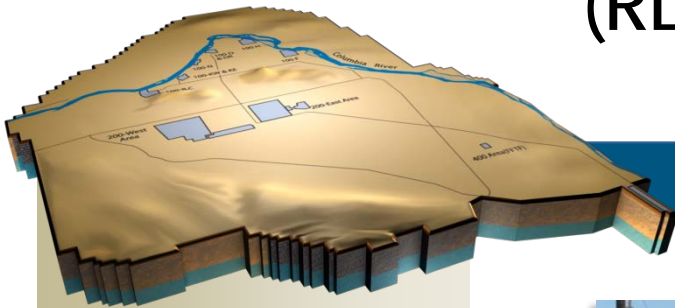


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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A drilling crew installs a monitoring well in the 100-BC-5 area, where CHPRC will install a total of six wells with Recovery Act funding to support characterization and removal of chromium contamination in the groundwater.

PROJECT SUMMARY

American Recovery and Reinvestment Act (ARRA)

Recovery Act dollars are at work across the Central Plateau and along the Columbia River constructing two groundwater treatment facilities and drilling wells that will be used for monitoring, extracting, and remediating groundwater. Progress through the end of the fiscal month September is summarized in the table below.

Activity	September		Cumulative	
	Planned	Completed	Planned	Completed
Well Drilling (# of wells) -352	15	18	286	278
Well Decommissioning (# of wells) -350	23	2	175	176
200 West P&T – Final Design (%)	20	16	100	99
200 West P&T – Construction (%)	16	7	38	29.8
200 West P&T – Testing/Startup (%)	3	1	14	16
100 DX P&T – Construction/Startup (%)	4	0 ⁽¹⁾	98	98 ⁽¹⁾

⁽¹⁾The performance report that includes CTD shows that the DX construction calculation is 100% complete. The CTD BCWP includes \$3.5M worth of work performed well ahead of schedule in Fiscal Year 2009.

Base

Base work includes the pump-and-treat operations, CERCLA remedial processes, and documentation for the River Corridor and Central Plateau. Phase 2 realignment construction actions and acceptance testing of affected components at the KR4 system were completed. Phase 2 realignment construction actions were completed at the KX system and acceptance testing is 98% complete. The second of three rounds of aquifer tube sampling was completed at the 100-HR-3 Operable Unit. Sampling and groundwater treatment completed in September includes the following:

- 168 well locations were sampled with a total of 952 samples being collected
- 167 aquifer tube samples were collected from 51 tubes at 27 sites
- 17.86M gallons groundwater treated by ZP-1 treatment facility
- 18.65M gallons groundwater treated by KX treatment facility
- 8.61M gallons groundwater treated by KW treatment facility
- 8.78M gallons groundwater treated by KR-4 treatment facility
- 7.19M gallons groundwater treated by HR-3 treatment facility
- 1.28M gallons groundwater treated by DR-5 treatment facility

EMS Objectives and Target Status

Objective#	Objective	Target	Due Date	Status
09-EMS-SGWR-OB1-T3	Take actions necessary to protect the Columbia River by 2012	Expand the HR-3 treatment system(s) to achieve a functional operational capacity of 500 gpm	12/31/10	On schedule
		Start construction for DX P&T facility	7/2/09	Complete (7/2/09)
		Construct DX P&T and transfer building	7/15/10	Complete (7/15/10)
		Construct 30 new wells for the P&T system	6/30/10	Complete (6/29/10)
		Finish construction of DX P&T system	10/31/10	On schedule
		Finish ATP for DX P&T system	12/30/10	On schedule
		The HR-3 Treatment systems are functional at 500 gpm	12/31/10	On schedule
09-EMS-SGWR-OB3-T2	Reduce the number of groundwater sampling events conducted annually	Reduce the number of sampling events by 2% in calendar year 2009	12/31/09	Complete
		Evaluate FY-end sample schedule relative to baseline planned sample schedule of 2,460 sample trips	10/31/09	Complete (5/30/09)
		Reduce the baseline planned sample schedule by at least 49 sample trips	12/31/09	Complete (10/12/09)
09-EMS-SGWR-OB3-T3	Reduce the number of groundwater sampling events conducted annually	Reduce the number of sampling events by 10% in calendar year 2010	12/31/10	On schedule
		Evaluate FY-end sample schedule relative to baseline planned sample schedule of 2,768 sample trips	10/31/10	On schedule
		Reduce the baseline planned sample schedule by at least 277 sample trips	12/31/10	On schedule
10-EMS-SGWR-OB1-T1	Take actions necessary to protect the Columbia River by 2012	Treat 430,000,000 gallons of 100 Area (D, H & K Area) groundwater	9/30/10	Complete
		Review and tally total number of gallons treated	Monthly	491.8M gal treated as of 9/30/2010
10-EMS-SGWR-OB2-T1	Construct a new GW treatment facility that satisfies the P&T component of the 200-ZP-1 OU ROD selected remedy	Construct new 200 West Area P&T facility to remediate GW which was impacted from past production operations	12/31/11	On schedule
		Start construction of road crossings	11/30/09	Complete (11/2/09)
		Start early civil construction	3/30/10	Complete
		Start construction of GW extraction buildings	3/30/10	Complete
		Complete treatment facility construction	12/31/11	On schedule
10-EMS-SGWR-OB3-T1	Initiate & sustain remediation of waste sites at 100-K by 11-30-09	Initiate & sustain progress toward waste site remediation	Quarterly	On Schedule
		Complete Group 1 waste site remediation		
10-EMS-SGWR-OB4-T1	Track and quantify waste avoidance activities	Track/quantify drill cuttings RTed	Quarterly	On Schedule
		ERDF cans used in lieu of drums		
		Purgewater avoidance		

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	2	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	10	79	<p>9/7/10 – Employee scratched or punctured the skin near elbow. Employee was not aware of the injury until later in the evening and notified supervisor the next morning. (21297) – EPC</p> <p>9/7/10 – Employee, after smelling something moldy from the Modutank site, experienced a nose bleed. Employee drove to first aid station in 200W for treatment. (21287) – SGRP</p> <p>9/7/10 – Employee’s heel caught as they went to step from the landing to the first stair tread. Using the hand rails to catch themselves, employee skinned hands on the very rough grip strips on the rails. Employee also experienced skinned shins and a slightly twisted left shoulder. (21288) – SGRP</p> <p>9/10/10 – Employee slipped on plywood and landed on right hand. Employee’s hand was feeling numb so they notified the appropriate persons and was treated at AMH. (21304) – EPC</p> <p>9/13/10 – Geologist was sprayed in the face and on the body with grout that sprayed out of a split hose. Went to AMH to be treated. (21303) – SGRP</p> <p>9/14/10 – Employee felt a pop in the back with a minor discomfort after bending over to set a pipe in a pipe bonding clamp. Employee was transferred to AMH, treated and released back to work with no restrictions. (21352) – EPC</p> <p>9/20/10 – Employee aggravated their right shoulder while trying to turn a valve. The employee felt a strain in the shoulder and notified their manager. Employee went to AMH and received no restrictions. (21357) – SGRP</p> <p>9/22/10 – Employee was taken to AMH for evaluation after smelling a strong sulfur-type odor. Employee was released to work without restriction. The next morning, employee still had symptoms so they returned to AMH. Symptoms were treated and employee was returned to work without restriction. (21333) – SGRP</p> <p>9/28/10 – Employee reported pain in left knee. Employee was taken to AMH for evaluation and treatment and returned to work without restriction. (21359) – SGRP</p> <p>9/30/10 – Employee poked right forearm while getting up from tying rebar on thickened footings. Taken to AMH, treated and released for work. (21368) – EPC</p>
Near-Misses	0	2	N/A

KEY ACCOMPLISHMENTS

ARRA - GW CAPITAL ASSET

Drilling	September		Cumulative	
	Planned	Completed	Planned	Completed
M-24 -5 wells	0	0	5	5
200-ZP-1 West P&T Expansion -17 wells	1	2	14	15
Drilling Total	1	2	19	20

EPC Projects in Support of S&GRP - ARRA

- 200 West Area Groundwater Treatment Facility – Five accelerated Phase II road crossings have been completed. The S/SX transfer building is under construction with all eight road crossings completed. All welding activities for the transfer piping have been complete for the Phase I well to transfer building runs, activities scheduled to begin for Phase II accelerated piping in October. Structural steel erection has been initiated at three of the seven buildings. Long-lead equipment is being fabricated with the first to arrive in October.
- Construction of all three buildings for the 100-DX Pump-and-Treat is complete, with the exception of the pH adjustment system at the Process Building and punchlist items. The Key Performance Parameter for completion of the M1 and M2 Transfer Buildings was transmitted to DOE with a completion date of August 26, 2010. Acceptance Testing is underway; all 24 ion exchange vessels and associated piping have been checked for leaks and filled with resin as of September 22, 2010.
- 200E Unsecured Core Complex – S&GW2 wall framing was completed September 9, 2010
- The main floor (315 yd²) slab for EPC2 was placed on September 16, 2010
- EPC1 Build out contract work was started on September 21, 2010 and all of the underground was installed by September 23, 2010
- The contract for the interior build out for S&GW1 was awarded on September 17, 2010
- The Unsecure Core Mobile Site West was turned over for occupancy on September 15, 2010

EPC Projects in Support of S&GRP – Base

- Construction has begun on the 100-HX Pump-and-Treat Construction Project. The Process Building concrete foundation was poured on September 2, 2010. Steel frame erection for the process building was completed on September 20, 2010. The design/build contract modification for the H1 Transfer building was completed on September 22, 2010. Ten of 27 road crossings are complete. HDPE pipe laying and bonding is 45% complete.

ARRA - GW OPERATIONS**Well Drilling and Decommissioning – ARRA**

	September		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 RPO – 4 wells	0 *	0	0	0
KR-4 RI/FS – 13 wells	0 *	2	8	6
100-NR-2 Barrier Emplacement – 171 wells	25	0	171	171
100-NR-2 RI/FS – 8 wells	1	0	1	0
100-HR-3 Bioremediation TT – 4 wells	0 *	0	0	0
100-HR-3 H Area RPO – 40 wells	0	8	40	37
100-HR-3 D Area RPO – 30 wells	0	0	30	30
100-HR-3 RI/FS – 15 wells	0 *	0	0	0
200-BP-5 “K” Well – 1 well	0	0	1	1
200-BP-5 “L” and “M” Well – 2 wells	0	0	2	2
100-BC-5 RI/FS – 6 wells	2	1	8	6
100-FR-3 – 3 wells	0	2	3	2
300 FF-5 RI/FS – 11 wells	1	3	3	3
*RL-030 BCR-054 realized risk – metrics realigned	-15 *			
Drilling Total	14	16	267	258
Decommissioning Total	23	2	175	176

BASE - GW OPERATIONS**Environmental Strategic Planning:**

- Coordinated the September 16, 2010 Senior Executive Committee (SEC) meeting in Seattle, WA
- Developed a proposed outline for the “next generation” Central Plateau Cleanup Completion Strategy document and began drafting the document

Risk and Modeling Integration Group:

- Worked on development of the planning/baseline plan for modeling in support of the Deep Vadose Zone Project and the Integrated Disposal Facility (IDF) performance assessment
- Completed the IDF and Low-Level Burial Ground annual performance assessment update revisions to reflect DOE-HQ comments
- Finalized calc briefs for the alternatives evaluation for the 200-UP-1 FS
- Submitted a plan for the Soil Background Update to DOE

Integration Management:

- The charter for the Deep Vadose Zone Multi-Project Team has been signed by RL. The first Deep Vadose Zone MPT (which includes the regulators) has been scheduled.
- Conducted three River Corridor RI/FS scoping meetings to refine FS alternatives, provided status on supplemental tasks that are being performed to support the RI/FS documents, and addressed Vadose zone modeling issues. Resolved technical issues that impact implementing exposure scenarios. Developed the path forward approach for ten technical issues that support completion of the decision documents.

Document Review and Standardization:

- EDIT team is working with the 100 Area D/H RI/FS and the 200-WA-1 Work Plan teams
- Conducted two meetings with the EDIT to review comments and make document improvements

River Corridor

100-BC-5 Operable Unit - Base

- Well construction was completed on well C7508. Drilling and sampling progressed on C7784 to a depth of 133 feet below ground surface (bgs).
- Slug-testing activities were completed on the two new RI/FS wells (C7508 and C7786)
- Two RI/FS boreholes, C7842 and C7843, were drilled and sampled. C7842 has been decommissioned, and C7843 is being converted to a temporary well to allow for adequate groundwater sampling conditions. The final groundwater sample from this borehole (now a temporary well) has not yet been collected.
- The third and final round of spatial-and-temporal groundwater sampling from existing wells for 100-BC was completed

100-FR-3 Operable Unit

- Drilling, sampling, and well construction was completed on RI/FS well C7792, and well construction was completed on previously drilled and sampled well C7790. Drilling and sampling began on well C7791 and progressed to a depth of 28 feet bgs.
- Slug-testing activities were completed on the two new RI/FS wells (C7790 and C7792)
- The third round of spatial-and-temporal groundwater sampling from existing wells for 100-F was initiated with 12 of the 19 wells sampled

100-KR-4 Operable Unit - Base

- Comments to the updated KR4 Pump-and-Treat system cultural resource treatment plan have been incorporated and document is in approval process for issuance
- Well construction and development has been completed for wells C7687, C7691, C7685, and C7690. Drilling is continuing at wells C7692 and C7693.
- Drilling of RI boreholes C7831 and C7832 are complete
- Installation of new PLC components and wiring in DPC cabinet in KR-4 Transfer Building #2 for the PLC upgrade is complete. Field work initiated for remainder of KR-4 PLC and well head modifications upgrade at Transfer Building #1 and the KR-4 treatment building.
- Conducted 30% design review on the bio-infiltration system to be installed for the KW treatability test

100-NR-2 Operable Unit - Base

- Rev. 0 100-NR-2 Barrier Expansion Design Optimization Study (DOS) was approved by DOE/RL and Ecology on September 23, 2010. This DOS allows for the initial 600 foot expansion of the apatite permeable reactive barrier (PRB) in the saturated zone, to an expanded length of 900 feet, prior to full expansion under the recently amended IROD (see next item). The associated Field Test Instructions have been approved and released as Rev. 0. Delivery of the first injection skid system was made on September 27, 2010. A contractor was selected for the chemical procurement contract and has begun preparing for deliveries. All of the well packers and down-hole equipment have been installed in the first and second round injection wells.
- The 100-NR-1/2 OU Amendment to the Interim Action Record of Decision (IROD) was approved by RL, Ecology, and EPA on September 29, 2010, and was subsequently issued by EPA. This IROD amendment allows for the decommissioning of the NR-2 Pump-and-Treat system and for the installation of an apatite PRB along the entire 2,500 foot river shoreline where the Sr-90 plume currently intersects the Columbia River. The issuance of the IROD amendment by the end of FY2010 met an internal EPA milestone.
- The Draft A SAP developed to allow additional “upwelling” (river porewater) sampling to be conducted from the river bottom along specific portions of the 100-N river shoreline was reviewed by Ecology. The resulting Ecology comments were reviewed and proposed comment

responses and an updated SAP were provided to Ecology for concurrence on September 29, 2010. The sampling subcontract was awarded, but approval of the SAP is required to initiate sampling.

- The Draft A demonstration-scale (300 foot) Jet Injection TTP was transmitted from RL to Ecology on September 16, 2010, for Ecology Review
- Field pilot testing of the NR-2 infiltration gallery was initiated on September 28, 2010. This pilot testing is being conducted by PNNL using water with a bromide tracer.
- A TPA Change Notice (CN) was approved by RL and Ecology for a second round of spatial-and-temporal groundwater well sampling in September prior to approval of the RI/FS Work Plan Addendum and SAP. The associated sampling was initiated with 18 of the 26 wells sampled.
- TPH studies are now complete with PNNL. The final report was issued that now includes more recently generated data.
- The Draft A TTP for conducting a “hot” demonstration-scale treatability test of Phytoextraction at the NR-2 site was transmitted to Ecology for review on September 27, 2010

100-HR-3 Operable Unit - Base

- DR-5 operated at reduced capacity (~26 gpm) to support testing of well redevelopment technologies, which increased performance at the injection well that was tested
- Drilling of the RI/FS Wells and boreholes commenced in late September
- The in situ bioremediation system design was completed, and is being issued
- The 100-HR-3 DRD/RA work plan, Integrated Sampling and Analysis Plan, Waste Management Plan, and In-situ Bioremediation Well Drilling Sampling and Analysis Plan were submitted for DOE review
- Regulator comment incorporation is ongoing for the Draft B of the Treatability Test Plan for Hexavalent Chromium Bioremediation in Groundwater at 100-D (DOE/RL-2009-105)

300-FF-5 Operable Unit – Base

- Drilling continued at the site with four monitoring well locations completed and sampled, and a fifth underway. All sampling and design work is complete for the completed boreholes. A second drill rig is on site to complete monitoring well construction.

Central Plateau

200-BP-5 Operable Unit – Base

- The Draft A 200-BP-5 Treatability Test Plan was transmitted to the regulators on September 24, 2010 for review meeting TPA Milestone M-15-82A over three months ahead of schedule
- Completed a field walk down of the proposed treatability test site with DOE on September 9, 2010

200-UP-1 Operable Unit – Base

- The Draft A 200-UP-1 OU RI/FS Report and Proposed Plan was transmitted to the regulators on September 24, 2010, ahead of schedule, for review meeting TPA Milestone M-15-17
- Completed the 90% design package for the S-SX extraction system. Completed all pipeline road crossings. Received transfer building materials and initiated placement of structural fill for the building.

200-ZP-1 Operable Unit - Base

- Eleven of 14 groundwater extraction wells are online pumping water at 439gpm. One extraction well (#5) is being kept offline due to low flow. Extraction #4 is currently offline supporting pressure pulse testing. Extraction well #6 is offline due to some communication problems between the well and the control room.
- The replacement heater/chiller unit is now online
- Extraction wells 299-W11-45 and 299-W11-46 are online pumping water to ETF at a pumping rate of approximately 55gpm

- Drilling and sampling of 18 permanent extraction/injection wells is now complete

Deep Vadose Zone Treatability Test Project - Base

- The FTP and SAP for the Desiccation Pilot Test was approved by RL and EPA. These were the two remaining regulatory documents needed to support field execution of this test.

MAJOR ISSUES

Issue – A Quality Assurance Program Assessment was performed on the 100-DX Acceptance Testing process and procedure. As a result of this assessment, a number of programmatic issues have been identified that require corrective actions. These issues include:

- Acceptance Test Procedure acceptance criteria were not always defined as required by the CHPRC project documents and procedures
- The 100-DX test strategy, as defined in the approved Test Plan, did not include appropriate testing of the ion exchange (IX) process system effectiveness
- PRC-PRO-EN-286, *Testing of Equipment and Systems*, provided a general approach to establish and implement a startup test program, but did not provide a structured and appropriately graded approach for execution of a repeatable and rigorous startup test program
- The 100-DX Acceptance Test Procedure and the Design/Construction Verification did not provide the level of rigor in key areas that is generally expected for a startup test program
- CHPRC does not have a documented process that addressed, with specificity, the turnover from Construction to Operations
- The performance and accomplishment of the Construction Acceptance Tests (CATs) was not clearly understood or traceable to identified construction acceptance criteria

Corrective Actions – In accordance with PRC-PRO-QA-052, *Issues Management*, a corrective action plan will be written and approved, and will contain specific corrective actions for each of the programmatic issues stated above

Status – As required by the CHPRC CRCS, corrective action planning is underway

Issue – Several performance issues have been identified for samples from CHPRC O-Zone, 100-K Waste Sites, and D&D projects submitted to WSCF for analysis during periods of very high sample loads. The issues include delay in meeting project due dates for analysis reports and custody and traceability for certain beryllium samples.

Corrective Actions – Mitigating actions for missed turn-around times have included discussions with WSCF management toward developing guidelines for the diversion of samples to off-site laboratories when WSCF internal capacity is reached, and daily look-ahead's supplied to WSCF by S&GRP as to the number of samples and their report due dates to be collected each day for the next week. With respect to the beryllium samples, investigation by WSCF continues.

Status – WSCF corrective action planning is underway

Issue – The RI/FS drilling schedule at 300-FF-5 is being impacted due to safety related issues with the selected contractor.

Corrective Actions – As a result of a cure notice, the contractor brought a new drilling subcontractor (Boart Longyear) to the site. This subcontractor is experienced with Hanford work. A kickoff meeting was held on August 3, 2010, with the resumption of drilling on August 9. A second rig was scheduled to arrive the week of August 23 to accelerate the schedule. However, it was found that the configuration of the rig required scheduling several weeks of Hoisting and rigging training for the crew, which delayed mobilization of the second rig until the end of September.

Status – Both drilling rigs are on site and qualified for drilling. The new contractor had successfully

drilled six of 13 wells before an engine failure just prior to the sampling stop work and is being repaired. Both rigs are anticipated to be in service by November 1, 2010.

Issue – Drilling activities associated with the 100 – HR3 RI/FS were suspended during July as a result of safety concerns associated with the drilling contractors operations.

Corrective Actions – A corrective action plan has been received from the contractor and accepted. The contractor is resuming operations in a phased approach to ensure adequate contractor supervision and management are assigned to the completion of drilling activities. This will impact the RI/FS completion date for the project; however, contractor and CHPRC management continue reviewing plans to safely minimize schedule impacts. The contractor resumed limited activities under their recovery plan and will initiate the RI/FS drilling during the first week of October as planned in the recovery schedule. During the first week of drilling there will be staggered starts for all three rigs. Plans are to prioritize drilling, reduce well construction and delay well development, which will delay the achievement of the final metrics but will obtain the RI/FS samples in accordance with the integrated RI/FS schedule.

Status – Drilling activities are still on hold, meeting to be held October 27, 2010 to discuss restart priorities.

RISK MANAGEMENT STATUS

Unassigned Risk
Risk Passed
New Risk




● Working - No Concerns
● Working - Concern
● Working - Critical



Increased Confidence
 No Change
 Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Mont	Trend	
SGW-001: 100-D Treatment Technology Selection Change	Review draft RD/RAWP with regulators; maintain close interface to minimize impact of changes.	●	↔	No significant issues.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.	●	↔	CPCS and Mod 95 Proposal and BCR are being evaluated and developed.
SGW-069: 100-HR-3 ISRM Barrier Amendment - Hexavalent Chromium Continues to Move Through Barrier	Monitor zero valence iron injection; add four wells to P&T.	●	↔	Laboratory testing is nearing completion. The ISRM will not be amended with ZVI, but rather the 4 P&T wells installed. A regulatory analysis has been submitted to Ecology recommending this change is insignificant. Ecology agrees and will revise and submit to the Admin Record.
SGW-080: 100-BC-5 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●	↓	Additional characterization through the installation of RI/FS wells, aquifer tubes, and additional river-upwelling sampling is underway to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is required. Currently, remediation is not planned in the baseline for the OU. However, working with RL on the potential of conducting a Non-Time Critical Removal Action (EE/CA) to implement a hydraulic barrier/pump and treat combination to mitigate chromium migration to the river. A letter requesting RL direction was transmitted to RL, and a response was returned that confirmed that RL's position on the need for expedited remedial measure to meet the TPA Target Date M-016-110-T01 by December 2012. In response, a NOC letter has now been transmitted to RL.
SGW-081: 100-FR-3 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●	↓	Additional characterization through the installation of RI/FS wells is underway to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is required. Concentrations of chromium are low at this site and no remediation is planned in the baseline for the OU. However, working with RL on the potential of conducting a Non-Time Critical Removal Action (EE/CA) to implement a hydraulic barrier/pump and treat combination to mitigate chromium migration to the river. Collection of additional river-upwelling samples is being considered to help make a decision for the OU. A letter requesting RL direction was transmitted to RL, and a response was returned that confirmed RL's position on the need for expedited remedial measures to meet the TPA Target Date M-016-110-T01 by December 2012. In response, a NOC letter has now been transmitted to RL.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate sample parameters.	●	↔	No significant issues.
SGW-003A: Central Plateau Drilling - 200W P&T	Utilize rotary drilling and cable-tool; work closely to resolve subcontractor issues and manage schedule.	●	↔	Drilling performance continues to exceed baseline schedule. No significant issues.
SGW-008B: Regulatory Document Comments for 100-HR-3	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.	●	↔	The RI/FS Work Plan Addendum and SAP were approved and issued; nothing else to report.
SGW-008U: Regulatory Document Comments for 200-SW-1/2	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.	●	↔	Agency workshops have been completed and the NRDWL/SWL closure plan is being revised to incorporate comments. Ecology approval of this final closure plan is pending their receipt of the revised document and RL's NEPA determination.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.	●	↑	After multiple unsuccessful attempts to get the infiltration gallery functional, PNNL has developed a parallel approach, looking for shallow test sites in other locations and alternative emplacement technology development. A joint CHPRC/PNNL path forward has been developed and vetted by RL and EPA. Replanning efforts are underway.
SGW-018: 100-HR-3 P&T Operating Efficiency	Add four wells to the baseline to increase the likelihood of meeting production rates at startup. Connect DR-5 wells to HR-3 P&T. Test use of horizontal well for increased water flow. Add 100-H wells to HR-3 P&T. Construct HX P&T system.	●	↔	Beginning design to add one well to the HR-3 system to increase flow and remove mass during startup of DX and HX. Two RUM wells were added, bringing the operating flow to 200 gpm.
SGW-025: Industrial Accident During Drilling	Subcontractors are evaluated on safety performance prior to contract award and are required to work under CHPRC safety procedures, including using appropriate safety equipment and conducting pre-job briefings. No further mitigation is warranted. Risk is accepted.	●	↔	No changes for this month, as both drilling contractors that experienced safety issues are back to work under recovery plans. There continues to be a concern that other contractors could cause a safety event.

RISK MANAGEMENT STATUS – Cont.

Unassigned Risk
Risk Passed
New Risk

 Working - No Concerns
 Working - Concern
 Working - Critical

 Increased Confidence
 No Change
 Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Mont	Trend	
SGW-031: P&T Design Changes - 100 D	Minimize parallel design/construct/ regulatory activities; finalize design prior to contract award; coordinate well locations with WCH.			DX project is on schedule for November 2010 finish. HX design has been modified to include transfer building and an eighth train.
SGW-031A: P&T Design Changes - 200 West	Identify required design changes early in the process to minimize schedule impact. Work closely with the client and regulators to minimize impact to schedule. Incorporate design changes quickly to minimize cost impacts and avoid rework. Supplement Eng/QA/QC support and contracts for special inspection so as to finalize engineering requirements.			Final issuance of "issued for construction" drawings is complete. The amount of change caused by this drawings release is yet to be determined.
SGW-033: Well Casing Size/Screen Length	Ensure that sufficient budget is provided to cover drilling cost increases for larger diameter completion. Adjust schedules to account for additional drilling durations.			No issues at this time.
SGW-037: 100-NR-2 Infiltration Gallery Pilot Test	Risk accepted without mitigation.			Based on initiation problems encountered at the 300-FF-5 infiltration test, success at NR-2 is in question (likely to be worse field conditions). Alternative technology (jet injection) with higher likelihood of success has been successfully pilot tested and is being pursued for implementation. The trench has been installed, and the infiltrometer tests were initiated on 9/28/2010.
SGW-051: Compressed Schedule for 200 West P&T Project Due to TPA Commitment	Project team will work closely with RL and the regulators to minimize the potential of unexpected design changes and to implement any required design changes quickly so as to minimize the schedule impact. Additional funding will be required to mitigate these issues. Contractor schedule compression will be supplemented with appropriate detail over time. Design schedule has been extended and has overlapped construction and no constructability reviews have occurred. Include funds to account for changes and claims in budget, compare design and estimate costs for changes, perform phased constructability reviews. Project is already exploring options to accelerate schedule more so than what was delivered in general contractor's proposal.			Concrete poured to-date is ~1,720 yd ³ . Transfer building steel to be erected by 10/27. BIO: Prefab metal building erection to begin 11/9. RAD: Prefab metal building erection has begun. Progress is steady but the delay associated with the issuance of the IFC drawings is not yet known.
SGW-056A: 300-FF-5 Infiltration Not Feasible for Wide-Spread Application	An infiltration test is being performed at 300-FF-5 for the contaminants of concern.			Alternatives to widespread application of infiltration from the surface are being developed in parallel with searching for candidate sites for surface infiltration tests. Replanning of the baseline for these new activities in ongoing. Alternatives include jet injection, application of engineering lithology, and well injections.
SGW-065: Bio/Chemical Remediation Fails	A design test is being planned for 100-D Area. This should eliminate some of the uncertainties with the potential side effects.			Well alignment for the test was revised to accommodate new modeling results and increase potential performance. Revised experimental design to increase probability for success. Rev. B of the TTP submitted for RL and Ecology review; potentially will need one more extraction
SGW-091: Material Procurement - 200 West P & T	Work closely with the BTR to ensure timely placement of procurement contracts, including any necessary expediting. Supplement engineering support for RCI submittal resolution, on-site focus review including vendor participation as needed. Provide incentives for vendors to compress schedule.			Project is conducting meetings to address RCIs twice per week. Vendor meetings occur weekly. 3D modeling employed to minimize probability of mis-configuration between equipment, conduit, and piping.
SGW-098: 200-W P&T - Schedule Impacts Due to Scope Increases	Contractor will hold periodic discussions with client and regulators to maintain a clear understanding of scope changes. As these issues are identified, they will be listed with other emerging issues. At this point, further mitigation tactics will be determined.			In order to maintain the schedule, significant additional team resources are being added to assist with training, submittals, RFIs, QA/QC, third party testing, management and oversight, and other services during construction. Issued for Construction (IFC) drawings have been released and this will facilitate timely completion of construction milestones. Work continues to support software, simulator, procedures, and CAT/ATP development.
SGW-108J: 200-UW-1 Increased Characterization Required	Incorporate additional deep boreholes into the baseline.			This risk has been realized and the project is working the issue. A BCR has been approved and the scope has been incorporated into the baseline.
WSR-042: Multi-Incremental Sampling - Increased Waste Sites	MIS Project designed to meet requirements; no further mitigation warranted.			No issues at this time.
WSR-043: Multi-Incremental Sampling - Hazard Categorization	Adjust baseline cost/schedule to reflect Haz Cat III categorization.			No issues at this time.

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

WBS 030/RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
ARRA RL-0030.R1.1 GW Capital Asset	20.6	10.1	9.6	(10.4)	-50.7	0.6	5.5
ARRA RL-0030.R1.2 GW Operations	4.0	5.4	5.8	1.4	35.3	(0.4)	-7.4
ARRA Total	24.6	15.6	15.4	(9.0)	-36.7	0.2	1.0
Base	14.8	19.2	17.8	4.4	30.1	1.4	7.5
Total	39.4	34.8	33.2	(4.6)	-11.6	1.6	4.6

ARRA

CM Schedule Performance: (-\$9.0M/-36.7%)

Primary contributors to the negative schedule variance that exceed the reporting thresholds are as follows:

ARRA RL-0030.R1.2 GW Operations (+\$1.4M)

Drilling (+\$1.6M)

Implementation of BCR-PRC-10-054R0 - Changes to execution approach for S&GW selected activities (KR-4 and HR-3) has resulted in the current month point adjustment and positive schedule variance.

ARRA RL-0030.R1.1 GW Capital Asset (-\$10.4M)

100 HR-3 Operable Unit (-\$0.8M)

Installation of equipment inside the DX process and M2 transfer buildings ahead of schedule; the work scope planned in September was completed in prior months resulting in the current month negative variance.

200-ZP-1 Operable Unit (-\$9.8M)

Long-lead procurement activities, construction of treatment pad, installation of HDPE, performing work in prior months that were scheduled to be done in September all contributed to the current month variance. Delays in design and construction drawings have caused the variances; corrective measures are being used to minimize impact on project completion.

CM Cost Performance: (+\$0.2M/+1.0%)

The primary contributors to the current month positive cost variance that exceed the reporting thresholds are as follows:

ARRA RL-0030-R.1.2 GW Operations (-\$0.4M)

200-ZP-1 Operable Unit (-\$0.3M)

Yearend contractor labor time record corrections resulted in the current month overrun. No negative impact is anticipated to total contract cost at completion.

ARRA RL-0030.R1.1 GW Capital Asset (+\$0.6M)

100-HR-3 Operable Unit (-\$0.6M)

Labor cost for DX ATP and installation of the pH adjustment system were greater than planned. Overall cost variance remains positive.

200-ZP-1 Operable Unit (+\$1.3M)

Accruals were understated and will be corrected in October. No significant impact is anticipated.

Base**CM Schedule Performance (+\$4.4M/+30.1%)**

The primary contributors to the positive schedule variance that exceed the reporting thresholds are as follows:

100 KR-4 Operable Unit (-\$0.4M)

Delays in the KW Bioremediation TTP construction due to additional time needed for design.

Management is reviewing to mitigate and prevent additional delays.

100 HR-3 Operable Unit (+\$3.9M)

1) Contract to procure and install the HX treatment building started early. Planned to start in October (Monarch)

2) Field work on HDPE pipe installation was ahead of schedule for the month resulting from extended work hours in the field with the end of fire danger season.

3) Implementation of BCR-PRC-10-054R0 and resulting point adjustment for changes to in situ bioremediation and RI/FS activities due to the new TPA milestone for bioremediation and risk realized by drilling.

200-UP-1 Operable Unit (+\$0.9M)

S-SX construction activities planned in FY11 were performed early.

200-ZP-1 Operable Unit (-\$0.3M)

The 8 ton well pump setting truck was not delivered as planned; it is currently projected to be delivered in March 2011. Also delays in sampling analysis related to the well drilling issues. No impact is expected to overall project completion.

300-FF-5 Operable Unit (+\$0.3M)

Recovery of some field investigation/data collection work during September and point adjustment as the result of implementing BCR-PRC-10-054R0 (re-plan infiltration test follow-on work). No impact expected to overall project completion.

Regulatory Decision/Closure (-\$0.3M)

Work scope that is in the current baseline is changing as part of the Tentative Agreement and new Central Plateau Closure Strategy. The new strategy will be implemented in fiscal year 2011.

CM Cost Performance (+\$1.4M/+7.5%)

The primary contributors to the positive cost variance that exceed the reporting thresholds are as follows:

Integration and Assessments (+\$0.3M)

A vendor accrual adjustment was made to close out the year for the modeling and risk assessment efforts for which the Technical Integration account provides oversight. Accruals that have been accumulating in this account have now been corrected to the various accounts as invoiced.

GW Monitoring and Performance Assessments (+\$1.4M)

WSCF passback and cost transfer processed. Cost corrections distributed cost to appropriate operable units. Billing/invoicing process now distributes cost directly to the operable units.

100-NR-2 Operable Unit (+\$0.3M)

Chemical treatment and maintenance scope for less than planned. Efficiencies are not expected to continue in all cases.

100 HR-3 Operable Unit (+\$0.6M)

Installation of HDPE piping for HX is costing less than planned and an under accrual for HX building erection. The under accrual will be corrected in October with no impact to total contract cost.

Ramp-up and Transition (-\$2.7M)

Projected cost/accrual for the employee rewards and recognition program exceeded plan.

PBS RL-30 UBS, G&A, and DD (+\$1.0M)

The CTD positive cost variance is discussed in Appendix C.

Contract-to-Date (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
ARRA RL-0030.R1.1 GW Capital Asset	72.9	66.9	64.6	(5.9)	-8.1	2.3	3.5	171.2	170.8	0.3
ARRA RL-0030.R1.2 GW Operations	<u>57.8</u>	<u>51.0</u>	<u>42.2</u>	<u>(6.8)</u>	-11.8	<u>8.9</u>	17.4	<u>84.5</u>	<u>80.9</u>	<u>3.6</u>
ARRA Total	130.7	117.9	106.7	(12.7)	-9.7	11.2	9.5	255.7	251.8	3.9
Base	<u>264.0</u>	<u>257.1</u>	<u>252.8</u>	<u>(6.9)</u>	-2.6	<u>4.3</u>	1.7	<u>1,239.6</u>	<u>1,233.6</u>	<u>6.1</u>
Total	394.7	375.1	359.5	(19.6)	-5.0	15.5	4.1	1,495.3	1,485.3	10.0

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$12.7M/-9.7%)

The primary contributors to the ARRA CTD negative schedule variance that exceed the reporting thresholds are as follows:

ARRA RL-0030.R1.2 GW Operations (-\$6.8M)

Ramp-up & Transition (-\$6.3M)

- 1) The construction contractor's performance is less than planned due to their inability to obtain required levels of staffing.
- 2) Limited engineering resources due to competing priorities.
- 3) The re-work that was required on the foundation due to incorrect placement. The contract is currently forecast to complete four months behind schedule.

A recovery plan is being worked with the project completion date expected to be in January 2011.

ARRA RL-0030.R1.1 GW Capital Asset (-\$5.9M)

200-ZP-1 Operable Unit (-\$6.7M)

Long-lead procurements are behind schedule due to design release delays. CH is working with contractor to increase manpower/OT to recover schedule.

CTD ARRA Cost Performance: (+\$11.2M/+9.5%)

The primary contributors to the ARRA CTD positive cost variance that exceed the reporting thresholds are:

ARRA RL-0030.R1.2 GW Operations (+\$8.9M)

Drilling (+\$3.7M)

Efficiencies and savings obtained in drilling for 100-NR-2, 100-HR-3, and 200-BP-5 wells. Cost efficiencies are being obtained through an aggressive drilling schedule with savings in support personnel, faster drilling methods and the fact that the HR-3 well depths have been less than originally planned. Well decommissionings have also been completed for less than planned.

Regulatory Decision & Closure Integration (+\$1.7M)

Completing work scope more efficiently than planned, primarily in the areas of multi-incremental sampling (using existing documentation and direct haul rather than staging); borehole drilling and landfill characterization (competitive subcontracting of drilling support and efficient field support); and document preparation (200-BC-1 data validation and Data Quality Assessment reports).

Ramp-up and Transition (+\$1.8M)

Site work, utilities, and mobile office procurements activities were contracted for less than estimated in the baseline. It is anticipated that cost for the internal fit-out of the four shop/warehouse buildings will be greater than budgeted leaving the project with a small positive cost variance at completion.

PBS RL-30 UBS, G&A, and DD (+\$1.7M)

The CTD positive cost variance is discussed in Appendix C.

ARRA RL-0030.R1.1 GW Capital Asset (+\$2.3M)

All WBS level 2 variances are below reporting thresholds.

Base**CTD Schedule Performance (-\$6.9M/-2.6%)**

The following schedule variances exceed the reporting thresholds:

200-UP-1 Operable Unit (+\$1.0M)

S-SX construction activities planned in FY11 were performed early.

Regulatory Decision/Closure (-\$2.7M)

Work scope that is in the current baseline that is changing as part of the Tentative Agreement and new Central Plateau Closure Strategy. The new strategy will be implemented in fiscal year 2011.

CTD Cost Performance (+\$4.3M/+1.7%)

Primary contributors to the CTD positive cost variance are as follows:

100-NR-2 OU (+\$2.0M)

Performing chemical treatment and maintenance scope, jet grouting pilot test work and RI/FS Work Plan and Interim Proposed Plan Reporting more efficiently than planned.

200-ZP-1 Operable Unit (+\$2.4M)

- 1) Interim Operations reflects significant progress and cost underruns have been achieved to date for Annual System Calibration.
- 2) Design of the permanent hookup of well EW-1 was lower than planned as only minor changes were needed to an existing design.
- 3) Cost for performing general operating and maintenance and minor modification activities have been lower than planned as the system has been running smoothly.
- 4) Cost for collecting depth-discrete groundwater and soil samples during the installation of new wells was less than planned.

Usage Based Services (-\$1.7M)

Increased cost associated with training due to the additional ARRA work in FY2010 and fleet services cost that occurred in FY2009. Overruns will continue to be funds managed within the S&GRP project.

Ramp-up & Transition (-\$2.7M)

Projected cost/accrual for the employee rewards and recognition program exceeded plan.

Contract Performance Report Formats are provided in Appendices A and A-1.

FUNDS vs. SPENDING (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	FY2010		
	Funding	Actual Spending	Spend Variance
ARRA	108.4	103.1	5.3
Base	<u>176.4</u>	<u>146.0</u>	<u>30.4</u>
Total	284.8	249.1	35.7

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding reflects FY 2009 carryover and FY2010 new budget authority.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

ARRA – The small projected variance at completion (1.5%) is spread among several ARRA activities and is not considered significant.

Base – The small projected variance at completion (0.5%) is spread among several operational areas and is not considered significant.

Baseline Change Requests

BCRA-PRC-10-060R0, General and Administrative Changes for FY 2010 Year End

BCR-PRC-10-053R0, PRC Baseline, Revision 2 Update

BCR-PRC-10-054R0, Changes to Execution Approach for S&GW Selected Activities

FY 2010 Management Reserve:

ARRA = \$1.4M

Base = \$3.0M

None used in September; however a risk was realized for HR3 and KR4 that was addressed in BCR-PRC-10-054R0 and funds managed with the current funding level. Management Reserve was moved to FY 2011 by BCRA-PRC-10-060R0.

See management reserve table in the CHPRC Overview.

MILESTONE STATUS

TPA milestones represent significant events in project execution. DOE Enforceable Agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The PRC Baseline Revision 2, submitted in January 2010, defines CHPRC planning with respect to TPA milestones. The following table is a one year look ahead of key milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/Comment
M-015-17A	Submit a 200-UP-1 OU Combined Remedial Investigation and FS Report and Proposed Plan	TPA	9/30/10	9/24/10		Complete
M-015-38B	Submit a Revised FS Report & Revised Proposed Plan for 200-CW-1	TPA	11/30/10		N/A	See note 1
M-091-40L-028	Submit 1st Quarter FY11 Burial Ground Sample Results	TPA	12/15/10		11/30/10	On Schedule
M-015-82A	Submit Treatability Test Plan as Amendment of 200-BP-5 Work Plan	TPA	12/31/10	9/24/10		Complete
P-015-110C	Submit Uranium Treat. Tech. Treatability Test Plan for 200-DV-1 OU to Ecology	TPA	12/31/10		10/31/10	On Schedule. Proposed by Approved Tentative Agreement.
M-016-111B	Expand current pump-and-treat system at 100-HR-3 Operable Unit utilizing ex-situ treatment, in-situ treatment, or a combination of both, to be operational and functional at a total 500 gpm capacity or as specified in the work plan	TPA	12/31/10		11/17/10	On Schedule
M-091-40L-029	Submit October to December 1st Quarter FY-11 Burial Ground Sample Results	TPA	3/15/11		2/28/11	On Schedule
M-024-58D	Initiate Discussions of Well Commitments	TPA	6/1/11			On Schedule
M-091-40L-30	Submit January to March 2nd Quarter FY-11 Burial Ground Sample Results	TPA	6/15/11		5/30/11	On Schedule
M-015-44C	Submit 200-MW-1 Operable Unit Proposed Plan	TPA	6/30/11		N/A	See note 1

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-51	Submit Revised Feasibility Study Report and Proposed Plan to EPA for 200-BC-1 OU	TPA	6/30/11		N/A	See note 1
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	6/30/11		N/A	See note 1
P-015-90	Submit RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) and Remedial Investigation/Feasibility Study (RI/FS) work plan for 200-IS-1 OU to Ecology	TPA	6/30/11			On Schedule
M-015-70-T01	Submit Feasibility Study Report and Proposed Plan for the 100-HR-1, 100-HR-2, 100-HR-3, 100-DR-1 and 100-DR-2 Operable Units for groundwater and soil	TPA	7/30/11		9/19/11	Schedule may be in question due to delay in approval of RI/FS work plan - a 117 day slip may apply to this milestone completion date, making the new submittal date 11/24/11. The day-for-day slip language is found in TPA Milestone M-015-00.
M-015-66-T01	Submit CERCLA RI/FS Report and PP for the 100-KR-1, 100-KR-2 and 100-KR-4 Operable Units for groundwater and soil	TPA	7/31/11		8/24/11	Schedule may be in question due to delay in approval of RI/RS work plan - a 52 day slip may apply to this milestone completion date, making the new submittal date 9/21/11. The day-for-day slip language is found in TPA Milestone M-015-00. Delay in drilling wells: Need to coordinate with D&D, Waste Site

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
						Remediation, and DOE to obtain RI data at the East and West Headhouses and around reactor buildings.
M-024-62-T01	Conclude Discussions of Well Commitments	TPA	8/1/11			On Schedule
M-091-40L-031	Submit April to June 3rd Quarter FY-11 Burial Ground Sample Results.	TPA	9/15/11		8/30/11	On Schedule
M-015-82B	Initiate 200-BP-5 Aquifer Tests Within 6 months of TTP Approval	TPA	TBD (see status)			On Schedule. Due Date Won't be Finalized until TTP Produced under M-015-82A is Approved. TTP Currently in Regulatory Agency Review.

Note 1: Tentative Agreement approved on 4/20/10 is expected to delete this milestone.

SELF-PERFORMED WORK

The Section H. clause entitled "Self-Performed Work" is addressed in the Overview.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.