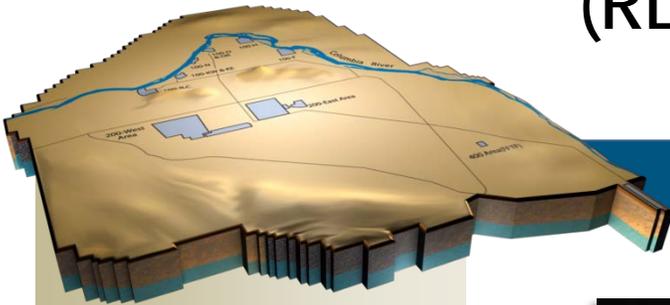


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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November 2010
DOE/RL-2010-126-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



The structural steel is rising for the larger of two process buildings for the 200 West Groundwater Treatment Facility, a pump-and-treat facility under construction. Crews worked the night shift to ensure timely construction of the buildings before adverse winter weather conditions set in.

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 November is summarized in the table below.

Activity	November		Cumulative	
	Planned	Completed	Planned	Completed
Well Drilling (# of wells) -352	9	4	298	283
Well Decommissioning (# of wells) -350	14	0	199	176
100 DX P&T – Construction/Startup (%)	2	1	99	99
200 West P&T – Final Design (%)	-	-	100	100
200 West P&T – Construction (%)	8	6	43	36
200 West P&T – Testing/Startup (%)	6	5	24	24

Base

Base work includes the pump-and-treat operations, Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) remedial processes, and documentation for the River Corridor and Central Plateau. The second of three rounds of aquifer tube sampling was completed at the 100-HR-3 Operable Unit. Sampling and groundwater treatment completed in November includes the following:

- 84 well locations were sampled with a total of 443 samples being collected
- 41 aquifer tube samples collected from 11 tubes at 5 locations
- 17.88M gallons groundwater treated by ZP-1 treatment facility
- 20.55M gallons groundwater treated by KX treatment facility
- 8.59M gallons groundwater treated by KW treatment facility
- KR-4 treatment facility shutdown in November for facility upgrades
- 7.2M gallons groundwater treated by HR-3 treatment facility
- 1.0M gallons groundwater treated by DR-5 treatment facility
- 55.22M gallons of groundwater treated total

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	Complete (10/28/10)
		Finish ATP for DX P&T system	12/30/10	On schedule
		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	Complete
		Evaluate FY-end sample schedule relative to baseline planned sample schedule of 2,768 sample trips	10/31/10	Complete (10/27/10)
		Reduce the baseline planned sample schedule by at least 277 sample trips	12/31/10	Complete
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	Treated 605.2 M gal thru 11/30/10
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	Complete (3/19/10)
		Start construction of GW extraction buildings	3/30/10	Complete (3/19/10)
		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
10-EMS-SGWR-OB4-T1	Reduce Project Waste Generation	Track & quantify project cost savings from on-going waste reduction initiatives	1/31/11	On Schedule
		Track, quantify & report on drill cuttings RTEd in lieu of disposal at ERDF	30 days after CY Qtr-end	On Schedule
		Track, quantify & report on use of ERDF boxes in lieu 55-gallon drums	30 days after CY Qtr-end	On Schedule
		Track, quantify & report on purgewater generation avoidance	30 days after CY Qtr-end	On Schedule

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	2	N/A
Total Recordable Injuries	0	3	N/A
First Aid Cases	7	88	<p>11/5/10 – The employee was moving a 12' road barricade with the assistance of another employee. The second employee at the rear of the barricade tripped over a piece of wood causing him to quickly push forward & then pull back, causing the employee at the front of the barricade to experience forced motion, ultimately causing low back pain. 21473 (EPC)</p> <p>11/6/10 – Employee was packing rebar, stood up and stepped over the edge of the form, caught his boot and fell. Employee landed on his right wrist. 21471 (EPC)</p> <p>11/8/10 – Employee felt pain when he stepped into rebar opening with left foot. 21474 (EPC)</p> <p>11/17/10 – Employee moving furniture with a hand truck contacted the right side of face on cabinet. 21529 (S&GRP)</p> <p>11/22/10 – Employee got acid on finger while removing pre-preserved bottles from box. 21529 (S&GRP)</p> <p>11/29/10 – Slipped on ice when exiting vehicle. 21537 (S&GRP)</p> <p>11/29/10 – Smelled odor when sampling well 299-E33-265. 21539 (S&GRP)</p>
Near-Misses	0	2	N/A

During the month of November, the S&GRP surpassed a significant milestone having worked more than 1,200,000 hours over the past 12 months without a lost time event on all S&GRP work within RL-0030, RL-0040 and RL-0041.

KEY ACCOMPLISHMENTS

ARRA - GW CAPITAL ASSET

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

EPC Projects in Support of S&GRP - ARRA

- 200 West Area Groundwater Treatment Facility – All welding activities for the transfer piping have been complete for the Phase I well to transfer building runs. Structural steel erection has been initiated at six of the seven buildings (seventh building is S/SX which is base funded).

During November, a night shift was utilized for BIO building structural steel erection. This extra shift allows slab on grade pours to be completed during the day shift. Long-lead equipment continues to be fabricated with the first seven tanks delivered to the site.

- A Hazard Review Board was conducted on November 19, 2010, to assure readiness of the systems and personnel for bulk chemical offload. Acceptance Testing is approximately 83% complete. All the ion exchange trains have been tested and approved for continuous operation (November 22, 2010).
- 200E Unsecured Core Complex – S&GW2 – Fire protection system installed. Punch list has been initiated.

EPC Projects in Support of S&GRP – Base

- 200 West Area Groundwater Treatment Facility –S/SX transfer building site is under construction with the first of two slab on grade pours complete
- Erection of the Process Building is complete with the exception of the overhead doors. A contract has been awarded to perform the epoxy coating of the floors at both the Process Building and the H1 Transfer Building. Forms and rebar installation is in progress for the H1 Transfer Building. Twenty four of twenty eight (85%) road crossings are complete. The remaining road crossings will be constructed in the spring. HDPE pipe laying and bonding is 63% complete.

ARRA - GW OPERATIONS

Well Drilling and Decommissioning – ARRA

	November		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 RPO – 4 wells	2	0	2	0
KR-4 RI/FS – 13 wells	1	0	10	6
100-NR-2 Barrier Emplacement – 171 wells	0	0	171	171
100-NR-2 RI/FS – 8 wells	1	0	3	0
100-HR-3 Bioremediation TT – 4 wells	0	0	0	0
100-HR-3 H Area RPO – 40 wells	0	0	40	37
100-HR-3 D Area RPO – 30 wells	0	0	30	30
100-HR-3 RI/FS – 15 wells	2	4	2	4
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	1	0	10	6
100-FR-3 – 3 wells	0	0	3	2
300 FF-5 RI/FS – 11 wells	1	0	4	4
Drilling Total	8	4	278	263
Decommissioning Total	14	0	199	176

BASE - GW OPERATIONS

Environmental Strategic Planning:

- Completed the initial effort on the “Technical Work Group” assignments from the Senior Executive Committee (SEC). Two subjects were addressed in this initial effort:
 - 1) Graded approach to setting soil concentrations protective of groundwater, and
 - 2) Development of ecological preliminary remediation goals (PRGs).
 Agreements were reached on several important elements of these subjects, further meetings are required. Reports were prepared for presentation at the December 8, 2010, SEC meeting.

Integration Management:

- Restarted the River Corridor Multi Project Teams (MPT) following a series of River Corridor Remedial Investigation/Feasibility Study (RI/FS) scoping and technical issue resolution meetings to get direct feedback from RL and the regulatory agencies on the River Corridor RI/FS.
- Developed an integrated deep vadose zone project schedule that shows work to be completed by PNNL, WRPS, and CHPRC

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

- Collection of upwelling (river-porewater) samples from the bottom of the Columbia River was initiated and completed along the 100-BC Area as required in the RI/FS Work Plan Addendum and SAP.
- Drilling and sampling activities continued at RI/FS well C7783, and the borehole advanced to 129.0 ft below ground surface (bgs). Five of the seven planned RI/FS borehole and sampling completed.
- The decisional draft of the document proposing expedited remedial actions to be implemented for meeting TPA Target Date M-016-110-T01 was provided to RL for review on November 15, 2010

100-KR-4 Operable Unit - Base

- Received State Historic Preservation Office (SHPO) concurrence with the Determination of No Adverse Effect to HCRC#2010-100-025 on November 18, 2010, installation of new wells for Phase 3 realignment.

100-NR-2 Operable Unit - Base

- The NR-2 Sampling Analysis Plan (SAP) for collecting upwelling (river-porewater) samples from the bottom of the Columbia River along the 100-N shoreline was approved by RL and the regulators on November 8, 2010.
- The second round of spatial-and-temporal groundwater well sampling continued, and as a result, 24 of the 26 wells have now been sampled

100-HR-3 Operable Unit - Base

- DR-5 and HR-3 operated at normal capacity (~35 gpm and 200 gpm, respectively) until late November, when low temperatures caused the transfer line between the northern 100-D area and the HR-3 pump-and-treat system to freeze, and subsequently shutting down the DR-5 pump-and-treat system.
- RI/FS drilling and sampling continued with four of fifteen wells completed

100-FR-3 Operable Unit - Base

- Collection of additional upwelling (river-porewater) samples was proposed in a TPA Change Notice (CN) to support the RI/FS efforts. This TPA CN (TPA-CN-391) was approved by RL and the Environmental Protection Agency (EPA) on November 15, 2010.
- Drilling and sampling continued with RI/FS well C7791, and the borehole advanced to 105 ft bgs. Overall, 2 of 3 RI/FS wells completed.
- The third round of spatial-and-temporal groundwater well sampling was completed, and as a result, all of the 100-F wells have now been sampled
- The decisional draft of the document proposing expedited remedial actions to be implemented for meeting TPA Target Date M-016-110-T01 was provided to RL for review on November 15, 2010

Central Plateau**200-ZP-1 Operable Unit - Base**

- Nine of fourteen groundwater extraction wells are online pumping water at 423 gpm. Extraction wells (#5 and #10) are being kept offline due to low flow.

- Extraction wells 299-W11-45 and 299-W11-46 are online pumping water to ETF at a pumping rate of approximately 30 gpm. The reduced flow rate is allowing ETF to perform maintenance activities.
- Batch treatability testing for activated carbon to remove Tc-99 and various resins to remove Tc-99 and uranium is complete and summary reports are being prepared to present conclusions
- Completed the drilling and sampling for 19 of 24 wells needed for the first phase of operation for the 200 West Treatment Facility. Drilling and sampling of 19 permanent extraction/injection wells is now complete. Drilling continues on injection well IW-4, depth of 464 ft.

Deep Vadose Zone - Base

- Completed the first scoping session on November 15, 2010, with Ecology and EPA for the 200-DV-1 OU
- Completed the Deep Vadose Zone Technical Information Sheet that describes the relationship between the Deep Vadose Zone Project and the 200-DV-1 OU
- Presented the scope and approach for the new 200-DV-1 OU to the River and Plateau Committee (RAP) on November 17, 2010. Initiated Start-Up of the Desiccation Pilot Test at the BC Cribs operable unit on November 8, 2010.

MAJOR ISSUES

Issue – The RI/FS drilling schedule has been impacted by the S&GRP stop work initiated on September 27, 2010, and continued through November 1, 2010. The drilling program experienced a schedule loss of 26 work days.

Corrective Actions – 100-HR-3 and 100-KR-4 Operable Units continue to receive drilling and sampling priority. Three drill rigs and an additional construction rig is available to support the 100-KR-4 investigation. 100-HR-3 has three drill rigs and a pump rig that will be used to recover schedule. Additional efforts to support recovery include evaluating the use of faster turnaround times for laboratory analysis, accelerating sample analyses data return, data validation turnaround times, and optimizing the schedule to reduce the time necessary to prepare Draft A.

Status – Stop work was lifted and drilling restarted on November 1, 2010. 100-HR-3 RI/FS experienced schedule recovery during the month. 100-KR-4 experienced additional rig downtime for maintenance and longer drilling durations during the month than planned, showing no schedule recovery gain for the month.

Issue – There are several examples of extended comment review on CERCLA documents; the most significant being 200-PO-1 RI/FS Work Plan and SAP and 100-N RI/FS Work Plan Addendum and SAP. The issues on these documents are different, 100-N the review period has extended 6 months, and after each review, additional comments are received. With the PO-1 documentation, 2 review extensions were requested and comments (draft) were not given until recently, but this has also stretched into a 6-month effort.

Corrective Actions – Timelines and back-up information on these two specific documents has been prepared and given to RL. It was suggested that this be a final topic at the SEC; however, it was determined that discussion would be initiated offline.

Status – CHPRC continues to work the parties involved to facilitate timely comment resolution; however, schedule variance and cost impacts are evident on both projects.

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.			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.			DOE and Ecology have agreed to the strategy and signed a memorandum documenting the changes as insignificant. For wells will be used to supplement the barrier and capture down gradient chromium.
SGW-080: 100-BC-5 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.			Additional characterization is being conducted through the installation of RI/FS wells (underway), aquifer tubes (completed) and additional river-upwelling sampling (completed) 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. The decision draft of the EE/CA is currently under RL review. Additionally, 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 was transmitted to RL. RL responded to this NOC letter with direction to provide a proposal to further evaluate and plan for immediate remedies in order to meet the M-016-110-T01 Target Date.
SGW-081: 100-FR-3 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.			Additional characterization is being conducted through the installation of RI/FS wells (underway) and additional river-upwelling sampling (recently added scope under a TPA CN; near initiation) 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. The decision draft of the EE/CA is currently under RL review. Additionally, 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 was transmitted to RL. RL responded to this NOC letter with direction to provide a proposal to further evaluate and plan for immediate remedies in order to meet the M-016-110-T01 Target Date.
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 during the month is behind due to stop work in October and below normal weather conditions in November. Completion of drilling per the baseline date of January 11, 2011 is still possible.
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.

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
		Month	Trend	
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.			Drilling restarted work on November 1, 2010 after 30 days of down time due to a management ordered stop work. Drilling restarted in a controlled fashion with deliberate speed; no issues were encountered in November.
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.			The amount of change caused by the final issuance of the "issued for construction" drawings 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 actual tracer tests have been conducted in the field. Initial problems with possible short-circuiting near wells prompted well modifications to minimize the potential for this condition. Follow-on testing was completed that demonstrated very low infiltration rates (less than 0.8 cm/hr). The field data has been compiled and continues to be under evaluation.
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 ~3,600 yd ³ . Transfer building steel erection complete. BIO: Prefab metal building erection to begin 11/9. RAD: Prefab metal building roofing is complete. Progress is steady but the delay associated with the issuance of the IFC drawings is not yet known. Project is adding resources and working overtime as necessary to mitigate this risk.
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 is ongoing. Alternatives include jet injection, application of engineering lithology, and well injections.

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
		Month	Trend	
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 well.
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. Long lead equipment is arriving on-site and a plan is in-place for all remaining LLE. Confidence is increased and
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	10.8	8.4	8.1	(2.4)	-22.2	0.3	3.4
ARRA RL-0030.R1.2 GW Operations	2.1	3.4	4.0	1.3	63.3	(0.6)	-17.2
ARRA Total	12.9	11.8	12.1	(1.1)	-8.4	(0.3)	-2.5
Base	10.2	13.4	14.0	3.2	31.7	-0.5	-4.0
Total	23.1	25.2	26.1	2.1	9.3	-0.8	-3.3

ARRA

CM Schedule Performance: (-\$1.1M/-8.4%)

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

ARRA RL-0030.R1.1 GW Capital Assets (-\$2.4M)

200-ZP-1 Operable Unit (-\$2.2M)

Issued for Construction (IFC) drawings were issued late impacting construction activities. Schedule recovery is expected by January of 2011.

ARRA RL-0030.R1.2 GW Operations (+\$1.3M)

Ramp-up & Transition (+\$1.6M)

Work was performed for activities planned in prior months.

CM Cost Performance: (-\$0.3M/-2.5%)

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

ARRA RL-0030.R1.1 GW Capital Asset (+\$0.3M)

100 HR-3 Operable Unit (-\$0.3M)

Technical issues have been encountered for installation and testing of DX process building, piping, and electricity. More labor resources have been assigned resulting in the cost overrun.

ARRA RL-0030-R.1.2 GW Operations (-\$0.6M)

Ramp-up & Transition (-\$0.6M)

The fit out contract/cost for S&GW maintenance facilities is greater than planned. Although fit out cost will overrun, the overall contract for the maintenance facilities will be within budget.

PBS RL-30 UBS, G&A, and Direct Distributables (-\$0.3M)

The CTD positive cost variance is discussed in Appendix C.

Base

CM Schedule Performance (+\$3.2M/+31.7%)

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

Drilling (-\$0.4M)

There is an uncertainty to the number of ZP-1 wells to be drilled and the subcontract is to be rebid to reflect optional drilling. This has caused the current period delay, no long term impact is expected as a result of this change.

100 HR-3 Operable Unit (+\$2.0M)

HX construction activities (process building equipment procurement/installation, distribution of electricity and piping, and erect process building) are proceeding ahead of schedule. BCR-030-11-001R0 was also implemented in November resulting in a current month point adjustment.

Regulatory Decision/Closure (+\$2.0M)

Some activities that are no longer part of the new plateau closure strategy were inadvertently left in the baseline when the Mod 95 BCR was implemented in October. AWA-030-11-005R0 (Additional Work Scope Alignment Supporting Mod 95) was implemented in November to correct the over site resulting in a current month positive point adjustment and positive schedule variance.

CM Cost Performance (-\$0.5M/-4.0%)

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

Integration and Assessments (+\$0.3M)

Underruns occurred in labor and contracts. Underruns were achieved in sample management activities as some resources are charged directly to the projects rather than to this account. Contract accruals/reversals also contributed to the positive variance and are being reviewed for correctness. Any required corrections will not impact the estimated completion cost for these activities.

100 KR-4 Operable Unit (-\$0.8M)

The unfavorable cost variance is due to:

1. Increased use of resources to expedite remedial investigation sampling and RI/FS report efforts
2. More labor required than expected to perform the O&M LOE activities
3. Unexpected work on KR-4 Treatment Building to modify the acid feed pump
4. Correction of misdirected TTP cost from earlier in the year

Impact to overall contract completion cost is being evaluated.

Regulatory Decision/Closure (+\$0.3M)

AWA-030-11-005R0 Additional Work Scope Alignment (Mod 95) was implemented in November resulting in a point adjustment that caused this positive cost variance. No impact to contract completion cost will result from this adjustment.

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	91.5	83.0	82.8	(8.5)	-9.2	0.2	0.3	168.4	192.7	-24.3
ARRA RI-0030.R1.2 GW Operations	61.5	56.9	50.5	(4.5)	-7.4	6.4	11.3	84.3	81.3	3.0
ARRA Total	152.9	139.9	133.3	(13.0)	-8.5	6.7	4.8	252.7	274.0	-21.3
Base	284.8	281.1	278.2	(3.7)	-1.3	2.8	1.0	1,232.7	1,222.2	10.5
Total	437.7	421.1	411.5	(16.7)	-3.8	9.5	2.3	1,485.4	1,496.2	-10.8

Numbers are rounded to the nearest \$0.1M.

ARRA**CTD Schedule Performance: (-\$13.0M/-8.5%)**

The primary contributors to the ARRA CTD negative schedule variance that exceed the reporting

thresholds are as follows:

ARRA RL-0030.R1.1 GW Capital Asset (-\$8.5M)**200 ZP-1 Operable Unit (-\$8.6M)**

Long-lead procurements and various construction activities are behind schedule due to design release delays. CH is working with contractor to increase manpower/OT to recover schedule. Schedule recovery is expected by January 2011. There was also an increase to the EAC for 200 West P&T of approximately \$24M from last month. The increased Project EAC is primarily driven by changes in the design between award of construction (60% design) and final Issued for Construction design. Additional changes include schedule acceleration and increased cost for the Sludge Stabilization System installation as the design matured.

ARRA RL-0030.R1.2 GW Operations (-\$4.5M)**Drilling (-\$1.4M)**

Operations management directed a sampling stop work which has stopped drilling. A corrective action plan was developed and work was restarted in November. Schedule variance is expected to improve over the coming months.

Ramp-up and Transition (-\$3.0M)

- 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.

CTD ARRA Cost Performance: (+\$6.7M/+4.8%)

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

ARRA RL-0030.R1.2 GW Operations (+\$6.4M)**Drilling (+\$3.1M)**

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 and 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).

PBS RL-30 UBS, G&A, and DD (+\$0.8M)

The CTD positive cost variance is discussed in Appendix C.

Base**CTD Schedule Performance (-\$3.7M/-1.3%)**

The following schedule variances exceed the reporting thresholds:

200-UP-1 Operable Unit (+\$1.1M)

S-SX construction activities planned later in FY2011 were performed early.

300 FF-5 Operable Unit (-\$1.1M)

Delays are primarily related to the Alternative Emplacement Investigation work which is now expected to finish about four months later than originally planned. Work continues with vendor for recovery actions.

CTD Cost Performance (+\$2.8M/+1.0%)

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

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

Performed 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 (+\$2.3M)

- 1) Interim Operations reflects significant progress and cost under-runs 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.

200 PW-1 OU (+\$0.8M)

Labor and subcontract cost for general operations and minor mods support is less than planned. In addition, the SVE system testing, prior to March 1, 2010, went smoothly with no significant repairs and the excessing of the two old SVE units required significantly less labor than planned.

Usage Based Services (-\$1.7M)

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

Ramp-up & Transition (-\$2.8M)

Projected cost/accrual for the employee rewards and recognition program exceeded plan in FY2010.

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	FY2011		
	Projected Funding	Spending Forecast	Variance
ARRA	157.6	172.8	-15.2
Base	<u>137.2</u>	<u>178.5</u>	<u>-41.3</u>
Total	294.8	351.3	-56.5

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding reflects the reduced funding targets for FY2011 and the FYSF is based on the current approved baseline. A CHPRC site integrated work scope prioritization plan is being developed to align work scope with new reduced funding levels.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

ARRA – The projected variance at completion is 8%. The increased EAC is primarily driven by changes in the 200 West P&T design between award of construction (60% design) and final Issued for Construction design.

Base – The small projected variance at completion (.8%) is spread among several operational areas and is not considered significant.

Baseline Change Requests

AWA-030-11-004R0, Start Work on High Air Flow Testing, Change Order 74

AWA-030-11-005R0, Additional Work Scope Alignment - Contract Mod 095

BCR-030-11-001R0, 100-HR-3 Bioremediation per TPA CH M-16-09-10 et al

BCR-030-11-003R0, ZP-1 Equipment Acquisition and PMB Scope Modification

BCR-PRC-10-048R0, WBS Restructure of Waste Sites by Area, RL-41

BCRA-PRC-11-008R0, General Administrative Changes for November 2010

FY 2011 Management Reserve:

ARRA = \$4.784M

Base = \$6.500M

None used in November. 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 Update, implemented in September 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-015-110C	Submit Uranium Treat. Tech. Treatability Test Plan for 200-DV-1 OU to Ecology	TPA	12/31/10		12/16/10	On Schedule
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		12/31/10	On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
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-015-60	Submit NR-1/2 Operable Unit RD/RA Work Plan	TPA	3/29/11		2/18/11	On Schedule. Date established based on requirement for work plan 6 months after issuance of NR-1/2 ROD Amendment.
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-015-90	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	11/24/11		8/19/11	Date modified under TPA CN M-015-10-07
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	TPA	9/21/11		9/2/11	Date modified under TPA CN M-015-10-06

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	groundwater and soil					
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)		TBD	On Schedule. Due Date Won't be Finalized until TTP Produced under M-015-82A is Approved. TTP Currently in Regulatory Agency Review.

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.