:2	30-Dec-15	11-Jan-16						
Backfill									
H592021	Recontour 100-H-59:2 (1,300 BCMs)	30-Dec-15	06-Jan-16						
Revegetation									
H592101	Revegetate 100-H-59:2 (2 acres)	07-Jan-16	07-Jan-16						
100-H-28:2									
Final Project Closeout									
HB511D64	Prepare Draft A Closure Doc for 100-H-28:2	21-May-15 A	07-Oct-15						



Current Bar Labels
 % Complete
 Project Baseline
 Milestone

Closure Operations

100 Area UMM Schedule

Activity ID	Activity Name	Start	Finish	FY2015			FY2016			
				J	A	S	O	N	D	J
HB511D65	RL/Reg Review Draft A Closure Doc for 100-H-28:2	22-Jul-15	03-Sep-15							
HB511D67	RL/Reg Sign Rev. 0 Closure Doc for 100-H-28:2	15-Sep-15	28-Sep-15							
Backfill										
HB511C05	Backfill 100-H-28:2 (127,157 BCMs)	31-Aug-15	06-Oct-15							
Revegetation										
HB511E07	Reveg 100-H-28:2 (12.1 Acres)	02-Feb-16	04-Feb-16							
100-H-28:3										
Final Project Closeout										
HB512D19	RL/Reg Review Draft A Closure Doc for 100-H-28:3	16-Jun-15 A	30-Jul-15							
HB512D21	RL/Reg Sign Rev. 0 Closure Doc for 100-H-28:3	10-Aug-15	20-Aug-15							
Backfill										
HB512C	Backfill 100-H-28:3 (45,546 BCMs)	21-Jul-15	04-Aug-15							
Revegetation										
HB512E	Reveg 100-H-28:3 (10.0 acres)	27-Jan-16	27-Jan-16							
100-H-28:4										
Backfill										
HB513C50	Backfill 100-H-28:4 (6,000 BCMs)	13-Jul-15	13-Jul-15							
Revegetation										
HB513E50	Reveg 100-H-28:4 (2.8 Acres)	28-Jan-16	28-Jan-16							
100-H-28:5										
Final Project Closeout										
HB514D19	RL/Reg Review Draft A Closure Doc for 100-H-28:5	16-Jun-15 A	30-Jul-15							
HB514D21	RL/Reg Sign Rev. 0 Closure Doc for 100-H-28:5	10-Aug-15	20-Aug-15							
Backfill										
HB514C	Backfill 100-H-28:5 (33,041 BCMs)	10-Aug-15	19-Aug-15							
Revegetation										
HB514E	Reveg 100-H-28:5 (4.0 acre)	28-Jan-16	01-Feb-16							
IU-2/6										
600-349										
Final Project Closeout										

Current Bar Labels
 % Complete
 Project Baseline
 Milestone

Closure Operations

100 Area UMM Schedule

Activity ID	Activity Name	Start	Finish	FY2015			FY2016				
				J	A	S	O	N	D	J	
IU226610	Prepare 600-349 UXO Closure Doc **ON HOLD	16-Feb-15 A	01-Sep-15								
600-358											
Final Project Closeout											
IU225940	Prepare Closure Doc 600-358	14-May-15 A	16-Sep-15								
IU225950	RL/Reg Review of Draft A Closure Doc 600-358	03-Aug-15	13-Aug-15								
IU225960	RL/Reg Sign Rev.0 Closure Doc 600-358	24-Aug-15	03-Sep-15								
Backfill											
IU225990	Backfill 600-358 (1,818 BCMs)	08-Oct-15	08-Oct-15								
Revegetation											
IU226000	Reveg 600-358 (2 acres)	10-Feb-16	10-Feb-16								
100 N											
100-N-85											
Final Project Closeout											
NB588DW	Prepare WSRF - 100-N-85	26-Mar-15 A	15-Oct-15								
100-N-96											
Final Project Closeout											
NB5C3D05	Prepare Closure Doc - 100-N-96	14-May-15 A	26-Oct-15								
NB5C3D06	RL/Reg Review Draft A Closure Doc for 100-N-96	05-Aug-15	22-Sep-15								
NB5C3D07	RL/Reg Sign Rev. 0 Closure Doc for 100-N-96	30-Sep-15	13-Oct-15								
Backfill											
NB5C3C	Backfill 100-N-96 (2,545 BCMs)	09-Sep-15	09-Sep-15								
Revegetation											
NB5C3E	Reveg - 100-N-96 (8.0 Acres)	19-Nov-15	23-Nov-15								

Current Bar Labels
 % Complete
 Project Baseline
 Milestone

Closure Operations

Attachment 11

^WCH Document Control

From: Saueressig, Daniel G
Sent: Tuesday, June 30, 2015 3:43 PM
To: ^WCH Document Control
Subject: FW: NON-CONTIGUOUS ONSITE APPROVAL REQUEST

Please provide a chron number. This email documents a regulatory approval.

Thanks,

Dan Saueressig
Environmental Project Lead
Washington Closure Hanford
521-5326

From: Guzzetti, Christopher [<mailto:Guzzetti.Christopher@epa.gov>]
Sent: Tuesday, June 30, 2015 11:53 AM
To: Boyd, Alicia; Saueressig, Daniel G
Subject: RE: NON-CONTIGUOUS ONSITE APPROVAL REQUEST

I concur.

Christopher J. Guzzetti
Project Manager
Hanford Project Office
U.S. Environmental Protection Agency
825 Jadwin Avenue, Suite 210
Richland, WA 99352

Phone: (509) 376-9529
Fax: (509) 376-2396
Email: guzzetti.christopher@epa.gov

From: Boyd, Alicia (ECY) [<mailto:aboy461@ecy.wa.gov>]
Sent: Tuesday, June 30, 2015 7:45 AM
To: Saueressig, Daniel G; Guzzetti, Christopher
Subject: RE: NON-CONTIGUOUS ONSITE APPROVAL REQUEST

Sounds good to me.
Alicia

From: Saueressig, Daniel G [<mailto:daniel.saueressig@wch-rcc.com>]
Sent: Tuesday, June 30, 2015 7:00 AM
To: Guzzetti, Christopher
Cc: Boyd, Alicia (ECY)
Subject: NON-CONTIGUOUS ONSITE APPROVAL REQUEST

Chris, we'll performing some closure sampling at 100-H-59:2 next week and we don't have a waste storage area set up at 100-H anymore. I'd like to request a non-contiguous onsite approval to place the sampling waste (PPE, plastic scoops, etc.) into an ERDF can we have staged at 100-D.

Let me know if you concur.

Thanks,

Dan Saueressig
Environmental Project Lead
Washington Closure Hanford
521-5326

Attachment 12

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 671	TPA CHANGE NOTICE FORM	Date: 6/9/2015
Document Number, Title, and Revision: DOE/RL-2000-57, Rev. 2 Removal Action Work Plan for 105-D and 105-H Building Interim Safe Storage Projects and Ancillary Buildings		Date Document Last Issued: 9/25/02
Originator: Jon McKibben		Phone: 373-9453

Description of Change:

Modify Section B.1.1 of Appendix B (Air Monitoring Plan) in DOE/RL-2000-57, Rev. 2 to include the evaluation of 1713-H for demolition as new Section B.1.1.5.

See modified language in section below.

M.W. Cline and S.N. Schleif agree that the proposed change
DOE **Lead Regulatory Agency**
 modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.
 Section B.1.1.5 is being added to Appendix B on Page B.4. Added text is denoted by double underline:

B.1.1.5 1713-H

1713-H is not listed as a radiological facility, however the building is located in an area of known potential to have biological vector contamination. Areas of interest to be surveyed were determined by Radiological engineering. All areas found to have biological contamination will be decontaminated / disposed of under an approved radiological work permit (RWP) prior to demolition of 1713-H. During the different phases of demolition; Radiological Control Technicians (RCT's) will be present looking for additional biological contamination. If any additional contamination is found, the areas will be decontaminated / disposed under a RWP. In addition, 1713-H was evaluated to determine if any non-biological vector particulate radioactive contamination or toxic chemicals (precursors for air pollutants) were present. That evaluation concluded that these materials were not present and that the demolition process would not release any radioactive or toxic air pollutants to the air or environment.

Note: Include affected page number(s)

Justification and Impacts of Change:

1713-H will be treated as clean and will have no potential to emit (PTE).

Approvals:

<u>M. W. Cline</u> DOE Project Manager N/A	<u>7/7/15</u> Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<u>Stephanie Schleif</u> EPA Project Manager Ecology Project Manager	<u>7/7/15</u> Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved

Attachment 13

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 669	TPA CHANGE NOTICE FORM	Date: June 25, 2015
Document Number, Title, and Revision: DOE/RL-2002-11, Rev 2, 300-FF-5 Operable Unit Sampling and Analysis Plan		Date Document Last Issued: January 2009
Originator: Roberta Day		Phone: 376-1302
Description of Change: DOE/RL-2002-11, Rev. 2, is revised to discontinue monitoring at wells 699-S6-E4L and 699-S6-E4A, which will be decommissioned to support waste site remediation.		
Michael Cline _____ and Ben Simes _____ agree that the proposed change <div style="text-align: center;"> DOE Lead Regulatory Agency </div> modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i> , and not Chapter 12.0, <i>Changes to the Agreement</i> . Table 2-3, page 2-14 of DOE/RL-2002-11, <i>300-FF-5 Operable Unit Sampling and Analysis Plan</i> , Rev. 2, is revised to: <ul style="list-style-type: none"> • delete groundwater wells 699-S6-E4L and 699-S6-E4A, which will be decommissioned to support waste site remediation at the 618-10 Burial Ground/316-4 Crib 		
The revision to Table 2-3 of DOE/RL-2002-11, Rev. 2, is attached. Deleted text is identified by strike through . Added text is identified by <u>double underline</u> .		
Justification and Impacts of Change: Groundwater wells 699-S6-E4L and 699-S6-E4A will be decommissioned to support waste site remediation at the 618-10 Burial Ground/316-4 Crib. The requirement to monitor groundwater at these wells is deleted from Table 2-3, page 2-14, of DOE/RL-2002-11, <i>300-FF-5 Operable Unit Sampling and Analysis Plan</i> , Rev. 2. The text incorporates the changes that were included in TPA-CN-611.		
Approvals:		
 DOE Project Manager	BV.	6/25/2015 Date <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
 EPA Project Manager	N/A	6/26/2015 Date <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
Ecology Project Manager	_____ Date	_____ Date <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved

Table 2-3 Sampling Locations, Constituents, and Frequency for the 618-10 Subregion, FY2008 Update

Monitoring Site Name	Hydrologic Unit Monitored	COPC					Supporting Measurements					
		Uranium-total	Tributyl Phosphate	Gross Alpha	Gross Beta	Nitrate	Alkalinity	Metals (ICP)-unfiltered	Volatile Organic Compounds	Tritium	Technetium-99	Uranium-isotopic
Downgradient of 618-10 Burial Ground (Near-Field)												
699-S6-E4L	TU	Q	SA	Q	Q	Q	SA	SA	SA	SA	SA	A
699-S6-E4K	TU	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A
Downgradient of 618-10 Burial Ground; Within 316-4 Crib Footprint (Near-Field)												
699-S6-E4A	TU	Q	SA	Q	Q	Q	SA	SA	SA	SA	SA	A
Background: 618-10 Burial Ground/316-4 Crib												
699-S6-E4D	TU	A		A	A	A	A	A		A	A	
Downgradient of 618-10 Burial Ground/316-4 Crib												
699-S6-E4B	TU	SA		SA	SA	SA	SA	SA		SA		
699-S6-E4E	TU	SA		SA	SA	SA	SA	SA		SA		

Abbreviations: Q = quarterly; SA = semi-annually; and A = annually. IC = ion chromatography; ICP = inductively coupled plasma analysis for metals.

Hydrologic Units: TU = top of unconfined aquifer.

Group Methods: Anions (IC) = To include: chloride, fluoride, nitrate, nitrite, and sulfate. Metals (ICP) = To include: barium, beryllium, cadmium, chromium, copper, iron, manganese, silver, and zinc. Volatile Organic Compounds include cis-1,2,-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride.

Note: Field parameters pH, temperature, specific conductance, turbidity, dissolved oxygen, oxidation-reduction potential (redox), and depth-to-water are measured at the sampling site during each sampling event. All analysis are performed on unfiltered samples.

Attachment 14

300 Area Closure Project Status
July 9, 2015

Backfill

- Backfill underway on RLWS, RRLWS, 300-214, 300-15, 309, and 316-3 excavations.
- 300-280 backfill and street paving complete.

324 Building

- 90% Design nearing completion, 100% scheduled for end of July.
- Proof of Principle testing completed.
- Construction of the REC mock-up completed.
- Continue facility min-safe operations.
- Continue S&M through FY 16.

300-277

- Remediation complete, GPERS and post-excavation surveys underway.
- Work Instruction pending.

300-288:2

- Mobilizing to begin remediation of Phase I, scheduled to begin late June early July.
- Installation of supporting infrastructure nearing completion (e.g., new CTA, scale, tarping station, etc.)
- Test pitting of Phase II, additional 8+ acres to the west completed. Sample analysis pending.

Final Revegetation

- Late summer/early fall industrial sites seeding on schedule.
- Starts for UPR-600-22 winter of 15/16.

Site Completion

- Demobilization and fence repair started.

600-393 Waste Site

- Will require an ESD to add this site to the 300 Area Final ROD.

WSRFs/CVPs

- Over a dozen 300 Area remaining sites being processed in support of M-16-69.

Attachment 15

100-OL-1 Orchard Lands Remedial Investigation update:

- SAP approved by TPA Managers on June 29, 2015
- As of Monday, 6 of 133 decision units were characterized with XRF. Training of field teams to be completed by July 10, then pace of characterization activities will increase.
 - Results are similar to the Pilot Study. Regions where there appears to be cut-down orchards in the 1943 imagery have the highest concentration.
 - Review of information about the history of the decision units (including written and oral histories) is supporting results where concentrations in the surface soils are low. For example, an oral history from a family that owned the land parcels that make up DU-45 reported that “mainly alfalfa and potatoes were raised” on the farm. Characterization results indicate low levels of lead and arsenic.
- Comments from EPA and Ecology on the exclusion of WIDS sites in the decision units are being addressed. WCH provided GIS information of excavation locations, layback areas, and borrow sites – regions where the soil disturbances were greater than 3 ft. There are 46 of the 133 decision units that have excavation areas and borrow sites, and these decision units are being re-evaluated. The CVP and RSVP documents of these waste sites are providing better information to use in defining areas to be excluded from the decision unit. Areas that were closed out using the “Orchard Lands Exemption” (Tri-Party Agreement Change Notice TPA-CN-401) will be included in the XRF characterization. The results of the analysis may increase the number of samples within a decision unit and locations may change. The most significantly affected region for re-evaluation are the decision units around H Reactor. Re-evaluation will be completed around July 24. XRF characterization of these decision units will proceed after they are re-evaluated.
- Comments from Ecology on the Work Plan are expected as soon as next week. Resolution of comments and finalization of the Work Plan to follow.