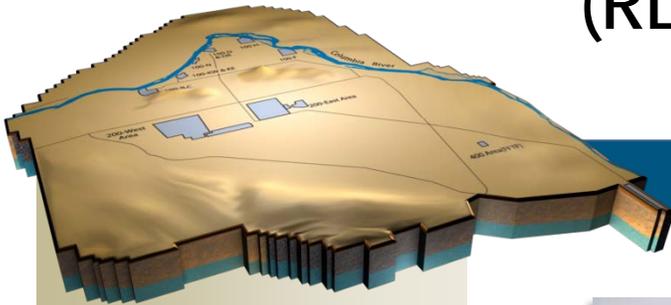


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

D. L. Foss
Vice President and
Project Manager for
Soil and Groundwater
Remediation Project

M. N. Jaraysi
Vice President for
Environmental Program
and Strategic Planning

K. A. Dorr
Vice President for
Engineering, Projects
and Construction

August 2010
DOE/RL-2008-69, Rev. 35
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



A front end loader feeds soil from Pit 34 in the 200 West Area into a sifter to separate rocks from usable fill material. The fill material will be used at the construction site of the 200 West Groundwater Treatment Facility. Using fill from the pit reduces costs and environmental impacts of purchasing and hauling new fill to the work site.

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 August is summarized in the table below.

Activity	August		Cumulative	
	Planned	Completed	Planned	Completed
Well Drilling (# of wells) -352	30	4	271	260
Well Decommissioning (# of wells) -350	17	4	152	174
200 West P&T – Final Design (%)	17	6	80	83
200 West P&T – Construction (%)	3	2	21	23
200 West P&T – Testing/Startup (%)	2	4	11	14
100 DX P&T – Construction/Startup (%)	10	0 ⁽¹⁾	93	98

⁽¹⁾ Actual percent completed in August was 3%; there is a negative current period BCWP because of work accelerated with ARRA funds; cumulative progress is positive.

Base

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

- 227 well locations were sampled with a total of 850 samples being collected
- 161 aquifer tube samples were collected from 45 tubes at 20 sites
- 1.34M gallons groundwater treated by ZP-1 treatment facility
- 19.9M gallons groundwater treated by KX treatment facility
- 8.56M gallons groundwater treated by KW treatment facility
- 9.4M gallons groundwater treated by KR-4 treatment facility
- 5.9M gallons groundwater treated by HR-3 treatment facility
- 2M gallons groundwater treated by DR-5 treatment facility

EMS Objectives and Target Status

Objective#	Objective	Target	Due Date	Status
09-EMS-SGWR-OB1-T3	Take actions necessary to protect the Columbia River by 2012	Expand the HR-3 treatment system(s) to achieve a functional operational capacity of 500 gpm	12/31/10	On schedule
		Start construction for DX P&T facility	7/2/09	Complete (7/2/09)
		Construct DX P&T and transfer building	7/15/10	Complete (7/15/10)
		Construct 30 new wells for the P&T system	6/30/10	Complete (6/29/10)
		Finish construction of DX P&T system	10/31/10	On schedule
		Finish ATP for DX P&T system	12/30/10	On schedule
		The HR-3 Treatment systems are functional at 500 gpm	12/31/10	On schedule
09-EMS-SGWR-OB3-T2	Reduce the number of groundwater sampling events conducted annually	Reduce the number of sampling events by 2% in calendar year 2009	12/31/09	Complete
		Evaluate FY-end sample schedule relative to baseline planned sample schedule of 2,460 sample trips	10/31/09	Complete (5/30/09)
		Reduce the baseline planned sample schedule by at least 49 sample trips	12/31/09	Complete (10/12/09)
09-EMS-SGWR-OB3-T3	Reduce the number of groundwater sampling events conducted annually	Reduce the number of sampling events by 10% in calendar year 2010	12/31/10	On schedule
		Evaluate FY-end sample schedule relative to baseline planned sample schedule of 2,768 sample trips	10/31/10	On schedule
		Reduce the baseline planned sample schedule by at least 277 sample trips	12/31/10	On schedule
10-EMS-SGWR-OB1-T1	Take actions necessary to protect the Columbia River by 2012	Treat 430,000,000 gallons of 100 Area (D, H & K Area) groundwater	9/30/10	Complete
		Review and tally total number of gallons treated	Monthly	447M gal treated as of 8/31/2010
10-EMS-SGWR-OB2-T1	Construct a new GW treatment facility that satisfies the P&T component of the 200-ZP-1 OU ROD selected remedy	Construct new 200 West Area P&T facility to remediate GW which was impacted from past production operations	12/31/11	On schedule
		Start construction of road crossings	11/30/09	Complete (11/2/09)
		Start early civil construction	3/30/10	Complete
		Start construction of GW extraction buildings	3/30/10	Complete
		Complete treatment facility construction	12/31/11	On schedule
10-EMS-SGWR-OB3-T1	Initiate & sustain remediation of waste sites at 100-K by 11-30-09	Initiate & sustain progress toward waste site remediation	Quarterly	On Schedule
		Complete Group 1 waste site remediation		
10-EMS-SGWR-OB4-T1	Track and quantify waste avoidance activities	Track/quantify drill cuttings RTed	Quarterly	On Schedule
		ERDF cans used in lieu of drums		
		Purgewater avoidance		

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	2	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	8	76	<p>8/4/10 Employee overextended his body while pounding T posts and made contact with the T post on his right collar bone and slightly scratched his right cheek. (21184) -EPC</p> <p>8/5/10 Employee was diagnosed with a contusion to her left palm after placing her hand on a door to push it shut. Employee went to AMH and then returned to work without restriction. (21181) -S&GRP</p> <p>8/6/10 Employee was stung by a bee and was transported to AMH. He was observed by an RN and treated for sting then released from AMH. (21182) -EPC</p> <p>8/16/10 Employee felt a pinch in his back while moving ice jugs. Employee was taken to AMH and then returned to work with no restrictions. (21239) -EPC</p> <p>8/17/10 An employee was taken to AMH for evaluation after experiencing shoulder pain while performing work. The shoulder aggravation stems from a pre-existing condition. The individual was treated with OTC medication and returned to work with a restriction on use of the left arm. (21219) -S&GRP</p> <p>8/20/10 Employee stepped down onto uneven surface and jarred his lower back muscle. Employee was transported to AMH. (21237) -EPC</p> <p>8/26/10 Employee's lower leg became very swollen. Employee felt it may have been from an insect bite and went to AMH. Was given medication and released with no restrictions. (21264) -EPC</p> <p>8/30/10 Employee strained himself while getting into his vehicle. After being checked at AMH was returned to work with no restrictions. (21273) -EPC</p>
Near-Misses	0	2	N/A

KEY ACCOMPLISHMENTS

ARRA - GW CAPITAL ASSET

Drilling	August		Cumulative	
	Planned	Completed	Planned	Completed
M-24 -5 wells	1	0	5	5
200-ZP-1 West P&T Expansion -17 wells	1	1	13	13
Drilling Total	2	1	18	18

EPC Projects in Support of S&GRP - ARRA

- 200W Pump-and-Treat Project - Forty-five Phase I road crossings have been completed. One accelerated Phase II road crossing is under construction. The additional S/SX transfer building is under contract with six of the eight road crossings complete with the final two anticipated completion before the end of September. All welding activities for the transfer piping have been complete for the well to transfer building runs. The first six pieces of steel have been erected for the bridge crane in the BIO buildings. Long lead equipment are fabricating with the first to arrive in late September. BioSec (line stabilization vendor) 90% design submittal received in mid-August.
- Construction of all three buildings for the 100-DX Pump-and-Treat is complete, with the exception of the pH adjustment system at the Process Building and punchlist items. Acceptance Testing is underway and flushing of all injection and extraction well lines was completed August 28, 2010. The civil portion of the chemical tank storage pads was completed with the installation of the roof sheeting on August 24, 2010. The asphalt apron around the Process Building was completed on August 26, 2010.
- 200E Unsecured Core Complex - S&GW2 building main floor slab (315 cubic yards) placed August 21, 2010; also completed exterior concrete slabs and bollards. Contractor for the EPC 2 build out mobilized August 23, 2010. EPC1 build out was awarded August 24, 2010 to Ojeda. RFP for the S&GW1 build out was issued August 25, 2010; award NLT August 14, 2010. Completed concrete sidewalks at 200E Unsecured Core east mobile site on August 12, 2010.

EPC Projects in Support of S&GRP – Base

- Modutank unloading dock and ramp modification are complete. Construction closeout and turnover to S&GRP Operations on August 12, 2010.
- Construction has begun on the 100-HX Pump-and-Treat Construction Project. The footings and stem walls have been completed for the Treatment Building. Eight of twenty six road crossings are complete. HDPE pipe laying and bonding is 15% complete.

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

	August		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 RPO – 4 wells	1	0	2	0
KR-4 RI/FS – 13 wells	2	2	10	4
100-NR-2 Barrier Emplacement – 171 wells	20	0	146	171
100-HR-3 Bioremediation TT – 4 wells	1	0	2	0
100-HR-3 H Area RPO – 40 wells	0	0	40	29
100-HR-3 D Area RPO – 30 wells	0	0	30	30
100-HR-3 RI/FS – 15 wells	2	0	9	0
200-BP-5 “K” Well – 1 well	0	0	1	1
200-BP-5 “L” and “M” Well – 2 wells	0	0	2	2
100-BC-5 RI/FS – 6 wells	1	1	6	5
100-FR-3 – 3 wells	0	0	3	0
300 FF-5 RI/FS – 11 wells	1	0	2	0
Drilling Total	28	3	253	242
Decommissioning Total	17	4	152	174

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

- Developed responses/clarifying questions to the paper on plutonium inventory

Risk and Modeling Integration Group:

- Developed the first draft of exposure scenarios write up for the Inner Area
- Completed model validation and verification for Solid Waste Landfill cover performance model confirmation
- Prepared additional follow-on responses to GAO inquiries related to the ongoing GAO audit of DOE use of computer models
- Conducted on-site RESRAD training, provided by developers from Argonne National Lab

Integration Management:

- **River Corridor RI/FS Path Forward:** Finalized the approach for the River Corridor RI/FS documents to screen waste sites against remediation goals and complete alternatives evaluations
- Coordinated with WCH and RL on the River Corridor Baseline Risk Assessment and how it will support upcoming RI/FS Reports
- **Deep Vadose Zone MPT:** Finalized the charter for the new Deep Vadose Zone multi-project team
- **Stakeholder Comments:** Began acquisition of “Comment Works” software that will be used to track and document stakeholder comments and comment resolutions
- **WIDS:** Revised the TPA procedure for maintaining the Waste Information Data System (TPA-MP-14) with DOE and the projects and presented the draft revised procedure to the regulatory agencies

Document Review and Standardization:

- The External Document Improvement Team members completed reviews of portions of the 200 D/H RI/FS Report, the 200-West Inner Area Work Plan, PW-1/3/6, and the 200-UP-1 Proposed Plans

River Corridor

100-BC-5 Operable Unit - Base

- Drilling and sampling was completed on RI/FS well C7508, and drilling and sampling began and continued on C7784 to a depth of 57 feet below ground surface
- Two boreholes were drilled and sampled to support WCH's planned remediation of the C-7 waste site. Based on the analytical results from these two boreholes, no additional boreholes were necessary.
- The second round of spatial-and-temporal groundwater sampling from existing wells for 100-BC was completed
- The multi-layer model for 100-BC is complete, and various modeling scenarios have been developed and simulated

100-FR-3 Operable Unit

- Drilling and sampling was completed on RI/FS well C7790, and drilling and sampling began and continued on well C7792 to a depth of 68 feet below ground surface
- The second round of spatial-and-temporal groundwater sampling from existing wells for 100-F and IU-2/6 was completed
- The multi-layer model for 100-F was completed, and various modeling scenarios were developed and simulated

100-KR-4 Operable Unit - Base

- The updated KR4 Pump-and-Treat system cultural resource treatment plan comments have been received and being incorporated into the document for issuance
- Drilling to total depth completed for KR-4 RI wells C7683, C7687, C7691, C7685, and C7690. Well construction and development has been completed for wells C7687, C7691, and C7685. Drilling is continuing at wells C7689 and C7692.
- Drilling of RI borehole C7831 was completed. Drilling of RI borehole C7832 was initiated. Phase 3 procurement has been initiated for long lead items and to begin non-field related construction activities.
- Field work initiated for the KR-4 PLC and well head modifications upgrade
- On August 26, 2010 the Draft B 100-K West Vadose Zone In Situ Bio-infiltration Treatability Test Plan (DOE/RL-2009-73) was submitted to EPA in fulfillment of TPA Milestone M-015-116, due on August 30, 2010

100-NR-2 Operable Unit - Base

- The SAP developed to allow additional "upwelling" (river porewater) sampling to be conducted from the river bottom along specific portions of the 100-N river shoreline was released as a Draft A and transmitted to RL for subsequent submittal to Ecology
- The Rev. 0 pilot-scale Jet Injection Treatability Test Report was released and issued
- The Draft A demonstration-scale (300 feet) Jet Injection TTP was released, issued, and transmitted to RL for Ecology review along with the Rev. 0 pilot-scale Jet Injection Treatability Test Report
- A proposed TPA Change Notice (CN) was provided to RL and Ecology for a second round of spatial-and-temporal groundwater well sampling in September prior to approval of the RI/FS Work Plan and SAP. Approval of this TPA CN is pending.

100-HR-3 Operable Unit - Base

- HR-3 operated at ~200 gallons per minute after two Ringold Upper Mud wells were connected to the HR-3 facility for long-term operation as extraction wells
- The second round of aquifer tube sampling was completed in support of the 100-HR-3 RI/FS

- The 90% Design Review was completed for the design of the In Situ Bioremediation Treatability Study System
- Draft B of the Treatability Test Plan for Hexavalent Chromium Bioremediation in Groundwater at 100-D (DOE/RL-2009-105) was submitted to fulfill TPA Milestone M-015-115, due on August 30, 2010

Central Plateau

200-IS-1 Operable Unit – Base

- RL approved the revised Closure Plan, SAP, SEPA Checklist, and petition for LDR (Land Disposal Restrictions) variance for the Hexone Storage and Treatment Facility in July

200-UP-1 Operable Unit – Base

- Completed the 60% design package for the S-SX extraction system. Completed five of eight pipeline road crossings. Awarded construction subcontract for the transfer building, above ground pipeline, and associated systems.

200-ZP-1 Operable Unit - Base

- Extraction well 299-W11-46 is online pumping water to ETF at a pumping rate of ~25 gpm. The work package to replace this pump is being prepared. ETF is now ready to accept 50 gpm pumping rates once again.
- Drilling and sampling of 18 permanent extraction/injection wells is now complete. Extraction well EW-6 is now at a depth of 305 feet.

Regulatory Decisions and Integration – Base

- Developed the annotated outline for the 200 West Inner Area RI/FS Work Plan
- 200-WA-1 RI/FS Work Plan Scoping Sessions:
- A final scoping session was held on August 10, 2010. 200-PW-1/3/6 Feasibility Study:
 - The draft C FS was submitted to DOE for review. The combined PW-1/3/6 and CW-5 decisional draft PP is also undergoing DOE review.

200-DV-1 Deep Vadose Zone Operable Unit – Base

- Held a 200-DV-1 OU kick-off meeting with Ecology and EPA on August 24, 2010 to help plan the work scope for the PMB under Mod 95

Deep Vadose Zone Treatability Test Project - Base

- The FTP and SAP for the Desiccation Pilot Test was updated to include comments from the RL and EPA review and is in tech editing at this time in preparation for transmittal to RL and EPA for approval

MAJOR ISSUES

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

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

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

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

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

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

Status: WSCF Corrective action planning is underway.

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.	●	↔	Several design changes required due to changing requirements; BCRs being developed to cover realized risk.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.	●	↔	CPCS and Mod 95 Proposal and BCR are being evaluated and developed.
SGW-069: 100-HR-3 ISRM Barrier Amendment - Hexavalent Chromium Continues to Move Through Barrier	Monitor zero valence iron injection; add four wells to P&T.	●	↔	Laboratory testing is nearing completion. The ISRM will not be amended with ZVI, but rather the 4 P&T wells installed. A regulatory analysis has been submitted to Ecology recommending this change is insignificant. Ecology agrees and will revise and submit to the Admin Record.
SGW-080: 100-BC-5 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●	↓	Additional characterization through the installation of RI/FS wells, aquifer tubes, and additional river-upwelling sampling is underway to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is required. Currently, remediation is not planned for the OU. However, working with RL on the potential of conducting a Non-Time Critical Removal Action (EE/CA) to implement a hydraulic barrier/pump and treat combination to mitigate chromium migration to the river. A letter requesting DOE/RL direction has been drafted.
SGW-081: 100-FR-3 Pump and Treat Required	This risk is accepted as written and will be monitored throughout work execution.	●	↓	Additional characterization through the installation of RI/FS wells is underway to further define the extent and concentration of chrome in the plume in order to determine if an active remedial measure is required. Concentrations of chromium are low at this site and no remediation is planned for the OU. However, working with RL on the potential of conducting a Non-Time Critical Removal Action (EE/CA) to implement a hydraulic barrier/pump and treat combination to mitigate chromium migration to the river. A letter requesting DOE/RL direction has been drafted.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate sample parameters.	●	↔	No significant issues.
SGW-003A: Central Plateau Drilling - 200W P&T	Utilize rotary drilling and cable-tool; work closely to resolve subcontractor issues and manage schedule.	●	↑	Drilling performance continues to exceed baseline schedule.

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-008B: Regulatory Document Comments for 100-HR-3	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.			The RI/FS Work Plan Addendum and SAP were approved and issued; nothing else to report.
SGW-008U: Regulatory Document Comments for 200-SW-1/2	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.			Agency workshops have been completed and the NRDWL/SWL closure plan is being revised to incorporate comments. Ecology approval of this final closure plan is pending their receipt of the revised document and RL's NEPA determination.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.			After multiple failures to get the infiltration gallery functional, PNNL has developed a parallel approach with a deepening of the existing gallery along with shallow tests in other locations. A joint CHPRC/PNNL path forward has been developed and vetted by RL and EPA. Replanning efforts are underway.
SGW-018: 100-HR-3 P&T Operating Efficiency	Add four wells to the baseline to increase the likelihood of meeting production rates at startup. Connect DR-5 wells to HR-3 P&T. Test use of horizontal well for increased water flow. Add 100-H wells to HR-3 P&T. Construct HX P&T system.			Beginning design to add one well to the HR-3 system to increase flow and remove mass during startup of DX and HX. Two RUM wells were added, bringing the operating flow to 200 gpm.
SGW-025: Industrial Accident During Drilling	Subcontractors are evaluated on safety performance prior to contract award and are required to work under CHPRC safety procedures, including using appropriate safety equipment and conducting pre-job briefings. No further mitigation is warranted. Risk is accepted.			A series of events by one drilling contractor over the past two months caused a work stoppage and cure notice of all their work in HR-3 and Well Decommissioning. Work is on a slow phased restart to allow supervision and the work staff to refocusing on safely conduction work instead of production.
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.			Project is ahead of schedule; no issues anticipated.
SGW-033: Well Casing Size/Screen Length	Ensure that sufficient budget is provided to cover drilling cost increases for larger diameter completion. Adjust schedules to account for additional drilling durations.			Current CHPRC baseline has adjusted schedules to account for additional drilling durations.
SGW-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 likeliness of success has been successfully pilot tested and is being pursued for implementation. The trench is scheduled to be installed on 8/27/10, and subsequent infiltrometer tests will provide an initial indication of viability.

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-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 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.			Phase 1 Road Crossings = 96% complete. Phase 1 transfer Piping = 60% complete. Concrete poured to-date is ~1050 cubic yards. ETB1: Building steel arriving on-site with erection to begin 9/8/10. ETB2/ITB2: Concrete poured 8/27. ITB1: Concrete scheduled 9/1. BIO: Continued forming/rebar placement @ Z-line trench and A-line sump walls. RAD: Forming/rebar placement @ building trench bottoms.
SGW-056A: 300-FF-5 Infiltration Not Feasible for Wide-Spread Application	An infiltration test is being performed at 300-FF-5 for the contaminants of concern.			Alternatives to widespread application of infiltration from the surface are being developed in parallel with searching for candidate sites for surface infiltration tests. Replanning of the baseline for these new activities in ongoing. Alternatives include jet injection, application of engineering lithology, and well injections.
SGW-065: Bio/Chemical Remediation Fails	A design test is being planned for 100-D Area. This should eliminate some of the uncertainties with the potential side effects.			Well alignment for the test was revised to accommodate new modeling results and increase potential performance. Revised experimental design to increase probability for success. Rev. A of the TTP submitted for RL and Ecology review.
SGW-091: Material Procurement - 200 West P&T	Work closely with the BTR to ensure timely placement of procurement contracts, including any necessary expediting. Supplement engineering support for RCI submittal resolution, on-site focus review including vendor participation as needed. Provide incentives for vendors to compress schedule.			Project is conducting meetings to address RCIs twice per week. Vendor meetings occur weekly. 3D modeling employed to minimize probability of mis-configuration between equipment, conduit, and piping.
SGW-098: 200-W P&T - Schedule Impacts Due to Scope Increases	Contractor will hold periodic discussions with client and regulators to maintain a clear understanding of scope changes. As these issues are identified, they will be listed with other emerging issues. At this point, further mitigation tactics will be determined.			In order to maintain the schedule, significant additional team resources are being added to assist with training, submittals, RFIs, QA/QC, third party testing, management and oversight, and other services during construction. Issued for Construction (IFC) drawings have been released and this will facilitate timely completion of construction milestones. Work continues to support software, simulator, procedures, and CAT/ATP development.
SGW-108J: 200-UW-1 Increased Characterization Required	Incorporate additional deep boreholes into the baseline.			This risk has been realized and the project is working the issue. A BCR has been approved and the scope has been incorporated into the baseline.
WSR-042: Multi-Incremental Sampling - Increased Waste Sites	MIS Project designed to meet requirements; no further mitigation warranted.			No issues at this time.
WSR-043: Multi-Incremental Sampling - Hazard Categorization	Adjust baseline cost/schedule to reflect Haz Cat III categorization.			No issues at this time.

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

WBS 030/RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
ARRA RL-0030.R1.1 GW Capital Asset	7.6	4.7	5.5	(2.9)	-37.7	(0.8)	-16.6
ARRA RI-0030.R1.2 GW Operations	4.2	2.2	3.3	(1.9)	-46.2	(1.1)	-49.0
ARRA Total	11.7	7.0	8.8	(4.8)	-40.7	(1.9)	-27.0
Base	<u>12.7</u>	<u>10.3</u>	<u>15.9</u>	<u>(2.4)</u>	-18.8	<u>(5.5)</u>	-53.9
Total	24.4	17.3	24.7	(7.2)	-29.3	(7.4)	-43.1

ARRA

CM Schedule Performance: (-\$4.8M/-40.7%)

Primary contributors to the negative schedule variance are as follows:

ARRA RL-0030.R1.2 GW Operations (-\$1.9M)

Drilling (-\$0.9M)

Contractor operational issues have resulted in a proactive safety stop work and are being resolved (this is a realized risk). These delays will impact the RI/FS for 100-KR-4, 100-NR-2, 100-HR-3, and 300-FF-5, with some scope pushing into FY2011.

Ramp-up and Transition (-\$1.1M)

The utilities and buildings construction contractor did not perform as planned. The contractor is understaffed for this project. The project has put in place several corrective actions to regain schedule.

ARRA RL-0030.R1.1 GW Capital Asset (-\$2.9M)

Drilling (-\$0.3M)

Current month scope was completed in prior months using multiple drill rigs for ZP-1 drilling per the recovery plan.

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

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

200-ZP-1 Operable Unit (-\$0.6M)

Early completion of the installation of road crossings and HDPE piping which was scheduled for August.

CM Cost Performance: (-\$1.9M/-27.0%)

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

ARRA RL-0030-R.1.2 GW Operations (-\$1.1M)

Ramp-up and Transition (-\$0.9M)

Costs being realized for performance claimed in previous months.

ARRA RL-0030.R1.1 GW Capital Asset (-\$0.8M)

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

Lagging payments and accruals for work that was completed in earlier months.

Base**CM Schedule Performance (-\$2.4M/-18.8%)**

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

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

1) Delays in sampling analysis which will not occur until the start RI/FS well drilling – now planned for October (this is a realized risk).

2) Delays in construction of the in situ bioremediation treatability test.

3) Delays in letting the contract to procure and install HX treatment building and delays to document revisions in the OU that are required to meet the new TPA milestone M-015-115. While HX field work has been delayed no impact is expected to the completion of the HX Pump-and-Treat Facility.

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

Delays in the Treatability Test Plan (TTP) and Alternative Barrier Emplacement efforts. The TTP was predicated on a successful infiltration test therefore the follow on work is being reviewed and is expected to be performed in FY2011.

Regulatory Decision/Closure (-\$0.5M)

Work scope that is in the current baseline is changing as part of the new Central Plateau Closure Strategy. The new strategy will be implemented later this year.

CM Cost Performance (-\$5.6M/-53.9%)

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

100-HR-3 Operable Unit (-\$1.8M)

Vendor accrual for distribution of piping and electricity for HX material received to date.

Regulatory Decision/Closure (-\$1.2M)

Impacts associated with the new Central Plateau Closure Strategy which has resulted in work scope being replanned. The new strategy will be implemented later this year.

100-KR-4 OU (-\$0.4M)

Costs for well-head maintenance and cable extension support and greater than expected WSCF cost.

GW Monitoring & Performance Assessments (-\$0.3M)

An accrual for a hydro geoanalyst hardware/software procurement that was greater than planned for the month and additional driller/helper support.

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	52.3	56.8	55.0	4.5	8.7	1.8	3.2	171.1	170.2	0.9
ARRA RL-0030.R1.2 GW Operations	<u>53.8</u>	<u>45.6</u>	<u>36.3</u>	<u>(8.2)</u>	-15.3	<u>9.3</u>	20.3	<u>84.5</u>	<u>76.5</u>	<u>8.0</u>
ARRA Total	106.1	102.4	91.3	(3.7)	-3.5	11.1	10.8	255.6	246.7	8.9
Base	<u>249.2</u>	<u>237.9</u>	<u>235.0</u>	<u>(11.4)</u>	-4.6	<u>2.9</u>	1.2	<u>1,207.8</u>	<u>1,204.9</u>	<u>2.9</u>
Total	355.3	340.3	326.3	(15.1)	-4.2	13.9	4.1	1,463.4	1,451.6	11.9

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$3.7M/-3.5%)

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

ARRA RL-0030.R1.2 GW Operations (-\$8.2M)

Drilling (-\$2.2M) Contractor operational issues have resulted in a proactive safety stop work and are being resolved (this is a realized risk). These delays will impact the RI/FS for 100-KR-4, 100-NR-2, 100-HR-3, and 300-FF-5 with some scope pushing into FY2011.

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

- 1) The construction contractor's performance is less than planned due to their ability 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.

ARRA RL-0030.R1.1 GW Capital Asset (+\$4.5M)

200-ZP-1 Operable Unit (+\$3.1M)

Early delivery of the microfiltration membranes, balance of design/project change notices, fluidized bed system activities, RAD building exterior work, and subcontractor materials/equipment/and technical submittals.

CTD ARRA Cost Performance: (+\$11.1M/+10.8%)

The primary contributors to the ARRA CTD positive cost variance are:

ARRA RL-0030.R1.2 GW Operations (+\$9.3M)

Drilling (+\$3.7M)

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

Ramp-up and Transition (+\$2.0M)

Site work, utilities, and mobile office procurements activities that were contracted for less than estimated in the baseline. The project support continues to underrun, but this will be offset by the increased cost for the internal fit-out of the four shop/warehouse buildings.

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

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

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

The CTD positive cost variance is discussed in Appendix C.

ARRA RL-0030.R1.1 GW Capital Asset (+\$1.8M)**100-HR-3 Operable Unit (+\$1.6M)**

Efficiencies experienced during installation of HDPE piping, road crossings, and installation of equipment in the process and M2 transfer buildings.

Base**CTD Schedule Performance (-\$11.4M/-4.6%)**

The following schedule variances exceed the reporting thresholds:

100-HR-3 Operable Unit (-\$5.1M)

1) Delays in sampling analysis which will not occur until the start of RI/FS well drilling – now planned for October (this is a result of realized risk). 2) Delays in construction of the in situ bioremediation treatability test. 3) Delays in HX design activities that have impacted field work (distribution of electricity and piping, construction of HX process building and full scale bioremediation).

Regulatory Decision/Closure (-\$2.4M) Work scope that is in the current baseline that is changing as part of the new Central Plateau Closure Strategy. The new strategy will be implemented later this year.

300-FF-5 Operable Unit (-\$1.0M)

Delays in the Treatability Test Plan (TTP) and Alternative Barrier Emplacement efforts. The TTP was predicated on a successful infiltration test therefore the follow on work is being reviewed and is expected to be performed in FY2011.

CTD Cost Performance (+\$2.9M/+1.0%)

Primary contributors to the CTD cost variance are as follows:

200-ZP-1 Operable Unit (+\$2.3M)

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

100-NR-2 OU (+\$1.7M)

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

GW Monitoring & Performance Assessments (-\$2.7M)

WSCF cost for FY2009 and FY2010 coming in higher than what was planned. The primary drivers for the increase are rate increases and G&A adders that are charged to the direct account that were not in the plan. Overrun in this WSCF account is expected to continue and will be managed by funds within the project.

Usage Based Services (-\$1.6M)

Increased cost associated with training due to the additional ARRA work and fleet services cost that

occurred in FY2009. 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	FY2010		
	Projected Funding	Spending Forecast	Variance
ARRA	108.4	102.6	5.8
Base	<u>176.4</u>	<u>146.5</u>	<u>29.9</u>
Total	284.8	249.1	35.7

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding has been adjusted to reflect the FY2010 funding levels for RL-0030 ARRA and Base activities.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

The BAC and EAC include FY2009 through FY2018, the PRC contract period.

Baseline Change Requests

BCRA-PRC-10-052R0, FY2010 to FY2011 Base Year Shift.

MILESTONE STATUS

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

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-115	DOE will submit to Ecology a Treatability Test Plan for Hexavalent chromium of groundwater at 100-D/H	TPA	8/30/10	8/26/10		Complete
M-015-116	DOE will submit to EPA a Treatability Test Plan for Hexavalent chromium of groundwater at 100-K	TPA	8/30/10	8/26/10		Complete
M-015-17A	Submit a 200-UP-1 OU Combined Remedial	TPA	9/30/10			On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	Investigation and FS Report and Proposed Plan					
M-015-38B	Submit a Revised FS Report & Revised Proposed Plan for 200-CW-1	TPA	11/30/10		N/A	See note 1
M-091-40L-028	Submit 1st Quarter FY11 Burial Ground Sample Results	TPA	12/15/10		11/30/10	On Schedule
M-015-82A	Submit Treatability Test Plan as Amendment of 200-BP-5 Work Plan	TPA	12/31/10		9/30/10	On Schedule
P-015-110C	Submit Uranium Treat. Tech. Treatability Test Plan for 200-DV-1 OU to Ecology	TPA	12/31/10			On Schedule. Proposed by Approved Tentative Agreement.
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			On Schedule
M-091-40L-029	Submit October to December 1st Quarter FY-11 Burial Ground Sample Results	TPA	3/15/11		2/28/11	On Schedule
M-024-58D	Initiate Discussions of Well Commitments	TPA	6/1/11			On Schedule
M-091-40L-30	Submit January to March 2nd Quarter FY-11 Burial Ground Sample Results	TPA	6/15/11		5/30/11	On Schedule
M-015-44C	Submit 200-MW-1 Operable Unit Proposed Plan	TPA	6/30/11		N/A	See note 2
M-015-51	Submit Revised Feasibility Study Report and Proposed Plan to EPA for 200-BC-1 OU	TPA	6/30/11		N/A	See note 2
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	6/30/11		N/A	See note 2
P-015-90	Submit RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) and Remedial Investigation/Feasibility Study	TPA	6/30/11			On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	(RI/FS) work plan for 200-IS-1 OU to Ecology					
M-015-70-T01	Submit Feasibility Study Report and Proposed Plan for the 100-HR-1, 100-HR-2, 100-HR-3, 100-DR-1 and 100-DR-2 Operable Units for groundwater and soil	TPA	7/30/11			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	7/31/11			On Schedule
M-024-62-T01	Conclude Discussions of Well Commitments	TPA	8/01/11			On Schedule

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

Note 2: Tentative Agreement approved on 4/20/10 is expected to delete this milestone. Milestone date changed by change request M-15-10-03 approved on 8/31/10.

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.