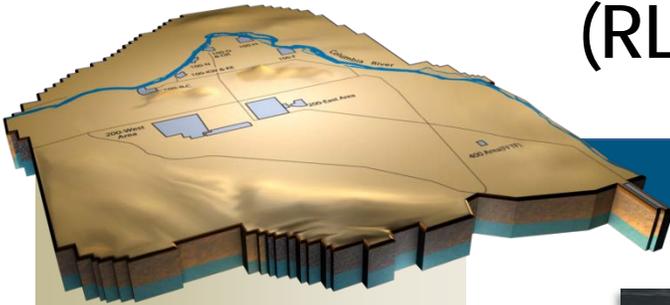


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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Treatment tanks are staged inside the process building of the DX Groundwater Treatment Facility. All six of the tank units have arrived on-site and are being prepared for installation.

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 numerous wells that will be used for monitoring, extracting, and remediating groundwater near the Columbia River. Progress through the end of the fiscal month May is summarized in the table below.

Activity	May		Cumulative	
	Planned	Completed	Planned	Completed
Welling drilling	84	90	177	234
Well decommissioning	13	57	107	118
200 West P&T – Final Design	5%	14%	35%	61%
200 West P&T – Construction	1%	1%	11%	10%
200 West P&T – Testing/Startup	1%	1%	13%	13%
100 DX P&T – Construction/Startup	10%	13%	62%	83%

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 concluded at the KR4 system, and acceptance testing of affected components was completed. Phase 2 realignment construction actions were completed at the KX system and acceptance testing is 98% complete. The second of three rounds of risk assessment sampling for 100-HR-3 and 100-KR-4 decision units completed. Sampling and groundwater treatment completed in May include the following:

- 203 well locations were sampled with a total of 1,017 samples being collected
- 14 aquifer tube samples were collected from nine tubes at seven sites
- 7.97M gallons groundwater treated by ZP-1 treatment facility
- 24.5M gallons groundwater treated by KX treatment facility
- 8.9M gallons groundwater treated by KW treatment facility
- 12.8M gallons groundwater treated by KR-4 treatment facility
- 6.93M gallons groundwater treated by HR-3 treatment facility
- 1.37M 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	On schedule
		Construct 30 new wells for the P&T system	6/30/10	28 wells constructed
		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	On schedule
		Review and tally total number of gallons treated	Monthly	309M gal treated as of 5/31/2010
		Treat up to 430M gallons of 100 Area groundwater	9/30/10	On schedule
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

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	2	61	5/24/10, an employee was taken to first aid for evaluation of an insect bite/sting that was received on the thumb of the right hand while working out in the field on Sunday afternoon (5/23/10). Following evaluation the individual was returned to work without restriction. (20942 - Base) 05/19/10, An employee was standing outside building 2753 at approximately 1405 and felt a bite/sting on the right wrist. Employee was treated at AMH and returned to work without restriction. (20944 - Base)
Near-Misses	1	2	5/24/10, a Soil & Groundwater Remediation Project (S&GRP) drill rig experienced an equipment failure. The crown sheave line guide, which is located at the top of the mast (40 feet up), broke free and fell. The crown sheave line guide weights about 3 pounds and fell onto the drill truck, opposite from where the lead driller was standing. The purpose of the guide is to ensure the main line cable does not slip off the sheave pulley while operating. (EM-RL-CPRC-GPP-2010-0005 – ARRA)

KEY ACCOMPLISHMENTS

EPC Projects in Support of S&GRP - ARRA

- The 200W Area Pump-and-Treat Project began focused reviews of BIO and RAD drawings to support construction activities; all 90% design drawings anticipated completion June 2010. Forty-two road crossings have been completed. Welding activities for the transfer piping continued approximately 60% complete. Construction on the four BOP transfer buildings continued; awarded sludge stabilization contractor – Biosec Environmental. Mobilization of Skanska initiated.
- The 100-DX Pump-and-Treat construction is 83% complete. Work continues in the process building to connect the piping between the ion exchange skids and the pumps. The SIR-700 resin for the ion exchange skids was received on May 19, 2010. The M1 transfer building completed construction on May 11, 2010 and was energized on May 24, 2010. This allows for early software address testing prior to the start of the Acceptance Test Procedure. Mechanical equipment installation is 85% complete, electrical installation is 75% complete. Electrical well racks are complete at 19 extraction well sites.

EPC Projects in Support of S&GRP – Base

- Phase 2 realignment construction actions were completed at the KX system and acceptance testing is 100% complete.

Environmental Program and Strategic Planning - Base

Completed development and rollout of the “[Hanford's Central Plateau - Proposed Approach for Making and Implementing Cleanup Decisions](#) - Interactive Map” and made it available on the Hanford website in support of the public review of the Tentative Agreement and TPA change packages.

Completed planning for, and initiated “200 West Inner Area RI/FS scoping meetings” with the Agencies at the Portfolio Analysis Center of Excellence (PACE). A series of meetings are planned on this subject through July 2010.

Risk and Modeling Integration Group

Supported the 200-PW-1/3/6 project including the following activities: finalized the groundwater protection modeling calculations, presented the modeling approach and results to EPA and Ecology, and finalized screening of COPCs for groundwater modeling support.

Provided the cleared biointrusion white paper to DOE-RL for transmittal to the Regulators.

Supported the 200-UP-1 project, including the following activities: finalized the revisions of modeling and risk assessment chapters of the FS report, finalized the alternatives evaluation calculation briefs, and developed 3-D maps for Technetium and Chromium.

Presented a proposed path forward for Hanford Site soil and groundwater background updates to RL.

Well Drilling and Decommissioning – ARRA

	May		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 RI/FS	2	0	4	0
100-NR-2 Barrier Emplacement	17	77	83	171
100-HR-3 H Area RPO	11	6	40	18
100-HR-3 D Area RPO	5	4	28	28
100-HR-3 RI/FS	1	0	2	0
200-BP-5 “K” Well	0	0	1	1
00-BP-5 “L” and “M” Well	0	0	2	2
200-ZP-1 West P&T Expansion 01.11	0	0	6	6
200-ZP-1 West P&T Expansion 01.12	0	2	4	2
M-24	1	1	3	2
100-BC-5 RI/FS	0	0	4	4
Drilling Total	84	90	177	234
Decommissioning Total	13	57	107	118

Notes:

- 100-KR-4 RI/FS drilling began
- 200-ZP-1 Expansion: Currently, 12 of 17 wells have been initiated. Additional drill rigs mobilized to recover schedule.

River Corridor**100-BC-5 Operable Unit - Base**

- Planning continues for recently approved RI/FS work plan field-investigation activities. This field work will support the development of the RI/FS Report and Proposed Plan that are due November 30, 2011 under TPA target milestone M-15-68-T01.
- The first round of spatial and temporal groundwater sampling from existing wells for 100-BC was

initiated and completed in May. The next round is scheduled for August.

- Well-drilling contractor bids were evaluated in early May, and a contract was awarded. Drilling and sampling is expected to begin in mid June.
- Slug-testing activities have also been planned and will be initiated this summer.
- Groundwater modeling efforts are continuing. The model for 100-BC has been developed, and modeling scenarios have been developed for evaluation.

100-KR-4 Operable Unit - Base

- The monthly cultural resource monitoring for the KR4 Pump-and-Treat project was conducted on May 21, 2010. No problems were observed this month.
- Revision to the KR-4 Cultural Treatment Plan has been drafted and comments have been incorporated. The document is being routed through internal approval for transmittal.
- Phase 2 realignment construction actions were completed at the KX system and acceptance testing is complete with the exception of final adjustments to the wireless communication for extraction wells 199-K-153, 199-K-171, and 199-K-178. Replacement of 4.7 GHz antennas with 5.8 GHz antennas has corrected the Wi-Fi interference problem. Additional adjustments will be made to replace the antenna mast at the treatment building and increase signal gain at the well heads to improve signal efficiency.
- Average flow through the KR-4 Operable Unit pump-and-treat system during the month of May was approximately 1,035 gpm, or 94% of treatment capacity. Continued acceptance testing of KX pump-and-treat components impacted by Phase 2.
- The archaeological survey for three remedial investigation wells in culturally sensitive areas was completed in May and the cultural resources review report is in approval process for sending to the SHPO.
- Initiated drilling on first 2 of 13 100K RI wells on May 12, 2010, wells C7683 and C7687.
- TPA-CN-357 to the 100 K Area RI/FS SAP to reflect final location for well #9 and include additional vadose zone sample intervals for the RI/FS wells in the K Reactor fence line area was approved by RL and EPA.
- RL comments incorporated into the draft revision to the KR4 pump-and-treat system cultural treatment plan (DOE/RL-96-44) and being prepared for issuance. This revision was conducted with consultation with Tribal Nations and revises the 1996 plan to include updated information about cultural and historic resources in the 100-K Area (and vicinity), as well as updated information about the ongoing groundwater remedial actions in the area.

100-NR-2 Operable Unit - Base

- The NR-1/2 OU Proposed Plan to Amend the Interim ROD underwent a legal review by Ecology and EPA lawyers. The resulting legal comments have been incorporated into the document. A meeting is scheduled with RL and the regulatory agencies on June 9, 2010, to finalize the document to Rev 0 following this legal review. An expedited schedule is still being followed to meet a goal to have the IROD amended by September.
- The Draft B 100-N Operable Units RI/FS Work Plan Addendum and associated Sampling and Analysis (SAP) documents are currently under Ecology review. Ecology officially requested a 30-day extension of their review period, and RL has agreed to their request with the stipulation that any delays in approval of the document past 6-months after providing the Draft A version of the document (in December 2009) would result in a day-for-day slip in the subsequent RI/FS Report and Proposed Plan TPA milestone date (December 2011). Comments are now expected back from Ecology on June 21, 2010.
- Draft A of the 100-N Integrated SAP was provided to RL for subsequent submittal to Ecology

alongside the 100-N RI/FS Work Plan Addendum and SAP. The RL submittal to Ecology is expected on June 2, 2010, after which the document will be under Ecology review.

- A SAP has been developed to allow for additional “upwelling” (river pore water) sampling to be conducted from the river bottom along specific portions of the 100-N river shoreline. This document will be going through an internal CHPRC review in early June.
- Core samples collected (as part of the 171 well drilling campaign) in February to support evaluation of the Jet Injection were analyzed by Pacific Northwest National Laboratory (PNNL). Preliminary PNNL results, in a draft summary report, have been provided. All results have been incorporated into a final test report, which is being drafted.
- A Treatability Test Plan (TTP) is being drafted to allow for a larger, demonstration-scale test of the Jet Injection technology in the vadose zone over the existing 300-foot apatite barrier. A limited internal review was performed. Comments are being incorporated for a full CHPRC internal review.
- A TTP is also being drafted to allow for a “hot” test of the Phytoextraction technology along the river shoreline at the existing 300-foot apatite barrier. A limited internal review will take place in early June.
- Groundwater sampling have been collected from 21 of the newly completed and accepted 171 wells, and additional GW sampling will continue.
- The Draft A TTP for allowing the future apatite PRB expansion activities was submitted to Ecology from RL on May 7, 2010, The TTP is currently under Ecology review, and comments are expected back on June 21, 2010. The injection-system fabrication continues along with additional planning activities.
- Total petroleum hydrocarbon (TPH) studies are continuing with Pacific Northwest National Laboratory (PNNL) as planned. This work will be complete this summer.

100-HR-3 Operable Unit - Base

- HR-3 operated at near normal levels as the H Area aquifer test continued. Two Ringold Upper Mud (RUM) wells are being reconfigured for long-term operation as extraction wells. Until these modifications are completed, the HR-3 system will run in its pre-test configuration. The system is also being modified to remove an extraction well (199-H-4-3) impeding WCH excavation, and reconnect well (199-H-3-4) as an extraction well to capture the southeast flank of the plume.
- DR-5 recommenced operations, though it is working at reduced capacity to manage the increased influent concentrations from hot-spot wells. Personnel are working to optimize the increased need for regeneration in order to promote increased treatment rates.
- Design activities continued on the HX pump-and-treat facility, with the 30% design review held in mid-May. Site improvements continue, and a contract for construction of the process buildings was awarded. The contract for Road crossing construction and HDPE pipe installation was also awarded.
- A Treatability Test Plan is being prepared to support design testing of in-situ bioremediation within the area of the southern D “hot-spot” plume. Meetings were held with RL, Ecology, and EPA to present the approach for the test. Useful feedback was provided guide development of the treatability test plan required by newly approved TPA Milestone M-015-115. Design efforts continue, with a 60% design review scheduled for mid-June.
- The final round of spatial and temporal groundwater sampling is underway.

100-FR-3 Operable Unit - Base

- The approved 100-F & IU-2/6 Operable Units RI/FS Work Plan Addendum and associated SAP (Rev. 0) were transmitted to RL on May 17, 2010.

- Planning is underway for RI/FS work plan field-investigation activities. This field work will support the development of the RI/FS Report and Proposed Plan that are due November 30, 2011 under TPA target milestone M-15-64-T01.
- The first round of spatial and temporal groundwater sampling from existing wells for the IU-2/6 OUs was completed in May. The 100-F portion of the spatial and temporal groundwater sampling was initiated and completed in May. The next round of sampling for both IU-2/6 and 100-F is scheduled for July.
- Well-drilling contractor bids have been received and will be evaluated in early June. Drilling and sampling is expected to begin in early-to-mid July.

300 FF-5 Operable Unit – Base

- Drilling began on May 8, 2010, and was suspended due to poor dust control. A recovery plan has been presented and accepted, and drilling is scheduled to resume on June 14. The PNNL tracer infiltration study was not successful after three attempts; alternatives have been presented to EPA and a path forward has been defined. An engineered lithology has been emplaced at the bottom of the existing excavation at 618-1 in May and will be used in subsequent treatability test plans to evaluate remediation technology delivery mechanisms.

Central Plateau

200-DV-1 Operable Unit

- Initial baseline planning consistent with the Tentative Agreement for the Central Plateau signed March 2010.

200-UP-1 Operable Unit – Base

- Continued extraction system design for remediation of the Tc-99 plumes in the vicinity of Waste Management Area (WMA) S-SX. A walkdown of the S-SX area was completed May 19 to review the conceptual layout of the system and stake extraction well locations. Regulators were not able to attend. A regulator briefing was held May 17, 2010 to status the U Plant extraction well cleaning effort and S-SX extraction system design effort. The need for freeze protection of above ground piping for the extractions system was discussed. Requested regulator concurrence that no additional monitoring is required for pipe-in-pipe applications used for freeze protection.
- A PRC internal review of the 200-UP-1 OU RI/FS Report and PP was completed. The Decisional Draft RI/FS Report and PP is planned to be transmitted to DOE for review by the end of June 2010. DOE and Regulator RI/FS Report status meetings have been scheduled for June 22, 2010 and June 29, 2010, respectively.

200-BP-5 Operable Unit – Base

- The 200-BP-5 conceptual model report is expected to be finalized by June 30, 2010.
- Completed all depth discrete groundwater sample analyses.
- Continued preparation of the 200-BP-5 RI Report.
- Completed PRC review draft of the 200-BP-5 Aquifer Treatability Test Plan. The Decisional Draft Test Plan is planned to be transmitted to DOE for review by the end of June 2010.

200-PO-1 Operable Unit - Base

- The Draft A 200-PO-1 RI Report was transmitted to DOE on May 21 for transmittal on to the regulators for review.

200-ZP-1 Operable Unit - Base

- Ten of the 14 groundwater extraction wells are on line pumping water at a rate of approximately 200 gpm. Extraction well 299-W15-44 is offline as it is in the process of being replaced by new

extraction well 299-W15-225. While extraction well 299-W15-225 was on line for a short period of time, a small leak was identified that needed to be repaired. Extraction well 299-W15-36 will be kept offline due to very low flow rates. Extraction wells 299-W15-34 and 299-W15-765 are offline due to electrical problems that are currently being assessed.

- Extraction wells 299-W11-45 and 299-W11-46 are both running and are pumping at a combined rate of ~25 gpm to ETF. A reduced flow rate is required for the next month or two to allow ETF to drain one of their other basins which is full.
- RL comments on the Decisional Draft Remedial Design Report have been addressed and the Draft A report is currently being issued to RL to deliver to EPA. The TPA milestone (M-016-124) date for RL to get the Draft A report to EPA is August 31, 2010.
- Drilling and sampling of 14 permanent extraction/injection wells are now complete. Currently drilling EW-6, IW-5, and IW-6 which are currently at a depth of approximately 187, 111, and 100 feet respectively.
- EPA comments have been addressed on the Draft A Performance Monitoring Plan and the Rev. 0 plan is currently being issued.
- The hookup of the new ZP-1 extraction well 299-W15-225 (EW-1) is complete, however a small leak is undergoing repair.
- A test plan for determining the effectiveness of using activated carbon as a less expensive way of removing Tc-99 from groundwater has been issued and laboratory testing has started. Currently preparing two separate test plans to support laboratory testing of a variety of resins (including SMI) for uranium and other COC removal. PNNL is currently preparing these plans.
- EPA comments on the Operations and Maintenance Plan for the 200-West Area Groundwater Treatment Facility have been received and are currently being addressed.

200-PW-1 Soil Vapor Extraction (SVE) - Base

- Both PW-1 active SVE units are operating. Passive SVE operations are also ongoing.

Regulatory Decisions and Integration - Base

- The Tentative Agreement that provides the decision document framework for making cleanup decisions in the Central Plateau was signed in late March 2010. Work continues on developing a proposal that will align the Performance Management Baseline to the new decision document framework.
- All soil sample analyses for the K, L, and M wells are complete. Data validation and DQA report are in progress.
- Agency meeting to resolve the remaining Ecology comments on the deep vadose zone SAP for the 216-U-8 and 216-U-12 Cribs is scheduled for June 7, 2010.
- EPA's comments on the Draft A 200-MW-1 feasibility study were received on May 17, 2010. Comment responses are under development.
- The groundwater modeling technical basis document (RAGS 34) was delivered to DOE for review on May 27, 2010. Comments are anticipated on June 11, 2010.
- The results of the fate and transport modeling for 200-PW-1/3/6 feasibility study were presented to EPA and Ecology. Updates to Appendix E of the feasibility study are underway based on the comments received during the Agency meeting.
- The 30-day Public Comment on the NRDWL/SWL closure NEPA EA began May 13.
- Completed laboratory analysis for the soil samples collected from the 200-CW-1 Outer Area Ponds and Gable Pond pipeline.
- Resolved RL's comments on the Closure Plan and SAP for the Hexone Storage and Treatment Facility; Rev. 0 documents have been prepared, cleared and routed for transmittal to RL.

Deep Vadose Zone Treatability Test Project - Base

Work continues on the deep vadose zone project including the pilot test, desiccation lab testing, uranium sequestration, and soil flushing and grouting.

The following summarizes key accomplishments for May:

- Neutron moisture logging was completed for baseline measurements in the ten new boreholes in support of start-up of the desiccation pilot test this coming November.
- The Field Test Plan and associated Sample Analysis Plan for the Desiccation Pilot Test were forwarded to RL and the Regulators for review and comment.
- Procurement for the injection and extraction systems nears completion and work packages are now being prepared for fabrication and assembly of components for the Desiccation Pilot Test.
- The DQO for the Uranium Sequestration work was completed this month and is now in CHPRC internal review. The document will stay a draft until we receive input from the associated Expert Review Panel planned in July. The DQO will be modified to address their comments accordingly.

MAJOR ISSUES

None Identified.

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
		Month	Trend	
SGW-001: 100-D Treatment Technology Selection Change	Review draft RD/RAWP with regulators; maintain close interface to minimize impact of changes.	●	↔	RD/RAWP approval behinds schedule, but no issues identified to date. The subject document is under revision to update to the current and proposed remedy for HR-3.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.	●	↔	The Tentative Agreement has been signed by all three parties which provides the regulatory strategy for decision documents. Finalization of this strategy requires public involvement, which is now underway.
SGW-069: 100-HR-3 ISRM Barrier Amendment - Hexavalent Chromium Continues to Move Through Barrier	Monitor zero valent 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.
SGW-080: 100-BC-5 Pump and Treat Required	Risk accepted.	●	↔	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 a pump and treat is not planned for the OU.
SGW-081: 100-FR-3 Pump and Treat Required	Risk accepted.	●	↔	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 Pump and Treat is planned for the OU.
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 metrics behind schedule but on recovery plan. Recovery expected in June 2010.
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.	●	↑	Based on several meetings, Agency comments have been resolved and the NRDWL/SWL closure plan is under revision. Ecology approval of this final closure plan is pending their receipt of the revised document.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.	●	↔	After multiple failures to get the infiltration gallery functional, PNNL has developed a parallel approach with a deepening of the existing gallery along with shallow tests in other locations. This will help keep us on schedule to evaluate infiltration in the Feasibility Study. River stage is no longer a constraint in this evaluation. Alternative technologies are also being pursued contemporaneously by CHPRC with this work.
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. Adds a transfer building and an eighth IX train to the HX design to accommodate additional capacity for optimization.
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.	●	↔	100% design and installation of buildings is completed. Project remains ahead of schedule.
SGW-031A: P&T Design Changes - 200 West	Finalize design prior to contract award.	●	↔	Architectural and civil drawings are ready to be released by CHPRC in support of the start of the earthwork and site civil by Skanska. The remaining drawing packages (structural, mechanical, electrical, etc.) are being incrementally released through mid-June 2010 to match up with the General Contractor's construction schedule. Working on clarifications to the sludge handling proposals; award will follow immediately. Have developed a streamlined approach for handling contractor submittals and RFIs, third party inspections being issued for bid, and preparation for the conduct of services during construction.
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.	●	↔	Current CHPRC baseline has adjusted schedules to account for additional drilling durations.
SGW-035: 200 W P&T Single Wall Piping	Discuss alternate leak detection in RD/RAWP; engage regulators early.	●	↔	The safety basis documentation has been developed and approved and as such double wall piping is not required for 200 West HDPE piping traversing the burial grounds.
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 being pursued.

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	9.1	10.2	6.8	1.1	11.5	3.4	33.1
Base	12.5	10.8	11.6	(1.6)	-13.1	(0.8)	-7.3
Total	21.6	21.0	18.4	(0.6)	-2.7	2.6	12.3

ARRA

CM Schedule Performance: (+\$1.1M/+11.5%)

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

Well Drilling (-\$0.3M)

The Current Month negative variance is primarily due to delays in starting RI/FS well drilling in the Operable Units as planned due to changes in well locations and delays in awarding contract. Will work with contractors to utilize multiple drilling rigs to minimize yearend carryover work scope.

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

The positive schedule variance is primarily due to installation of equipment inside the DX process and M2 transfer buildings ahead of schedule.

Ramp-up and Transition (+\$0.6M)

The current month positive SV is a result of schedule recovery within sitework/utilities and procurement of trailers activities. This has been offset by the continued difficulties completing the D/B Shop/Warehouse work for both the EPC and S&GW buildings. Project teams meetings continue with selected contractors to avoid further slips.

CM Cost Performance: (+\$3.4M/+33.1%)

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

200-ZP-1 Operable Unit (-\$0.7M)

The current month negative cost variance is primarily due to extensive efforts to complete design and increased staffing plan to meet construction requirements. The project is in the process of preparing a bottoms-up estimate based upon the most recent design information for construction of both Phase I and Phase II of 200W Pump-and-Treat. Total baseline requirements will be addressed at that time.

Ramp-up and transition (+\$3.4M)

The CM positive cost variance is the current period positive CV is due to the Design Build contracts and utilities contracts that are being performed below baseline costs. Additionally accruals on the utility contract are understated for the period. It is anticipated that although underruns are occurring on the design/build activities. It is anticipated that the building fit out costs will be more that planned; reducing some of the current CTD underruns.

PBS RL-30 UBS, G&A, and DD (+\$0.5M)

The CM positive cost variance is discussed in Appendix C.

Base

CM Schedule Performance (-\$1.6M/-13.1%)

The primary contributors to the negative schedule variance are as follows:

Integrated Field Work (+\$0.3M)

The current month positive schedule variance is due to delivery of the two purgewater trucks in May that were planned to be delivered in June.

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

The current month negative schedule variance is primarily due to delays in design activities which have impacted field work; distribution of electricity and piping, erection of HX process building, and full scale bioremediation. It is anticipated that schedule will be recovered and HX will finish on schedule.

Regulatory Decision/Closure (-\$0.7M)

The current month negative schedule variance is largely attributed to delays associated with implementation of the Multi-Incremental Sampling and suspension of decision document activities to align with the Central Plateau tentative agreement. The project is in the process of preparing a BCR to align with the new Central Plateau Closure strategy.

CM Cost Performance (-\$0.8M/-7.3%)

The primary contributors to the negative cost variance are as follows:

Integrated Field Work (-\$0.3M)

The current month negative schedule variance primarily due to increased cost for support and training cost due to the expanding workforce, cost of buying an additional purgewater truck, and increased inventory requirements for additional sampling supplies. Actions are being taken to have support charges directed to the individual operable units when practical.

GW Monitoring & Performance Assessments (-\$0.8M)

The negative cost variance is primarily due to an adjustment that was made in WSCF billing rates to reflect premium cost for quick turn-around analysis for FYTD sampling activity. In addition some WSCF costs were incorrectly recorded in this account and will be corrected out in June. This account is expected to overrun as rates have increased from what was planned.

HR-3 Operable Unit (+\$0.4M)

The positive cost variance is primarily due to under accrual of construction contract that was newly awarded and efficiencies realized. No significant impact to total overall project cost.

Regulatory Decision/Closure (+\$0.4M)

The current month positive cost variance is primarily due to efficiencies realized in Multi-Incremental Sampling activities the preparation of the proposal to incorporate the tentative agreement. The efficiencies are reflected in the CTD positive cost variance.

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	71.1	74.1	59.3	3.0	4.2	14.8	19.9	202.3	243.9	(41.6)
Base	<u>210.2</u>	<u>204.7</u>	<u>194.5</u>	<u>(5.5)</u>	-2.6	<u>10.2</u>	5.0	<u>1,205.9</u>	<u>1,203.8</u>	<u>2.1</u>
Total	281.3	278.8	253.8	(2.5)	-0.9	25.0	9.0	1,408.2	1,477.7	(39.5)

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (+\$3.0M/+4.2%)

The primary contributors to the CTD positive schedule variance are as follows:

100-HR-3 Operable Unit (+\$4.4M)

The primary contributor to the CTD positive schedule variance is acceleration of procurement and construction for DX. With the implementation of AWA-PRC-10-017, work scope was scheduled to start at the beginning of FY 2010. However, a significant amount of work had already been performed in FY 2009 and that work scope is representative of the CTD positive schedule variance.

CTD Cost Performance: (+\$14.8M/+19.9%)

The primary contributors to the CTD positive cost variance are:

Drilling (+\$2.7M)

The positive cost variance is due to efficiencies/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. Efficiencies in NR-2 and HR-3 are expected to continue resulting in additional positive cost variance.

100-HR-3 Operable Unit (+\$3.1M)

CTD positive cost variance is due to efficiencies experienced during installation of HDPE piping, road crossings, and installation of equipment in the process and M2 transfer buildings.

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

The positive cost variance is due to completing work scope more efficiently than planned; primarily in the areas of multi-incremental sampling, borehole drilling, landfill characterization, and document preparation. Funds will be available to support other activities.

Ramp-up and Transition (+\$5.0M)

The CTD cost variance is due to the following; 1) Project support functions (PM, CM, Engr, etc.) continue to perform with staffing levels below estimated levels; 2) contracted costs for the 4 shop building are currently below estimated values; 3) initial site prep, utilities and trailer procurements/placement contracts are below estimated values; and 4) Utilities contract is under accrued. It is anticipated that although underruns are occurring on the design/build activities the building fit out costs will be more that planned; reducing some of the current CTD underruns.

PBS RL-30 UBS, G&A, and DD (+\$2.1M)

The CTD positive cost variance is discussed in Appendix C.

Base**CTD Schedule Performance (-\$5.5M/-2.6%)**

The following schedule variances exceed the reporting thresholds:

100-HR-3 Operable Unit (-\$2.4M)

The negative CTD schedule variance is primarily due to delays in HX design activities that have also now impacted field work (distribution of electricity and piping, erection of HX process building and full scale bioremediation). While initial field work has been delayed, no impact is expected to the scheduled completion dates of the HX pump-and-treat facility.

Regulatory Decision/Closure (-\$1.5M)

The CTD negative schedule variance is largely attributed to delays associated with implementation of the Multi-Incremental Sampling and suspension of decision document activities to align with the Central Plateau tentative agreement. The project is in the process of preparing a BCR to align with the new Central Plateau Closure strategy.

CTD Cost Performance (+\$10.2M/+5.0%)

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

GW Monitoring & Performance Assessments (-\$2.5M)

The CTD negative cost variance is primarily due to WSCF cost for FY09 and FY10 coming in higher than what was planned. The primary drivers for the increase are rate increases and G&A adders that are charged to the direct account that were not in the plan. Overrun in this WSCF account is expected to continue and will be managed by funds within the project.

100-KR-4 OU (+\$2.0M)

The primary contributor to positive cost variance are efficiencies obtained with the KR-4 Operations and Maintenance accounts, which are expected to continue throughout the fiscal year.

100-NR-2 OU (+\$1.9M)

The favorable CTD cost variance resulted from 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. It is anticipated that this underrun can be funds managed for other project scope.

200-ZP-1 Operable Unit (+\$2.0M)

The positive CTD cost variance is largely the result of the following factors: 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 (C7017) 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. This positive cost variance is expected to be available for funds management within other areas of the project.

Regulatory Decision & Closure Integration (+\$2.3M)

The positive cost variance is due to completing work scope more efficiently than planned; primarily in the areas of multi-incremental sampling, borehole drilling, landfill characterization, and document preparation. The project is currently preparing a BCR to implement the new central plateau closure strategy and will develop the new budget requirements.

Usage Based Services (-\$1.1M)

The negative CTD cost variance is primarily due to the increased cost associated with training due to the additional ARRA work and fleet services cost that occurred in FY 2009. Overruns will continue to be funds managed within the S&GRP project.

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

FUNDS vs. SPEND FORECAST (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	FY 2010		
	Projected Funding	Spending Forecast	Variance
ARRA	125.7	111.3	14.5
Base	<u>177.0</u>	<u>155.2</u>	<u>21.8</u>
Total	302.7	266.5	36.3

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding has been adjusted to reflect the FY 2010 funding levels for RL-0030 ARRA and Base activities.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

The BAC and EAC now include FY 2009 through FY 2018, the PRC contract period.

Baseline Change Requests

- BCR-030-10-012R0 Research Science & Technology Detailed Planning for Field Testing
- BCR-030-10-014R0 Argonne National Support to S&GRP Risk Assessment
- BCR-R30-10-008R0 DURA Sampling & Analysis Supporting Multiple Operable Units
- BCR-030-10-011R0 Re-planning of Upper Vadose Zone Barrier Expansion
- BCR-030-10-010R0 Implementation of 100-KW Bio-Infiltration Treatability Test

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, defines CHPRC planning with respect to TPA milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-024-58C	Initiate Discussions of Well Commitments	TPA	6/1/10	5/19/10		Complete
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	6/30/10			Proposed for deletion by approved Tentative Agreement. Not being worked due to contractor redirection. (BCR in process).
M-024-61-T01	Conclude Discussions of Well Commitments	TPA	8/1/10			On schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-115	DOE will submit to Ecology a Treatability Test Plan for Hexavalent chromium of groundwater at 100-D/H	TPA	8/30/10			On schedule.
M-015-116	DOE will submit to EPA a Treatability Test Plan for Hexavalent chromium of groundwater at 100-K	TPA	8/30/10			On schedule
M-016-124	Submit 200-ZP-1 Remedial Design Report	TPA	8/31/10			On schedule
M-091-40L-027	Submit 3 rd Quarter FY10 Burial Ground Sample Results	TPA	9/15/10		8/30/10	On schedule
M-015-51	Submit Revised FS Report and Proposed Plan to EPA for 200-BC-1 OU	TPA	9/30/10		N/A	Proposed for deletion by approved Tentative Agreement. Not being worked due to contractor redirection. (BCR in process).
M-015-17A	Submit a 200-UP-1 OU Combined Remedial Investigation and FS Report and Proposed Plan	TPA	9/30/10			On schedule
M-015-38B	Submit a Revised FS Report & Revised Proposed Plan for 200-CW-1	TPA	11/30/10			Proposed for revision by approved Tentative Agreement. Scope would be increased to include additional operable units and date would change to 4/30/12.
M-091-40L-028	Submit 1st Quarter FY11 Burial Ground Sample Results	TPA	12/15/10			On Schedule
M-024-61	DOE Shall Complete Construction of 30 Specific Groundwater Monitoring Wells	TPA	12/31/10		1/21/09	Wells completed 1/21/09. Awaiting RL completion letter.
M-016-111B	Expand Pump-and-Treat System at 100-HR-3 OU to 500 gpm Capacity	TPA	12/31/10			On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-82A	Submit Treatability Test Plan as Amendment of 200-BP-5 Work Plan	TPA	12/31/10			On Schedule
P-015-110C	Submit Uranium Treat. Tech. Treatability Test Plan for 200-DV-1 OU to Ecology	TPA	12/31/10			On Schedule. Proposed by Approved Tentative Agreement.
P-037-01	Submit Revised Closure Plan for Hexone Storage & Treatment Facility	TPA	12/31/10			On Schedule. Proposed by Approved Tentative Agreement.

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.