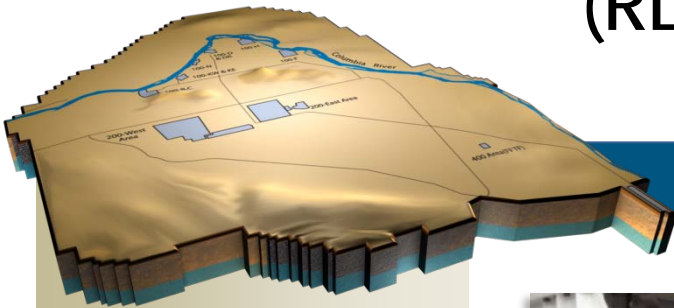


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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March 2011
CHPRC-2011-03, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



In mid-March a skid arrived for installation in the Bio-Process Building of the 200 West Groundwater Treatment Facility.

PROJECT SUMMARY

American Recovery and Reinvestment Act (ARRA)

Progress through the end of the fiscal month March is summarized in the table below.

Activity	March		Cumulative	
	Planned	Completed	Planned	Completed
Well Drilling (# of wells) -303	1	5	302	300
Well Decommissioning (# of wells) -280	12	10	211	202
100 DX P&T – Construction/Startup (percent)	-	-	100	100
200 West P&T – Final Design (percent)	-	-	100	100
200 West P&T – Construction (percent)	9	10	64	62
200 West P&T – Testing/Startup (percent)	7	4	54	64

Base

Base work included 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. Sampling and groundwater treatment completed in March includes the following:

- 160 well locations were sampled with a total of 613 samples being collected
- 175 aquifer tube samples collected from 74 tubes at 45 locations
- 17.8M gallons groundwater treated by ZP-1 treatment facility
- 14.3M gallons groundwater treated by KX treatment facility
- 8.37M gallons groundwater treated by KW treatment facility
- 6.38M gallons groundwater treated by KR-4 treatment facility
- 9.26M gallons groundwater treated by HR-3 treatment facility
- 0.06M gallons groundwater treated by DR-5 treatment facility. The DR-5 system was taken offline to transfer the extraction wells connected to this system and attach them to the DX system.
- 21.07M gallons groundwater treated by DX treatment facility
- 77.24M gallons of groundwater treated total

EMS Objectives and Target Status

Objective#	Objective	Target	Due Date	Status
11-EMS-SGWR-OB1-T1	Take actions necessary to protect the Columbia River by 2012	Treat 500,000,000 gallons of 100 Area (D, H & K Area) groundwater	9/30/11	On schedule
		Review and tally total number of gallons treated	Monthly	Treated 411.1 M gal FY11 through 3/31/11
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-OB4-T1	Reduce Project Waste Generation	Track & quantify project cost savings from on-going waste reduction initiatives	1/31/11	Closed (2/10/11)
		Track, quantify & report on drill cuttings RTed in lieu of disposal at ERDF	30 days after CY Qtr-end	Complete
		Track, quantify & report on use of ERDF boxes in lieu 55-gallon drums	30 days after CY Qtr-end	Complete
		Track, quantity & report on purgewater generation avoidance	30 days after CY Qtr-end	Complete

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	3	N/A
Total Recordable Injuries	2	11	3/8/11- Employee struck head against overhead beam, chipping tooth. 21814 (EPC) 3/15/11 – Employee caught hand under a column and hand was fractured. 21833 (EPC)
First Aid Cases	12	119	3/2/11 – Employee slipped and fell down steps when leaving office trailer. 21799 (S&GRP) 3/3/11 – Employee felt tingling in fingers after completing Water Sample evolution. Flushed fingers with water. 21805 (S&GRP) 3/10/11 – Employee slipped while cutting PVC coating and punctured the base of his right thumb with a utility knife. 21821 (EPC) 3/11/11 – Employee felt pain leg and back after lifting conduit. 21831 (EPC) 3/15/11 – As employee was moving a case of copier paper, bumped right hand on copy machine. Top of hand bruised and skin broken over knuckle. 21832 (S&GRP) 3/23/11 – Employee experienced shoulder discomfort from pulling flat wire out of conduit by hand. 21853 (S&GRP) 3/24/11 – Employee detected odor and work was stopped. Employee felt sick and light headed and was taken to CSC and then released to work. 21849 (EPC) 3/24/11 – Employee detected odor, sent to CSC, lab results taken and released to work. 21851 (EPC) 3/25/11 – Employee was waiting to access man lift and noticed odor. 21857 (EPC) 3/25/11 – Working out of aerial lift, employee smelled odor and stopped work. Employee went to CSC, was released and then sent home. 21876 (EPC) 3/29/11 – As employee was leaving mobile office, slipped and hit lower back on top of stairs as he caught himself. Went to CSC for evaluation. 21862 (S&GRP) 3/31/11 – Employee tripped and fell resulting in a scrape to the lower lip. Employee was transported to CSC. Returned to work without restriction. 21867 (S&GRP)
Near-Misses	0	2	N/A

KEY ACCOMPLISHMENTS

ARRA - GW CAPITAL ASSET

Drilling	March		Cumulative	
	Planned	Completed	Planned	Completed
M-24 -5 wells	0	0	5	5
200-ZP-1 West P&T Expansion -17 wells	0	0	17	17
Drilling Total	0	0	22	22

EPC Projects in Support of S&GRP - ARRA

- 200 West Area Groundwater Treatment Facility –Major process government furnished equipment (GFE) (minus last three tanks in the BIO building) has been placed in the six buildings. Mechanical, electrical, instrumentation and process rough-in continued at all six buildings. First Construction Acceptance Test (CAT) initiated for the Extraction Wells.

EPC Projects in Support of S&GRP – Base

- 100-HX Groundwater Treatment Facility – High-density polyethylene (HDPE) pipe installation is 76 percent complete. Long lead procurements for the acid storage tank, caustic storage tank, Transfer Building influent tank, Process Building effluent tank, and in-line vertical pumps are complete. All fans and louver installations in both buildings are complete. All fourteen new power poles for new power service installation to the Process Building and Transfer Building have been set.
- 200 West Area Groundwater Treatment Facility - Initiated installation of underground conduits and foundations in the Sludge Stabilization System area.

ARRA - GW OPERATIONS

Well Drilling and Decommissioning – ARRA

	March		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 Remedial Investigation/Feasibility Study (RI/FS) – 13 wells	0	3	13	13
100-NR-2 Barrier Emplacement – 171 wells	0	0	171	171
100-HR-3 H Area RPO – 40 wells	0	0	40	37
100-HR-3 D Area RPO – 30 wells	0	0	30	30
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 – 10 wells	0	2	10	10
100-FR-3 – 3 wells	0	0	3	3
300 FF-5 RI/FS – 11 wells	1	0	10	11
Drilling Total	1	5	280	278
Decommissioning Total	12	10	211	202

Per a baseline change request, a number of wells installed were transferred to base funding, changing the number of total wells installed with Recovery Act funds.

BASE - GW OPERATIONS

Environmental Strategic Planning:

- Provided technical (presentation material) and administrative support to the March 3, 2011 Hanford Senior Executive Committee (HSEC) meeting in Seattle, WA

Integration Management:

- Resolved significant electronic data transfer problems that were preventing River Corridor

sample data collected by WCH from being entered into the Hanford Environmental Information System (HEIS) database

- Prepared Tri-Party Agreement (TPA) Change Package for RL that identifies that the Subsurface Transport Over Multiple Phases (STOMP) contaminant fate and transport model, and a graded approach to modeling, will be used in all River Corridor Remedial investigation/feasibility study (RI/FS) Reports. This action implements an agreement made by the Senior Executive Committee.
- Supported WCH Segment 1 completion for footprint reduction by providing input to RL on the Segment 1 Transition Turnover Package for four CHPRC waste sites

Risk and Modeling Integration Group:

- Continued support to bioassay studies, including:
 - Conducted an audit of processes/procedures at the Applied Sciences Laboratory in Corvallis
 - Completed technical input to the Sampling and Analysis Plan (SAP)
 - Completed analysis of field sampling results, selected samples for testing, and authorized laboratory to proceed with the testing
- Presented the “conceptual site model” for hexavalent chromium in the River Corridor to RL representatives

Document Review & Standardization

- Completed coordination and submittal of ten document reviews and consolidated responses for six environmental documents

River Corridor

100-BC-5 Operable Unit - Base

- Drilling and sampling of well C8244 (replacement well for C7787) was completed with the borehole advanced to a total depth of 230.6 feet below ground surface (ft bgs). Well construction concluded at this well, and slug testing was conducted.
- Well construction concluded at well C7785, and slug testing was conducted.
- Pump testing was completed on new RI/FS Ringold Upper Mud (RUM) well C7783.
- All 100-BC RI/FS work scope was completed.

100-KR-4 Operable Unit - Base

- Completed drilling and well construction/development of first Phase 3 Remedial Process Optimization (RPO) well for KR-4 and initiated drilling of second well
- Completed and issued SGW-48676, *Test Plan to Implement ResinTech SIR-700 in the 100-KW Pump and Treat*
- RI/FS drilling and sampling for the thirteen RI wells completed and data loading of RI sample data is 90% loaded into HEIS

100-NR-2 Operable Unit - Base

- The Revision 1 Draft A NR-2 *OU Interim Action Remedial Design/Remedial Action (RD/RA) Work Plan* was transmitted to RL, and RL submitted the document to Ecology on March 25, 2011, meeting TPA Milestone M-015-60 (due March 29, 2010).
- The Rev. 0 *100-N RI/FS Work Plan Addendum* was released and approved by RL and Ecology on March 10, 2011. Following approval of the work plan addendum, the TPA Target Date M-15-62-T01 for the 100-N RI/FS Report and Proposed Plan is now set for September 17, 2012, as approved by RL and Ecology in TPA Change Number M-015-11-01.

- RI/FS well drilling and sampling activities were initiated at wells C8185 and C8187.

100-HR-3 Operable Unit - Base

- The new DX Pump-and-Treat System continued operating and completed fieldwork related to operations test procedure activities.
- Through March, the DX facility has processed about 75 million gallons of water without a single resin change.
- Construction activities continued in order to add the DR-5 wells to the DX Pump-and-Treat System.
- Started planning for the shutdown of HR-3 and transfer of those wells to the HX system being constructed
- RI/FS well drilling and sampling continued with fourteen of fifteen wells completed.
- Initiated the Internal Draft Review of RI/FS Report, chapters six and seven

100-FR-3 Operable Unit - Base

- The two RI/FS characterization boreholes completed as temporary wells were sampled for representative groundwater samples.
- Pump testing was completed on new RI/FS RUM well C7791.
- All 100-F and IU-2/6 RI/FS work scope was completed.

Central Plateau

200-BP-5 Operable Unit – Base

- Received RL comments on the Decisional Draft 200-BP-5 RI Report on March 29, 2011
- Completed review of the final design package for the 200-BP-5 Treatability Test extraction system
- Ground surveys for pipeline road crossings completed

200-PO-1 Operable Unit – Base

- Comment dispositions (RCRs) to Ecology comments on the Draft A RI Report were provided to RL on March 24, 2011 for approval and transmittal to the Regulators.

200-UP-1 Operable Unit – Base

- Redlines of the Draft A 200-UP-1 OU RI/FS Report and Proposed Plan incorporating regulator comments were delivered to RL for approval and transmittal to EPA.
- Construction of the S-SX extraction system continued. The well drilling contract has been awarded. RL and EPA reached agreement to shutdown the U Plant extraction system.

200-ZP-1 Operable Unit - Base

- Ten of fourteen groundwater extraction wells are online pumping water at 406 gallons per minute (gpm). Extraction wells #4, #5, #7, and #10 are offline due to low flow or low water levels.
- The two T Tank Farm Tc-99 wells are pumping water to ETF at ~50 gpm.
- Issued final mitigation plan for old growth shrub
- 2010 annual performance summary report is being revised based on internal review comments.
- Fifteen extraction and five injection wells have been installed at this time. The sixth injection well is currently being drilled and is at a depth of 148 feet.

Deep Vadose Zone - Base

- Completed the sixth agency scoping meeting on the screening for the deep vadose zone technologies for characterization, remediation, and long-term monitoring

- Completed the seventh agency scoping meeting on the development of the Data Quality Objective's for the 200-DV-1 OU waste sites
- The Desiccation Test is now 50% complete. All responses to date indicate the process is working as anticipated.

MAJOR ISSUES

Issue – There were several examples of extended comment review on CERCLA documents; the most significant being 200-PO-1 RI Report and 100-N RI/FS Work Plan Addendum and SAP. The issues on these documents are different, the 100-N review period was extended over seven months, and after each review, additional comments were received. Delay in the approval of the 100-N addendum exceeded 220 days (past six months after providing the Draft A version of the document in December 2009). With the 200-PO-1, the report was delivered June 2010 but formal comments were not received until February 23, 2011.

Corrective Actions – Timelines and back-up information on these two specific documents were prepared and provided to RL.

Status – CHPRC continues to work with the parties involved to facilitate timely comment resolution; both documents have had formal comments approved and currently there are no other examples of extended comment reviews. This is the last report of this issue.

Issue: The 200W Pump-and-Treat Project is currently forecasting a negative Variance at Completion. The variance is the result of the baseline being based largely on 60% design media and the project Estimate at Completion (EAC) based on the Issued for Construction (IFC) design media.

Corrective Action: A Baseline Change Request (BCR) to be implemented in April will update the project baseline to incorporate the IFC Design BCWS to address realized risks. Contingency scope is being identified to either move to Base or stop work. In addition some completed contingency scope is included in the VAC.

Status: Additional corrective actions are under review.

Issue – During routine groundwater sampling activities, an NCO sampler received a low voltage shock while operating a dedicated electrical well pump. The subsequent investigation determined the network of monitoring wells having dedicated electrical pumps did not meet the National Electrical Code (NEC) standard for grounding all exposed non-current carrying metallic parts that could become energized. A temporary grounding strap has been approved by the NEC authority and has been deployed to the field allowing sampling of some dedicated electric pumps. Sampling with non-electrical pumps and portable electrical pumps is continuing.

Corrective Action – The available pneumatic pumps deployed to the field are being redeployed to most efficiently support near-term sampling needs. Additional pneumatic pumps will be purchased to expand the network of non-electric pumps as appropriate. Wells requiring electrical pumps to support sampling activities will be properly grounded per NEC requirements.

Status – A temporary grounding strap has been approved for use on some monitoring wells with dedicated electric pumps. Grounding design for well heads has been completed. Plant forces work review for bonding work is in preparation. Redeployment of pneumatic systems is underway. Vendor quotes for additional pneumatic pumps have been received and procurement under consideration.

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. DX system is on line with <u>extraction wells down gradient of the ISRM barrier.</u>
SGW-080: 100-BC-5 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●		Additional characterization was conducted through the installation and sampling of RI/FS wells (complete), aquifer tubes (complete) and additional river-upwelling sampling (complete) to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is needed. Currently, remediation is not planned in the baseline for the OU. The possibility of conducting a Non-Time Critical Removal Action (EE/CA) is currently on hold as directed by RL. The EE/CA is being shelved as a Draft A without regulatory review (as currently directed by RL) and the associated Action Memo (AM) is being shelved as a decisional draft. RL recently revised Change Order 101 requesting CHPRC submit a proposal for developing the EE/CA to a Draft A and the AM to a decisional draft with no additional work to be conducted. This revised change proposal is being developed for submittal. The need for a pump and treat system as part of the final ROD will be evaluated as part of the RI/FS process.
SGW-081: 100-FR-3 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●		Additional characterization has been conducted through the installation of RI/FS wells (complete) and additional river-upwelling sampling (complete) to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is required. The preliminary results from the porewater sampling indicate that the Cr(VI) levels in the river porewater are below the AWQS of 10 ppb. Currently, remediation is not planned in the baseline for the OU. The possibility of conducting a Non-Time Critical Removal Action (EE/CA) is currently on hold as directed by RL. The EE/CA is being shelved as a Draft A without regulatory review (as currently directed by RL) and the associated Action Memo (AM) is being shelved as a decisional draft. RL recently revised Change Order 101 requesting CHPRC submit a proposal for developing the EE/CA to a Draft A and the AM to a decisional draft with no additional work to be conducted. This revised change proposal is being developed for submittal. The need for a pump and treat system as part of the final ROD will be evaluated as part of the RI/FS process, but based on the recent porewater sampling results, this may not be necessary for FR-3.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate sample parameters.	●		No significant issues.

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-003A: Central Plateau Drilling - 200W P&T	Utilize rotary drilling and cable-tool; work closely to resolve subcontractor issues and manage schedule.			Drilling, construction and development has been completed on the first 20 wells. The next 8 (4 with option of 4 more wells) contract has been awarded to a new subcontractor to Hanford with mobilization expected March 16,2011, so therefore the assessment will remain yellow until a performance record is established.
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. Field activities are almost complete, and work is progressing on the RI/FS Report.
SGW-008U: Regulatory Document Comments for 200-SW-1/2	Routine meetings are being held with regulators during the SW-2 Work Plan development; no additional mitigation is feasible. For SW-1 the project team is supporting RL in the revised Interim EA and MOA for the Borrow Area C.			For SW-1 Agency workshops have been completed and the NRDWL/SWL closure plan was revised to incorporate Ecology comments. Ecology approval of this final closure plan is pending their final review of the revised plan and RL's NEPA determination.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.			After multiple unsuccessful attempts to get the infiltration gallery functional, PNNL has developed a parallel approach, looking for shallow test sites in other locations and alternative emplacement technology development. A joint CHPRC/PNNL path forward has been developed and vetted by RL and EPA. Replanning efforts are underway.
SGW-018: 100-HR-3 P&T Operating Efficiency	Add four wells to the baseline to increase the likelihood of meeting production rates at startup. Connect DR-5 wells to DX P&T. Add 100-H wells to HX P&T (under construction).			HR-3 early utilization has been cancelled due to the HX project schedule. Replacement of the HR-3 system by HX will significantly increase system capacity. Realignment and shutdown of HR-3 is beginning to accommodate HX construction completion in June.
SGW-025: Industrial Accident During Drilling	Subcontractors are evaluated on safety performance prior to contract award and are required to work under CHPRC safety procedures, including using appropriate safety equipment and conducting pre-job briefings. No further mitigation is warranted. Risk is accepted.			No issues or incidents this month.
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 was turned over to operations on 12/17/2010. 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 change due to the final issuance of the "issued for construction" drawings continues to be monitored, implementing cost saving actions as appropriate.
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.


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-037: 100-NR-2 Infiltration Gallery Pilot Test	Risk accepted without mitigation.			Alternative technology (jet injection) with higher likelihood of success has been successfully pilot tested and is being optimized for larger-scale implementation under an approved design optimization study (DOS) (this optimization work is currently being deferred to FY12 due to RL funding prioritization). The actual infiltration tracer tests were conducted in the field and demonstrated very low infiltration rates (less than 0.8 cm/hr). The ability of this method to treat the soil evenly is in question and will likely not be pursued to support interim remedial action. Instead, jet-injection technology will likely be pursued to treat the upper vadose zone (as currently proposed in a Draft A revision to the NR-2 RD/RA Work Plan for Interim Action to be submitted to the regulators by March 29, 2011 [already transmitted to RL]).
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.			BIO: CMU wall complete 3/18. BIO Pad: GFE tanks/air stripper towers placed 3/17. RAD: All GFE equipment placed in the building. Progress is consistent but delays associated with the issuance of IFC are already being experienced. Project is utilizing additional resources and working overtime to mitigate this risk. The concern is reviewed daily with the General Contractor to recover critical path work activities.
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.
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 for the pump and treat system. The bioremediation TTP has been postponed until FY13, since the TTP is a post-ROD design test, and new data is not yet required to make remedial decisions in support of the FS.
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. All GFE will be delivered by July 2011.

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-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	8.0	10.8	15.5	2.8	35.1	(4.7)	-43.7
ARRA RI-0030.R1.2 GW Operations	4.1	3.5	2.8	(0.6)	-14.8	0.7	19.1
ARRA Total	12.1	14.3	18.3	2.2	18.2	(4.1)	-28.4
Base	15.1	15.5	18.2	0.4	2.7	(2.7)	-17.7
Total	27.1	29.7	36.5	2.6	9.6	(6.8)	-22.8

Numbers are rounded to the nearest \$0.1M.

ARRA

CM Schedule Performance: (+\$2.2M/+18.2%)

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

ARRA RL-0030.R1.1 GW Capital Asset (+\$2.8M)

200-ZP-1 OU (+\$2.8M)

The positive SV is primarily due to two factors:

Implementation of BCRA-030-11-003R0 (Transfer of Scope Between ARRA Subprojects, RL30) caused a current month point adjustment. Specifically, procurement of ion-exchange resin was moved from ARRA subproject R1.1 to ARRA subproject R1.2. This movement caused a removal of BCWS that was already realized resulting in the positive cost variance for the month. Additionally early procurement of mechanical and electrical materials contributed to the positive variance.

ARRA RL-0030.R1.2 GW Operations (-\$0.6M)

200-ZP-1 OU (-\$0.7M)

Negative schedule variance is due to two factors: Delayed outside work associated with installation of high density polyethylene (HDPE) piping, well racks, and road crossing #47; and delays in software development. This work scope was transferred into ARRA subproject R1.2 via BCRA-R30-11-003R0 with an already existing negative schedule variance.

CM Cost Performance: (-\$4.1M/-28.4%)

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 (-\$4.7M)

200-ZP-1 OU (-\$4.5M)

The negative cost variance is due to: Increased labor/contracts support required to support implementation of Issued for Construction (IFC) design changes; and implementation of BCRA-030-11-003R0. BCWS and BCWP from ARRA subproject R1.1 were moved to ARRA subproject R1.2 without the corresponding cost being transferred, which resulted in an overstatement of cost in the current period. (This will be corrected in the next period through cost transfers.)

ARRA RL-0030-R.1.2 GW Operations (+\$0.7M)200-ZP-1 OU (+\$1.8M)

Positive cost variance is primarily due to implementation of BCRA-030-11-003R0 which moved BCWS and BCWP from ARRA subproject R1.1 to ARRA subproject R1.2, without moving the corresponding cost resulting in an understatement of cost in the current period for ARRA subproject R1.2.

Maintenance Facility Construction (-\$0.7M)

The negative cost variance for the current period is due to the final subcontractor contract closeout costs for Design Change Notices (DCN) and Request for Clarification or Information (RCI) changes in the field and additional work required to meet coding and permitting requirements. The project will overrun at completion.

Base**CM Schedule Performance (+\$0.4M/+2.7%)**

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

Drilling (+\$0.4M)

Drilling of FF-5 wells was completed ahead of schedule due shallower depth requirements than originally planned in baseline. Five wells were drilled and completed within the month.

100 NR-2 Operable Unit (+\$0.5M)

Implementation of BCR-030-11-011R0 caused a current month positive point adjustment resulting in the positive schedule variance for the month. Additional work scope was deferred to FY11 due to funding priorities (RI/FS report preparation, interim barrier expansion sampling and injection scope, upper vadose zone expansion and apatite infiltration gallery pilot testing).

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

HX construction activities are being performed ahead of schedule to support the completion of construction activities by September 2011 (distribution of electricity and piping, transfer building, and process building erection). Project is currently forecast to complete ahead of baseline schedule.

200-UP-1 Operable Unit (-\$0.4M)

The negative schedule variance is largely associated with the subcontractor under performing on construction of S-SX extraction building and associated site piping. The building steel needed to be deconstructed and repainted. Additional rework was also required for both tank and pipe specifications/submittals. S-SX construction is expected to recover and complete in July.

200-ZP-1 Operable Unit (-\$0.5M)

Procurement of the sludge stabilization system was done earlier than planned. Work was performed in previous months and therefore shows as behind schedule in the month of March where it was originally planned to occur.

Deep Vadose Zone Treatability Tests (-\$0.3M)

Uranium Sequestration Treatability Test work was put on hold due to funding priorities, resulting in the current period negative schedule variance. The test is being deferred into FY12 with an April BCR.

CM Cost Performance (-\$2.7M/-17.7%)

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

Integration and Assessments (+\$0.9M)

The current month underrun reflects the transfer of previously accrued risk and modeling cost to the direct projects for which the modeling efforts are being done.

Drilling (+\$0.3M)

Drilling of five FF-5 wells was completed in March. Due to the shallower depth requirements for the wells than originally planned in baseline cost savings were realized resulting in the current month underrun.

GW Monitoring and Performance Assessments (-\$0.4M)

The negative cost variance for the month is due to the additional cost associated with sampling and to support the investigation and resolution of the Stop Work associated with using permanently installed submersible pumps on groundwater monitoring wells. The additional work to correct the grounding issue will cause an increase in this account. Part of the overrun is expected to be offset by a passback from MSA for laboratory analysis services provided fiscal year to date.

100 KR-4 Operable Unit (-\$0.6M)

The negative cost variance is due to:

1. Increased use of resources to expedite remedial investigation sampling and accompanying RI/FS report efforts
2. More labor required than expected to perform the O&M Level of Effort activities
3. Extended troubleshooting of the KR-4 PLC after system upgrades

Overruns in KR-4 are not recoverable this fiscal year within the KR-4 OU and will be funds managed.

100 HR-3 Operable Unit (-\$0.9M)

Primary drivers for the current month negative cost variance are as follows:

1. Additional time being spent on internal CERCLA (RI/FS) document development that will be recovered in completed Draft A document
2. Additional cost associated with DX OTP requiring almost twice the anticipated cost for the month
3. Increased engineering support to meet monthly deliverables for HX

300 FF-5 Operable Unit (-\$0.5M)

Unfavorable cost variance is for work performed in support of the RI/FS report. This month cost corrections were made to accruals for subcontracted modeling and risk assessment support. The accruals had been previously misdirected and this correction was for several months of subcontractor support.

Regulatory Decisions and Closure Integration (-\$0.5M)

The primary driver for the current month cost variance is under reporting of performance of work scope completed in the outer area and B plant decisions documents. Performance reporting will be corrected in April with no impact to project completion.

PBS RL-30 UBS, G&A, and DD (-\$0.6M)

The negative cost variance is discussed in Appendix C.

Contract-to-Date (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
ARRA RL-0030.R1.1 GW Capital Asset	114.3	114.1	122.2	(0.2)	-0.2	(8.1)	-7.1	157.3	181.4	(24.1)
ARRA RL-0030.R1.2 GW Operations	<u>69.5</u>	<u>69.1</u>	<u>63.0</u>	<u>(0.4)</u>	-0.6	<u>6.1</u>	8.8	<u>83.9</u>	<u>80.3</u>	<u>3.6</u>
ARRA Total	183.8	183.2	185.1	(0.6)	-0.3	(2.0)	-1.1	241.2	261.7	(20.5)
Base	<u>329.1</u>	<u>331.2</u>	<u>337.3</u>	<u>2.0</u>	0.6	<u>(6.1)</u>	-1.8	<u>1,275.4</u>	<u>1,227.5</u>	<u>48.0</u>
Total	512.9	514.3	522.4	1.4	0.3	(8.1)	-1.6	1,516.7	1,489.2	27.4

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$0.6M/-0.3%)

All Variances are within Thresholds.

ARRA RL-0030.R1.1 GW Capital Asset (-\$0.2M)

All Variances are within Thresholds.

ARRA RL-0030.R1.2 GW Operations (-\$0.4M)

All Variances are within Thresholds.

CTD ARRA Cost Performance: (-\$2.0M/-1.1%)

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

ARRA RL-0030.R1.1 GW Capital Asset (-\$8.1M)

200-ZP-1 Operable Unit (-\$7.2M)

Cost impacts associated with design changes realized with the release of Issued for Construction (IFC) Design. These impacts are seen in construction, procurement and project support costs. The current impact is a result of the baseline budget being based on 60% design media and has not been updated to reflect the final project configuration defined by the IFC design. The VAC for the project (-\$24.1M) will be reduced in April reporting with the incorporation of the IFC design into the baseline budget through a BCR.

ARRA RL-0030.R1.2 GW Operations (+\$6.1M)

Drilling (+\$2.9M)

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

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

Implementation of BCRA-030-11-003R0 and the transfer of BCWP from ARRA subproject R1.1 to ARRA subproject R1.2 without the corresponding cost has resulted in a temporary positive cost variance. It is anticipated that this positive cost variance will not remain at project completion.

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), and borehole drilling and landfill characterization (competitive subcontracting of drilling support and efficient field support).

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

The positive cost variance is discussed in Appendix C.

Base**CTD Schedule Performance (+\$2.0M/+0.6%)**

All Variances are within Thresholds.

CTD Cost Performance (-\$6.1M/-1.8%)

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

100-NR-2 OU (-\$1.6M)

Chemical treatment and maintenance scope, jet grouting pilot test work, RI/FS Work Plan and Interim Proposed Plan Reporting were performed more efficiently than planned leading to the positive cost variance.

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

Major contributors to the variance are as follows:

- 1) Interim Operations reflects significant progress and cost underruns achieved to date for 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
- 5) Development of construction acceptance test plans are lower than planned

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

Labor and subcontract cost for general operations and minor modifications support is less than planned. In addition, efficiencies and savings experienced with the Soil Vapor Extraction (SVE) system testing prior to March 2010 and the completed removal of two SVE units.

Usage Based Services (-\$1.6M)

Increased cost associated with training due to the additional ARRA work in FY2010 and fleet services costs that occurred in FY2009 and FY2010. 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	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	157.6	157.4	0.2
Base	170.0	172.9	(2.9)

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority. The project is working to identify additional reductions to bring the Base forecast within funds.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

ARRA – The projected variance at completion is negative 8.5 percent. A BCR will be implemented in April that will incorporate the 100% design and adjust the baseline to be more in line with the EAC.

Base – The small projected variance at completion of positive 3.8 percent is spread among several operational areas and is not considered significant.

Baseline Change Requests

BCRA-R30-11-003R0, Transfer of Scope Between ARRA Subprojects, RL-30

BCR-030-11-011R0, Additional S&GWP FY 2011 Scope Adjustments

BCRA-PRC-11-025R0, Adjustments to Fee

BCRA-PRC-11-026R0, Adjustment to Schedule Logic for Milestones in PMB

BCRA-PRC-11-031R0, General Administrative & FOC Changes for March 2011

FY2011 Management Reserve (Funded):

ARRA = \$0.0M

Base = \$1.488M

No management reserve funding was used in March. Management reserve funding was aligned to overall project fiscal year spend forecast throughout CHPRC.

See management reserve table in the CHPRC Overview.

MILESTONE STATUS

The Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) 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, and subsequent approved BCRs define 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-015-60	Submit NR-1/2 Operable Unit RD/RA Work Plan	TPA	3/29/11	3/25/11		Complete
M-024-58D	Initiate Discussions of Well Commitments	TPA	6/1/11		6/1/11	On Schedule
M-091-40L-030	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		6/30/11	On Schedule
M-015-82B	Initiate 200-BP-5 Aquifer Tests Within 6 months of TTP Approval	TPA	8/1/11		4/30/11	On Schedule. TTP approved 2/1/11
M-024-62-T01	Conclude Discussions of Well Commitments	TPA	8/1/11		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-015-66-T01	Submit CERCLA RI/FS Report and PP for the 100-KR-1, 100-KR-2 and 100-KR-4 Operable Units for groundwater and soil	TPA	9/21/11		9/13/11	On Schedule
M-015-70-T01	Submit Feasibility Study Report and Proposed Plan for 100-HR-1/2/3 and 100-DR-1/2 OUs	TPA	11/24/11		9/15/11	On Schedule
M-015-68-T01	Submit CERCLA RI/FS Report and Proposed Plan	TPA	11/30/11		11/30/11	On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units for groundwater and soil.					
M-091-40L-032	PMM Submittal Jul-Sep 4th Qtr FY11 Burial Ground Sample Results	TPA	12/15/11		11/30/11	On Schedule
M-015-64-T01	Submit RI/FS Report and PP for 100-FR-1/2/3 and 100-IU-2/6	TPA	12/17/11		12/13/11	On Schedule
M-015-62-T01	Submit FS/PP for 100-NR-1/2 OUs Including GW and Soil	TPA	9/17/12		9/17/12	On Schedule. Due date for this TPA Target Date changed from 12/31/11 to 9/17/12 under TPA CN M-015-11-1.
M-015-72-T01	Submit RI/FS Report and PP for 300-FF-2/5 OUs for GW and Soil	TPA	12/31/11		12/29/11	On Schedule
M-015-91A	Submit RI/FS Work Plan for the 200-WA-1 OU to EPA	TPA	12/31/11		12/31/11	On Schedule
M-015-93A	Submit Rev'd RFI/CMS & RI/FS Work Plan for SW-2 to Ecology	TPA	12/31/11		12/31/11	On Schedule
M-016-111C	Expand P&T System at 100-HR-3 OU to 800 gpm Capacity	TPA	12/31/11		10/15/11	On Schedule
M-016-120	GW Treatment System <50 gpm for Tc-99 Plume at S/SX Tank Farm	TPA	12/31/11		12/31/11	On Schedule
M-016-122	Begin Phase 1 Operation of 200W Pump-and-Treat System	TPA	12/31/11		12/31/11	On Schedule
M-085-10A	Submit RI/FS Work Plan for 200-CB-1 Operable Unit	TPA	12/31/11			On Schedule
M-091-40L-033	Submit Oct-Dec 1 st Quarter Burial Ground Sample Results	TPA	3/15/12		2/28/12	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.