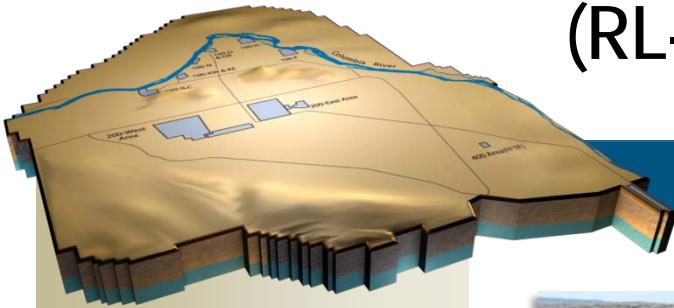


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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Deliverable C.3.1.3.1 - 1



A worker helps create the site for a road crossing. Over 100 road crossings are being constructed to protect the high-density polyethylene piping from the weight of heavy vehicles as the pipe crosses under the road in its 42-mile span to connect the DX facility to wells in the 100-HR-3 area.

PROJECT SUMMARY

American Recovery and Reinvestment Act (ARRA)

ARRA dollars are at work across the Central Plateau and along the Columbia River, constructing two groundwater treatment facilities and numerous wells that will be used for monitoring, extracting, and remediating groundwater near the Columbia River. River levels continue to impact well development at NR-2 and 30 wells have been drilled, but completion cannot be claimed until the river rises. Well decommissioning has been impacted by regulatory approval of wells slated for decommissioning.

Activity	December		Cumulative	
	Planned	Completed	Planned	Completed
Welling drilling	13	20	52	50
Well decommissioning	34	0	44	1
200 West P&T – Final Design	4%	7%	13%	13%
200 West P&T – Construction	0%	1%	2%	2.5%
200 West P&T – Testing/Startup	3%	3%	6%	5%
100 DX P&T – Construction/Startup	16%	4%	16%	35%

Base

Base work includes the pump and treat operations, CERCLA remedial process and documentation for the River Corridor and Central Plateau. Drilling, construction, and development of one of the final two wells supporting Phase 2 realignment of the KX and KR4 pump-and-treat systems were completed, as was construction of the road and pad to the final Phase 2 well. Modutank 3 construction is complete and was turned over to Groundwater Operations on December 8, 2009. Sampling and groundwater treatment was completed in December include the following:

- 108 well locations were sampled with a total of 465 samples being collected.
- 92 aquifer tube samples were collected from 39 tubes at 23 sites.
- 11M gallons groundwater treated by ZP-1 treatment facility
- 19.3M gallons groundwater treated by KX treatment facility
- 8.6M gallons groundwater treated by K west treatment facility
- 2.4M gallons groundwater treated by KR-4 treatment facility
- 2.5M gallons groundwater treated by HR-3 treatment facility
- 200K 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 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	9 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
		Treatment sys is 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 to protect the Columbia River by 2012	Treat 430 M gallons of 100 Area (D, H & K Area) groundwater	9/30/10	On schedule
		Review and total number of gallons treated	Monthly	95.6M gal Thru 12/31/09
		Treat up to 430 M 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 plutonium 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	On schedule
		Start construction of extraction buildings	3/30/10	On schedule
		Complete treatment facility construction	12/31/11	On schedule
10-EMS-SGWR-OB3-T1	100-K Area Waste Site Remediation	Initiate and sustain remediation of waste sites at 100-K Area	11/30/09	Complete*
		*Documentation forming the basis for completion has been submitted to the Director of Environmental Protection for review and concurrence.		

TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	0	1	10/28/09 – 20524
Total Recordable Injuries	0	1	Same as above.
First Aid Cases	5	15	<p>12/07/09- An S&GRP NCO was taken to first aid for evaluation after a split spoon soil sample collection device was accidentally dropped on their shin just above the right ankle. The NCO received a small contusion and was returned to work with no work restrictions. (20590)</p> <p>12/09/09- An S&GRP employee tripped and fell while ascending stairs to enter MO-234. As the individual fell to the ground, they felt a pop in the right shoulder. The individual was taken to first aid for evaluation, provided with a cold pack and returned to work with no restrictions. (20594)</p> <p>12/11/09- At approximately 06:30, the individual was crossing through the threshold of room 103 and his right hand came in contact with the door frame molding. He sustained a small cut to his right hand at the base of his index finger. The individual went to the 200W AMH facility to have the injury treated. The medical personnel provided treatment (cleaned site/applied bandage) and at 07:55, was released to work without restriction. (20596)</p> <p>12/18/09 - An employee was assisting with loading a plate compactor into the back of a pickup truck. Employee did not initially experience any pain / discomfort but, about 20 minutes later, employee felt some pain. When the pain / discomfort worsened, employee notified his supervisor and they went to AMH. Employee was treated and returned to work without restriction. ARRA (20606)</p> <p>12/22/09- An S&GRP employee was injured while performing aquifer tube sampling activities near the river (100N Area). The employee was sitting on an upside down 5-gallon bucket. Employee reached for a sample bottle and the bucket he was sitting on shifted. Employee lost his balance and fell over backward off the bucket. The employee was treated at AMH and released to work without restriction as related to this event. (20613)</p>
Near-Misses	0	0	

KEY ACCOMPLISHMENTS

EPC Projects in Support of S&GRP - ARRA

Work continues on of the 200W Area Pump and Treat Project 90 percent designs for the Process Facility and Balance of Plant. Additional design work is required to incorporate changes in the equipment sizing and the lime addition system. The project completed the development of a white paper, which discusses the Tc-99 inventory and impact to the Environmental Restoration Disposal Facility life span. This is an important information document for long term operations of the project.

Nine road crossings have been completed and grubbing for transfer piping has started for 200W pump and treat. Bids were received for construction of the extraction and injection buildings. The request for expression of interest for the Process and Rad facilities has been released. The plan is to get a single general contractor for the entire project.

The DX design team issued the 100 percent design media on December 11, 2009. Baseline Change Requests (BCRs) documenting the increase in DX treatment capacity and change from DOWEX to SIR-700 resin submitted December 28, 2009, as a part of PMB Rev 2. In order to maximize initial throughput at DX, four new extraction wells, previously slated to tie into the new HX facility, will be routed to the DX Transfer Building M2. Design changes were initiated for these wells. Two new road crossings associated with the four new extraction wells will be completed in March.

Vendor submittals for the long lead process skids approved December 23, 2009. Skid mounted pressure vessel fabrication was initiated in December. The first two skids for 100-DX are scheduled to arrive in February. An order for the vertical transfer and booster pumps was placed with delivery of the first pumps due March 31, 2010. Material take-offs were completed for the 100 percent drawings, and material procurements (non long lead) were initiated.

Section of the DX Process and M1 transfer buildings is 90 percent complete. The M2 transfer building's roof installed will be completed no later than January 28, 2010. Process building insulation is 30 percent complete.

Environmental Programs and Strategic Planning - Base

Developed a draft response to comments and concerns received during public discussions of the Central Plateau Cleanup Completion Strategy.

On December 1, U. S. Environmental Protection Agency (EPA) Region 10 issued a modified National Pollutant Discharge Elimination System (NPDES) Permit (WA-002591-7) that removed the prohibition on CERCLA activity discharges, and removed all provisions from the permit pertaining to discharge from 300 Area TEDF due to the shutdown of that facility. This brought to a successful conclusion CHPRC's appeal of the CERCLA provision contained in the permit originally issued June 23.

The formal declaration of full implementation of the CHPRC Environmental Management System (EMS) was made by RL to DOE HQ. This declaration caps a year-long effort to create, test and implement an ISO 14001 conformant designed to continuously improve environmental performance and facilitate RL environmental goals. Soil and Groundwater Project has several progressive objectives and targets that are part of this EMS.

Revised the As Low as Reasonably Achievable Control Technology Demonstration annotated outline in response to Department of Health comments. Revised the removal action work plan annotated outline in response to DOE comments. Provided DOE with proposed revisions to the remedial investigation/feasibility study (RI/FS) and engineering evaluation/cost analysis. Annotated Outlines to incorporate improvements identified during document preparation.

Submitted DOE/RL-2007-34 "Criteria for the Selection and Use of Environmental Regulatory Models for the Vadose Zone System at the Hanford Site" for final technical edit prior to issuance of Rev. 1. Completed detailed basalt surface map supporting the development of the BX/BY capture zone models. Finalized the update for the Hanford Site Composite Analysis. Finalized the approach for the outer area baseline risk assessment and gain DOE acceptance. Finalized CHPRC Risk Integration Procedure (PRC-PRO-EP-40253). Revised risk integration process document to address comments received from DOE and Ecology.

Well Drilling and Decommissioning - ARRA

- *100-KR-4:* Proposed locations for wells required for K Decision Unit remedial investigation and for Phase 3 realignment of the 100-KR-4 pump-and-treat systems were walked down with representatives of the Indian Nations in preparation for upcoming drilling activities.
- *100-NR-2:* Drilling on the 171 wells for the expansion of the strontium-90 apatite barrier continued with 45 wells in process. The 45 wells have been drilled to total depth and 24 of the 45 have been constructed and developed. As a result of low Columbia River water elevations, the developments of the remaining wells are not progressing as expected. Therefore, the development of the wells will continue to be dependent on the water elevations.
- *100-HR-3 H Area:* Overall, 25 wells are being installed in support of the new DX Groundwater Treatment Facility. The first 12 wells have been drilled, constructed, and developed. The remaining 13 well locations were approved by the State Historic Preservation Officer enabling the planning and field work to continue. Pads and roads have been completed on the remaining 13.
- *100-HR-3 D Area:* Overall, 14 wells are being installed in support of the Remedial Process Optimization effort to increase the productivity of the treatment facilities. Twelve wells are in process with all 12 being drilled to total depth and ten constructed. Nine of the 12 wells have been developed. The remaining two of the 14 well locations require additional documentation to continue.
- *100-BC-5:* Drilling continued on three of the four wells. One of the wells has been constructed and developed.
- *200-ZP-1 Expansion:* Currently, seven of 17 wells have been initiated, with six wells drilled to total depth and constructed and four wells have been developed.
- *200-BP-5:* The drilling of two of the three wells is at 302 feet and 355 feet of a total 383 feet depth.

River Corridor

100-BC-5 Operable Unit - Base

Formal EPA comments on Draft A of the 100-BC Decision Unit Work Plan Addendum and SAP were received on November 25, 2009. Initial comment responses have been provided to RL for subsequent submittal to EPA. Extensive reorganization of the work plan document is underway to satisfy the EPA requested format, and comment responses are being incorporated into the Rev. 0 versions.

At the direct request of RL, preparations continued for collecting samples from the base of the 100-B-27 excavation site located directly south of the C7505 well-drilling location. The sampling instruction document has been finalized and concurred to by both RL and EPA, and site-related safety issues are all resolved. These resolutions included Washington Closure Hanford (WCH) improving egress by building a new personnel ramp to the base of the excavation, and CHPRC implementing administrative controls to mitigate any remaining sloping hazards. An administrative interface agreement (AIA) was made with WCH to cover all ramp-improvement and sampling activities in the B-27 excavation. As part of the AIA and as a result of WCH completing the ramp improvement, the site is now under temporary CHPRC control until the sampling work is complete. On December 19, 2009, the sampling grid was laid out within the excavation base with all initial soil-sampling locations marked. On December 21, 2009, all of the marked sampling locations were surveyed to establish the initial sampling coordinates. The initiation of sampling has been delayed due to inclement weather conditions (snow and frozen ground) that would

have prevented the work from being conducted safely. Sampling activities are expected to begin in early January.

100-KR-4 Operable Unit - Base

The following groundwater treatment was conducted 100-KR-4 Operable Unit:

- Approximately 2.4 million gallons at the KR4 pump and treat system.
- Approximately 19.3 million gallons pumped at the KX system.
- Approximately 8.6 million gallons pumped at the KW system.

The KR4 and KX systems remain under construction related to Phase 2 realignment. KR4 transfer building 1 remained out of service due to construction; KX transfer building 1 operated at reduced flow due to construction. Drilling, construction, and development of one of the final two wells supporting Phase 2 realignment of the KX and KR4 pump-and-treat systems were completed, as was construction of the road and pad to the final Phase 2 well.

Consultation with Tribal Nations regarding proposed locations of three of the four planned Phase 3 realignment wells continued throughout the month. Phase 3 realignment will impact all three 100-KR-4 pump-and-treat systems by adding three new extraction wells to the systems, realigning wells from the KR4 system to the KX system, reducing long line lengths associated with four KX system wells to improve operability, and providing spare extraction well connection capacity to the KX and KR4 systems. Phase 3 implementation is necessary to ensure the 2012 Tri-Party Agreement target for river protection is met.

The K Decision Unit Addendum to the 100 Areas RI/FS Workplan was provided to EPA for final approval, but EPA is choosing not to sign the document until the 100 Areas Integrated RI/FS Work Plan is finalized.

Paperwork to support installation of the K Decision Unit RI wells is in preparation. Two of the proposed RI wells cannot be drilled in the approved locations due to cultural issues, and alternative locations are being evaluated.

RL received EPA comments on the Draft A, In Situ Remediation Focused Feasibility Study/Proposed Plan (FFS/PP) on December 4, 2009. During December, the Tri-Parties documented an agreement that RL would provide a plan for updating the FFS/PP by January 18, 2010. Revision of the FFS/PP is underway. Based on December discussions with EPA, a bio-infiltration treatability test will be planned for implementation at the 183.1-KW head house as work continues on the FFS/PP.

The resin test skid was moved from the DR-5 facility to the KX process building in preparation for testing using 100-KR-4 groundwater.

100-NR-2 Operable Unit - Base

The NR-1/2 OU Proposed Plan to Amend the Interim ROD (Draft B) was transmitted to RL on December 9, 2009. Work continued on Draft A of the 100-N Decision Unit Work Plan Addendum and SAP to actively address RL concerns. The revised documents were transmitted to RL on December 15, 2009.

Field activities for the Jet Injection Treatability Test began on December 3, 2009. All three of the test plots have been installed. The test-plot trenches were backfilled, and site clean-up activities were initiated in preparation for contractor demobilization. The associated aquifer-tube sampling continues to be conducted on a weekly basis, and core sampling in the test plots is expected to take place in late January.

Engineering continues on the design for an injection system for the Apatite Barrier expansion. A 60 percent design-review meeting was held on December 17, 2009. The final design is expected to be complete in January. Long-lead items will soon be identified for procurement prior to manufacturing of the skids. The associated Treatability Test Plan for allowing the future expansion activities is being

produced. Additional planning activities are underway.

Phytoremediation and total petroleum hydrocarbon studies are continuing with Pacific Northwest National Laboratory (PNNL) as planned. All field data-collection work is complete, and the final reports are being produced. These reports are expected to be complete in January and February, respectively.

100-HR-3 Operable Unit - Base

The following groundwater treatment was conducted at 100-HR-3 Operable Unit:

- Approximately 2.5 million gallons pumped at 100-HR-3.
- Approximately 0.2 million gallons pumped at 100-DR-5.

HR-3 operated at below normal levels as the H Area aquifer test continued, and because of frozen piping for approximately two weeks in December. The rebound study was extended to examine the influence of the river at high water. Due to the chromium concentrations measured in the RUM wells, two RUM wells are being reconfigured for long-term operation as extraction wells.

DR-5 also operated at below normal flows because two of the extraction wells, 199-D5-20 and -32, were out of service. The DR-5 system froze after a mechanical failure, and is down until replacement parts are installed. Construction has resumed and the well realignment is proceeding.

Remedial Process Optimization (RPO) modeling has been completed on five alternatives to the current baseline designed to meet 2012 and 2020 Tri-Party Agreement (TPA) Target Milestones. Alternative 5 is projected to achieve both targets and is being implemented through an approved BCR. It increases the number of new wells from 49 to 70. RPO is now addressing the incorporation of chemical and/or biological remediation into the remedy to accelerate meeting the 2020 TPA target milestone.

Groundwater sampling commenced to support the decision unit risk assessment was conducted in accordance with a mini sampling analysis plan (SAP). Approximately 80 percent of the results have been received from the first round of sampling.

100-FR-3 Operable Unit - Base

Formal EPA comments on Draft A of the 100-F & IU-2/6 Decision Unit Work Plan Addendum and SAP were received on November 25, 2009. Initial comment responses have been provided to RL for subsequent submittal to EPA. Extensive reorganization of the work plan document is underway to satisfy the EPA requested format, and comment responses are being incorporated into the Rev. 0 versions.

Central Plateau

200-UP-1 Operable Unit - Base

A redline of the 200-UP-1 OU Groundwater Remedial Design/Remedial Action Work Plan (DOE/RL-97-36, Rev 3) was prepared incorporating Ecology comments and provide to Ecology for final review on December 10, 2009. Initiated capture zone analysis of the S-SX Tc-99 plume in support of the S-SX extraction system design effort.

The U Plant pump and treat system has been shutdown since October 15, 2009 due to an Effluent Treatment Facility outage, which is expected to last until early January. A well camera survey and redevelopment activity is being planned for early January to enhance extraction well production.

200-ZP-1 Operable Unit - Base

Twelve of 14 groundwater extraction wells are currently online pumping water at a rate of approximately 255 gpm. Approximately 11.07 million gallons of groundwater were treated in December.

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

Active SVE operations have ended for the winter months; passive SVE operations are ongoing. Heaters within the active SVE units are operating to prevent freezing. Granulated activated carbon heater units are on order to help the units operate more efficiently in colder temperatures.

300 FF-5 Operable Unit - Base

EPA final comments to the RI/FS Work Plan and SAP Draft A have been received and are being reviewed. Formal comments have also now been received from the Nez Perce Tribes.

Geophysical testing will continue prior to initiation of infiltration testing during low river stage anticipated to be in February or March of 2010.

Regulatory Decisions and Integration

ARRA

- Completed 200-MG-1 Action Memorandum (Draft A) for 37 remaining waste sites in the outer area to RL; document was forwarded to Ecology for review.
- Completed 200-MG-2 Action Memorandum (Rev. 0), including RL and Ecology approvals

Base

- Incorporated all Agency comments on the 200-BC-1 Treatability Test Report. Rev. 0 will be issued early January 2010.
- Transmitted decisional draft of data quality objective and SAP U-8 and U-12 cribs on December 18, 2009, for review and comment.
- Transmitted decisional draft of West Lake SAP to RL on December 31, 2009, for review and comment

Deep Vadose Zone Treatability Test Project - Base

Work continues on the deep vadose zone project including the pilot test, characterization test report, desiccation lab testing, uranium sequestration, soil flushing and grouting. The following summarize key accomplishment for December:

- The contract for 20 boreholes needed for instrumenting and logging for the pilot test should be issued by January 8, 2010.
- A statement of work has been drafted and will be issued as a request for proposal for procurement of a dry air delivery system for the project.
- Mission Support Alliance continues design in preparation for field work for the 13.8 KV power supply needed to operate the three phase 480 volt equipment used in the pilot test. Field work for the electrical upgrade should begin in the middle of January.
- The test report on Uranium Sequestration is undergoing tech editing and will be transmitted to RL in mid-January.

MAJOR ISSUES

Issue - Cultural reviews are impacting well locations, decommissioning and planning documents.

Corrective Action - Project initiated drilling on the non-sensitive area within each respective drilling campaign.

Status - Impact is building of roads and pads to the culturally sensitive area and subsequent well drilling efforts.




Issue - Well decommissioning ARRA metrics are not being achieved.




Corrective Action - Project plans to recover for this fiscal year by supplementing 20 additional wells for decommissioning.























Status - Regulators and Operable Unit leads are very reticent to relinquish old wells for decommissioning until after the RI/FS decisions are completed. Currently have 190 wells approved for decommissioning. Continuing to work the issue with RL.

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 regulatory changes.			RD/RAWP approval behind schedule, but no issues identified to date
SGW-003A: Central Plateau Drilling - 200W P&T	Accelerate FY 2010 wells into FY 2009; utilize rotary drilling vs. cable-tool; modify vadose zone sampling approach			On schedule; have experienced well construction problems on two of the current six wells, placing next 11 at risk.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate. sample parameters.			Ahead of schedule for all Central Plateau wells.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.			Due to river levels the infiltration test has been moved to February 2010; this does not impact the schedule.
SGW-035: 200 W P&T Single Wall Piping	Discuss alternate leak detection in RD/RAWP; engage regulators early.			Double containment may be required for piping that runs adjacent to burial grounds. MOU is being written.
SGW-037: 100-NR-2 Infiltration Gallery Pilot Test	Risk accepted without mitigation.			No issues expected at this time.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.			Now two months past the agreement date; revised cleanup strategy will translate to a revised regulatory document approach.
SGW-051: Aggressive Schedule for 200 West P&T	Concurrent document/procurement process.			On schedule with procurements; behind schedule on design but have a recovery plan in place.
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 completed in December; building installation is well underway; process installation is scheduled to begin in January 2010.
SGW-047: Purgewater System Regulatory Issues	Engage regulators in changes in path forward and in design process.			Working with Ecology to expand review of planned approach.
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.

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 (%)	Budget at Completion (BAC)
ARRA	6.1	5.4	3.6	-0.8	(12.2)	1.7	32.3	204.2
Base	<u>9.6</u>	<u>13.8</u>	<u>8.8</u>	<u>4.3</u>	44.5	<u>5.1</u>	36.7	<u>1,188.5</u>
Total	15.7	19.2	12.4	3.5	22.3	6.8	35.5	1,392.7

Numbers are rounded to the nearest \$0.1M.

ARRA

CM Schedule Performance: (-\$0.8M/-12.2%) is within reporting thresholds:

The following positive and negative variances are a direct result of point adjustments associated with the implementation of AWA-PRC-10-017:

Drilling (+\$0.3M)

Efficiencies obtained in the well drilling contract for 100-HR-3. These efficiencies allowed completion of six wells in December when four were planned. Total depth and screen length requirements for these wells are not as robust as previous wells.

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

The workscope was realigned to reflect the planned execution of the DX procurement and construction activities. No impact to total contract cost.

200-ZP-1 Operable Unit (+\$1.2M)

The workscope was realigned to reflect the planned execution of long lead procurements and construction activities including, sample collection and analysis for the six new extraction wells and re-alignment of ARRA 200W P&T design and construction schedule activities.

Regulatory Decision/Closure (-\$0.4M)

Implemented RL direction to change existing ARRA workscope to Base workscope. No impact to overall total contract cost.

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

Incorporate finalized scope into the schedule and budget for the S&GRP and EPC shop buildings and site work/mobile office installation. Additionally, work on the preliminary site work and installation of mobile offices has been completed ahead of the current linear spread of BCWS.

CM Cost Performance: (+\$1.7M/+32.3%)

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

Drilling (+\$0.6M)

Current month efficiencies were obtained in the following areas: contractor mobilization and well drilling for 100-NR-2 wells as well as nominal cost expended for roads and pads. Further efficiencies are expected in well drilling due to faster drilling method being utilized, however the project is expected to incur additional road improvement cost in the near future.

100 HR-3 Operable Unit (+\$0.5M)

The positive cost variance is due to previously submitted accruals that were erroneously overstated. The reversal in December caused the current month positive cost variance. No impact to overall contract EAC.

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

The current month CHPRC cost variance is within threshold.

Base**CM Schedule Performance (+\$4.3M/+44.5%)**

The following positive and negative variances are a direct result of point adjustments associated with the implementation of AWA-PRC-10-017:

Drilling (+\$0.4M)

The workscope was realigned to reflect the planned execution of well drilling activities. This point adjustment has no impact on the overall project cost.

100-KR-4 OU (+1.4M)

The workscope was realigned to reflect the planned execution of Bioremediation and Phase 2 equipment/material installation activities. This point adjustment has no impact on the overall project cost.

100 NR-2 Operable Unit (+\$0.4M)

The Jet Grouting Pilot Test and the Gallery Pilot Test work scope were re-planned. No impact to overall project is projected.

100 HR-3 Operable Unit (+\$0.5M)

The workscope was realigned to reflect the planned execution of HR-3 activities. No impact to total contract cost.

200 ZP-1 Operable Unit (+\$0.8M)

The current month positive schedule variance is primarily due to completion of 200W Area P&T design and construction scope that was previously behind schedule and implementation of AWA-PRC-10-017 which reflects RL direction to change existing ARRA workscope to Base workscope. This workscope included Reporting and Decision Documentation, Performance Monitoring Plans, sample collection and analysis for the six new extraction wells.

CM Cost Performance (+\$5.1M/+36.7%)

The following positive and negative variances are a direct result of point adjustments associated with the implementation of AWA-PRC-10-017:

Project Management (+\$0.3M)

The work scope was realigned to reflect the planned execution and resource requirements. This realignment created a current month point adjustment in labor (increase in BCWS) resulting in current month positive cost variance; and 2) contracts were under accrued in December. The accruals will be corrected in January.

100 KR-4 OU (+\$0.5M)

The current month positive cost variance is a result of: 1) Efficiencies obtained with level of effort accounts for Operations and Maintenance, and 2) Implementation of AWA-PRC-10-017 into the performance measurement baseline which allowed some of the Phase 2 equipment/material installation effort that had been performed during October and November to be earned in December. It is anticipated that efficiencies in the Operations and Maintenance accounts will continue.

100-HR-3 Operable Unit (+\$1.7M)

The workscope was realigned to reflect the planned execution of HR-3 activities. No impact to total contract cost.

200 ZP-1 Operable Unit (+\$0.8M)

The current month positive cost variance is primarily due to the following factors: 1) Implementation of AWA-PRC-10-017 which reflects RL direction to change existing ARRA workscope to Base workscope, resulting in an increase of BCWS and BCWP and no increase to ACWP. This workscope included reporting and decision documentation, performance monitoring plans, sample collection and analysis for the six new extraction wells. 2) Reflects correction of road crossing construction costs from a Base to ARRA cost account charge number. These changes have no overall impact on total project cost.

300 FF-5 Operable Unit (+\$0.6M)

The current month underrun resulted from accrual reversals for November accruals which were over estimated. PNNL has committed to send preliminary accrual input to allow CHPRC overview prior to closure of accrual system each month.

Regulatory Decision/Closure (+\$0.9M)

The current month positive cost variance is primarily due to the following: Implementation of AWA-10-017 into the performance measurement baseline. This AWA implemented RL direction to change existing ARRA workscope to Base workscope. In addition, efficiencies were obtained in multi-incremental sampling, drilling of the 216-1 borehole, and removal action document preparation. No impact to total contract cost.

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)
ARRA	25.9	30.5	23.0	4.5	17.5	7.5	24.5	204.2
Base	<u>149.7</u>	<u>150.0</u>	<u>139.8</u>	<u>0.3</u>	0.2	<u>10.3</u>	6.8	<u>1,188.5</u>
Total	175.7	180.5	162.7	4.8	2.7	17.7	9.8	1,392.7

Numbers are rounded to the nearest \$0.1M.

ARRA**CTD Schedule Performance: (+\$4.5M/+17.5%)**

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

100-HR-3 Operable Unit (+\$4.2M)

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 workscope was scheduled to start at the beginning of FY 10. However, a significant amount of work had already been performed in FY 09 and that workscope is representative of the CTD positive schedule variance.

CTD Cost Performance: (+\$7.5M/+24.5%)

The primary contributors to the CTD positive cost variance are:

Drilling (+\$1.5M)

The positive cost variance is due to efficiencies obtained in drilling for 100-NR-2 and 100-HR-3 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 (+\$2.1M)

Major contributor to the CTD positive cost variance is efficiencies experienced on DX construction. HR-3 Pump and Treat Operations also contributed to the underrun.

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

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

PBS RL-30 UBS, G&A, and DD (+\$1.9M)

A positive variance of +\$20.2M/ +16% for CHPRC (G&A) and DD activities is due to the PRC accounting practice of distributing cost based on the Project's actual cost.

Base**CTD Schedule Performance (+\$0.3M/+0.2%)**

No variances exceed reporting thresholds.

CTD Cost Performance (+\$10.3M/+6.8%)

Various positive variances that did not exceed reporting thresholds contributed to the positive cost variance. Primary contributors to the positive variance that exceed reporting thresholds are as follows:

Integration and Assessments (+\$1.1M)

The cumulative underrun can be primarily attributed three control accounts: Remediation Science and Technology is under budget for the (level of effort) horizontal drilling initiative contract - award was delayed resulting in a CTD cost underrun; Systematic Planning Integration has achieved efficiencies and used less subcontract resources than planned; and Sample Management and Reporting activities are being performed for less labor than planned. Horizontal drilling is now taking place and this portion of the cost variance will be eliminated over the coming months. Other efficiencies that have been achieved in Systematic Planning Integration and Sample Management and Reporting are expected to continue.

Project Management (+\$1.0M)

The CTD positive cost variance is primarily due to the following: 1) PRC Transition cost in FY 09 was significantly less than planned and 2) labor underruns in FY-10. Labor underruns are being reviewed as a potential source for funds management within the project.

Integrated Field Work (+\$0.8M)

The CTD positive cost variance is primarily due to efficiencies resulting in underruns in material and contract costs in the operations and maintenance control account. It is anticipated that with the expected RL-30 support cost growth during the remainder of the FY that this underrun will slow or reverse by fiscal year end.

GW Monitoring & Performance Assessments (-\$1.3M)

CTD overruns are primarily due to FY-09 WSCF cost that was higher than planned and have been handled through funds management within the project.

100-KR-4 OU (+\$1.4M)

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. There was also an under accrual of some Phase 2 work that will be corrected in January.

100-NR-2 OU (+\$1.1M)

The favorable CTD cost variance resulted from performing chemical treatment & maintenance scope 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.

100-HR-3 Operable Unit (+\$1.1M)

Major contributor to the CTD positive cost variance is efficiencies experienced including project management, CERCLA process implementation, operations and maintenance, and field study deployments.

200-ZP-1 Operable Unit (+\$1.5M)

The positive cost variance is largely the result of the following factors: 1) Within the interim operations control account significant progress and cost underruns have been achieved to date for annual system calibration. 2) The design of the permanent hookup of well EW-1 (C7017) was lower than planned as we were able to make minor changes 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. and 4) Efficiencies to-date pertaining to design/construction of the 200W Area P&T, primarily in the areas of remedial design/remedial action (RD/RA) work plan preparation, construction of the aquifer test system as well as aquifer testing and balance of plant design preparation. This positive cost variance is expected to be available for funds management within other areas of the project.

Regulatory Decision & Closure Integration (+\$1.4M)

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

PBS RL-30 UBS, G&A/DD (+\$1.3M)

A positive variance of +\$20.2M/ +16% for PRC G&A and DD activities is due to the PRC accounting practice of distributing cost based on the Project's actual cost.

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		Variance
	Projected Funding	Spending Forecast (Actuals)	
ARRA	149.8	145.6	4.2
Base	<u>177.4</u>	<u>154.8</u>	<u>22.6</u>
Total	327.2	300.4	26.8

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding has been adjusted to reflect the FY 2010 funding levels for RL30 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

AWA-PRC-10-017, Initial Implementation of DOE Comments on PRC Baseline, Rev 1

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 submitted in June defines CHPRC planning with respect to TPA milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-016-14B	Submit a draft CERCLA proposed plan, 100-NR-1/2	TPA	12/31/09	12/29/09		Complete
M-016-112A	Complete Demos For Biostimulation And Electrocoagulation	TPA	12/31/09	12/18//09		Complete
M-015-61	Submit RI/FS Work Plan for the 100-NR-1 and 100-NR-2 OUs	TPA	12/31/09	12/22/09		Complete
M-015-54	Submit Report on Reactive Gas Testing for Sequestration of Uranium	TPA	1/31/10			On schedule
M-015-40E	Parties Will Complete Negotiations And DOE Will Submit Change Packages	TPA	02/28/10			On schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	W/New Milestones For RI/FS Process For Specified Operable Units					
M-015-44B	Submit 200-MW-1 OU FS to EPA	TPA	2/28/10			On schedule
M-91-40L-025	Submit Oct-Dec 1 st Quarter FY10 Burial Ground Sample Results	TPA	3/15/10		2/15/10	On schedule
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	6/30/10			On schedule
M-024-58C	Initiate Discussions of Well Commitments	TPA	6/1/10			On schedule
M-091-40L-026	Submit 2 nd Qtr FY10 Burial Ground Sample Results	TPA	6/15/10		5/30/10	On schedule
M-016-155	Submit Revised RD/RA Work Plans for 100A in Accordance With M-016-150 ROD	TPA	6/30/10		9/30/11	On schedule. Change number M-16-09-10, in draft, to change due date.
M-024-61-T01	Conclude Discussions of Well Commitments	TPA	8/1/10		7/30/10	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			On schedule
M-015-17A	Submit a 200-UP-1 OU Combined Remedial Investigation and FS Report and Proposed Plan	TPA	9/30/10		6/28/10	On schedule

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.