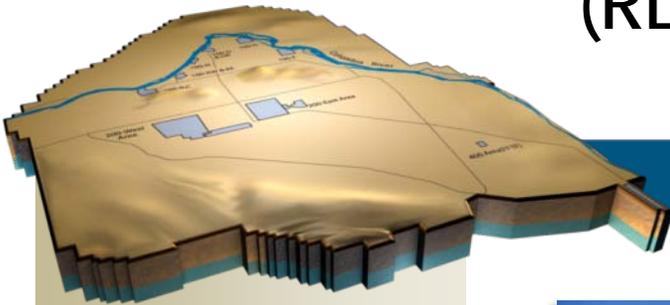


# Section D

## Soil and Groundwater Remediation Project (RL-0030)



### Monthly Performance Report

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CHPRC-2011-07, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1



**200 West Pump and Treat – Biological Building Equipment Pad –  
Air Stripper Area**

## PROJECT SUMMARY

### American Recovery and Reinvestment Act (ARRA)

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

Activity	July		Cumulative	
	Planned	Completed	Planned	Completed
Well Drilling (number of wells) -303	0	0	303	303
Well Decommissioning (# of wells) -280	10	11	269	280
100 DX Pump and Treat (P&T) – Construction/Startup (percent)	-	-	100	100
200 West P&T – Final Design (percent)	-	-	100	100
200 West P&T – Construction (percent)	8	7	84	88
200 West P&T – Testing/Startup (percent)	7	9	82	80

### 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 July includes the following:

- 130 well locations were sampled with a total of 527 samples being collected
- 14 aquifer tube samples collected from 6 tubes at 3 locations
- 17.2M gallons groundwater treated by ZP-1 treatment facility
- 20.7M gallons groundwater treated by KX treatment facility
- 8.8M gallons groundwater treated by KW treatment facility
- 4.7M gallons groundwater treated by KR-4 treatment facility
- 22.4M gallons groundwater treated by DX treatment facility
- 73.9M gallons of groundwater treated total

## EMS Objectives and Target Status

Objective#	Objective	Target	Due Date	Status
<b>11-EMS-SGWR-OB1-T1</b>	Take actions necessary to protect the Columbia River by fiscal year (FY) 2012	Treat 500,000,000 gallons of 100 Area (D, H & K Area) groundwater	9/30/11	Complete
		Review and tally total number of gallons treated	Monthly	Treated 539.0 M gal FY2011 through 7/31/11
<b>10-EMS-SGWR-OB2-T1</b>	Construct a new GW treatment facility that satisfies the P&T component of the 200-ZP-1 Operable Unit (OU) Record of Decision (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
<b>10-EMS-SGWR-OB4-T1</b>	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	2	N/A
Total Recordable Injuries	0	13	N/A
First Aid Cases	15	122	<p>7/1/11- Rotor hammer was twisted abruptly as it bound against rebar in concrete floor propelling employee's arm and elbow against PVC pipe, resulting in bruising and possible strained elbow. 22082 (EPC)</p> <p>7/5/11 – Employee felt sharp sting on left forearm, possible bite/sting. 22084 (EPC)</p> <p>7/6/11 – Employee bumped knee on damper valve. 22091 (EPC)</p> <p>7/7/11 – Employee noticed rash after work. 22094 (EPC)</p> <p>7/7/11 – Employee struck a beam with his hard hat forcing his neck to the side. 22096 (EPC)</p> <p>7/7/11 – Employee strained knee after attempting to move a “JobBox”. 22098 (EPC)</p> <p>7/7/11 – Employee felt ill after smelling what she described as battery acid and burnt rubber from government vehicle. 22097 (S&amp;GRP)</p> <p>7/8/11 – Employee sprained wrist after hold saw bound up an spun clockwise. 22100 (EPC)</p> <p>7/11/11 – While tightening a bolt employee struck back of hand against structural steel. 22141 (EPC)</p> <p>7/14/11 – Employee felt pop in right elbow while guiding a piece of pipe with tag line from crane. 22116 (EPC)</p> <p>7/15/11 – Employee experienced sore knee, possibly from daily operation of life. 22131 (EPC)</p> <p>7/18/11 – Employee experienced back pain after placing grate sections onto the catwalk. 22132 (EPC)</p> <p>7/19/11 – While adjusting the alignment of pipe fitting employee felt a pop in wrist resulting in some discomfort and limited motion. 22144 (EPC)</p> <p>7/25/11 – Employee struck knee on a conduit unistrut bracket. 22155 (EPC)</p> <p>7/28/11 – Employee received possible bite/sting. 22166 (EPC)</p>
Near-Misses	0	1	N/A

## KEY ACCOMPLISHMENTS

### ARRA - GW CAPITAL ASSET

Drilling	July		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

### **Engineering Projects and Construction (EPC) Projects in Support of Soil and Groundwater Remediation Project (S&GRP) - ARRA**

- 200 West Area Groundwater Treatment Facility –KPP scope is 91% complete, with approximately 200 craft working to keep the installation of mechanical, electrical and process controls on schedule. Continued on schedule execution of 29 Construction Acceptance Tests (CAT): Two completed CATs with 18 Active CATs.

### **EPC Projects in Support of S&GRP – Base**

- 100-HX Groundwater Treatment Facility – Equipment installation in the Treatment and Transfer Buildings is complete. The Construction Acceptance Tests (CATs) are 88% complete. All transfer lines, injection well lines, and 20 of 21 extraction well lines have been flushed and leak tested. The final draft of the Acceptance Test Procedure (ATP) has been routed for final comments and approvals.

### ARRA - GW OPERATIONS

#### **Well Drilling and Decommissioning – ARRA**

	July		Cumulative	
	Planned	Completed	Planned	Completed
KR-4 Remedial Investigation/Feasibility Study (RI/FS) – 13 wells	0	0	13	13
100-NR-2 Barrier Emplacement – 171 wells	0	0	171	171
100-HR-3 H Area Remedial Process Optimization (RPO) – 40 wells	0	0	40	40
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	0	10	10
100-FR-3 – 3 wells	0	0	3	3
300 FF-5 RI/FS – 11 wells	0	0	11	11
Drilling Total	0	0	281	281
Decommissioning Total	10	11	269	280

## **BASE - GW OPERATIONS**

### **Environmental Strategic Planning:**

- Finalized the Central Plateau bioassay data analysis. Calc brief preparation is underway.
- Issued Revision 2 of the Quality Assurance Project Plan (QAPP) for Modeling and submitted to EQA for inclusion in the CH2M HILL Plateau Remediation Company Environmental Quality Assurance Program Plan.
- Evaluating model alternatives in support of the ERDF PA.
- Provided the Central Plateau Ecological Risk Assessment Data Package Report, DOE/RL-2007-50, Revision 1 to DOE-RL.
- Provided the report on the Tier 1 Risk-Based Soil Concentrations Protective of Ecological Receptors at the Hanford Site to DOE-RL.

### **Integration Management:**

- River Corridor RI/FS Data: Completed the effort to ensure that all electronic data that WCH collected in support of the RI/FS process has been transferred to CHPRC and entered into the HEIS database. Significant improvements in electronic communication between contractor databases were realized through this activity.

### **Document Review & Standardization**

- Completed coordination and submittal of EP&SP document reviews and consolidated responses for 3 environmental documents.

### **River Corridor**

#### **100-BC-5 Operable Unit - Base**

- Internal review comments on the RI/FS report were incorporated into a decisional draft document. The decisional draft document was provided to RL for review on July 28, 2011.

#### **100-KR-4 Operable Unit - Base**

- Received final comments set from RL on *Remedial Investigation/Feasibility Study for the 100-KR-1, 100-KR-2, and 100-KR-4 Operable Units*, Decisional Draft, on July 5, 2011. Comment resolution and chapter update meetings are underway.
- Operating KR-4, KW, and KX systems with 59 kg mass removed and 325 million gallons treated fiscal year to date.
- Initiated drilling on fourth (C7696/199-K-196) of four Phase 3 RPO wells.
- The 2010 annual performance summary report has been issued.

#### **100-NR-2 Operable Unit - Base**

- RI/FS well drilling and sampling activities initiated at well C8189 and resumed at well C8188. Drilling and sampling of wells C8184 and C8191 were completed and well construction initiated at C8184. Overall, drilling and sampling has been completed at 4 of the 8 RI/FS wells.
- The 2010 annual performance summary report has been issued.
- All other RI/FS field work is complete.

#### **100-HR-3 Operable Unit - Base**

- Efforts to place the DR-5 into cold standby were completed.
- Efforts continued to place the HR-3 system into cold standby. The only activity remaining is administrative closeout of packages – all should be complete this month.

- The Decisional Draft RI/FS Report for the 100-D/H area was submitted for DOE review and comment on July 8, 2011. Planning began for the drilling of the R5 replacement well at the 100-D-12 waste site.
- The 2010 annual performance summary report has been issued.
- All other RI/FS fieldwork is complete.

#### **100-FR-3 Operable Unit - Base**

Internal review comments on the RI/FS report continued to be incorporated into the decisional draft scheduled for RL review starting in mid August. Resolution to comments on the decisional draft RI/FS for KR-4 are being reviewed for applicability and incorporated into the 100-F and IU-2/6 RI/FS report where appropriate.

#### **Central Plateau**

##### **200-UP-1 Operable Unit – Base**

- Drilling was completed and well completion activities initiated at extraction well C8097 near the S-13 crib. Drilling was initiated at extraction well C8096 near the SE corner of SSX farm.

##### **200-BP-5 Operable Unit – Base**

- Initiated construction activities for the treatability test system with the staging of equipment/material in late July and work package preparation

##### **200-ZP-1 Operable Unit - Base**

- System is online pumping water at 385 gpm
- The 2010 annual performance summary report has been issued.
- FY 2012 groundwater modeling runs are complete and have been presented to RL. Draft modeling report is currently out for review.

#### **Deep Vadose Zone - Base**

- Completed the Data Quality Objective (DQO) scoping session for the S Area waste sites with Ecology on July 18, 2011.
- Began demobilizing the field equipment from the desiccation test site and continuing with the post operation rebound testing. Initiated work on an interim test report that will be transmitted to RL prior to September 30, 2011, supporting preparation of the test report which is due June 30, 2012 (TPA M-015-110D).

## **MAJOR ISSUES**

No major issues to report this month.

## 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	
<b>SGW-001: 100-D Treatment Technology Selection Change</b>	Review draft RD/RAWP with regulators; maintain close interface to minimize impact of changes.			No significant issues.
<b>SGW-050: Regulatory Strategy for Decision Docs</b>	Continue to support RL in strategy negotiations with Agencies. A series of workshops have been established to resolve issues and develop a path forward for the 200-IS-1 Work Plan			Issue regarding waste to be included in 200-IS-1 vs. 200-EA-1 and 200-WA-1 will be addressed in workshop with Agencies in July-August 2011.
<b>SGW-069: 100-HR-3 ISRM Barrier Amendment - Hexavalent Chromium Continues to Move Through Barrier</b>	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 extraction wells down gradient of the ISRM barrier.
<b>SGW-080: 100-BC-5 Pump and Treat Required</b>	This risk is accepted as written and will be monitored throughout work execution.			EPA concurred that need for pump and treat will be evaluated as part of RI/FS process; existing sample data indicate a treatment system may be required as part of a final action under the future Record of Decision.
<b>SGW-081: 100-FR-3 Pump and Treat Required</b>	This risk is accepted as written and will be monitored throughout work execution.			EPA concurred that need for pump and treat will be evaluated as part of RI/FS process but based upon current sample data, the need for treatment is not considered likely.
SGW-008B: Regulatory Document Comments for 100-HR-3	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.			Met on June 30, 2011 and work is progressing on the RI/FS Report. The Decisional Draft is in DOE Review. DOE comments from the K document are being incorporated.
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, all deliverable have been given to RL; no additional funding is authorized in FY2011.			Four 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-017 - Groundwater Flow Less Than Planned - 200 West P&T (Phase I)	Project has accelerated drilling of 6 injection wells to ensure adequate injection capacity.			Hydraulic analysis was performed and as a result, project is revising pump header configuration to accommodate startup and operations at ITB #1 and ITB #2.
SGW-003A: Central Plateau Drilling - 200W P&T	Utilize rotary drilling and cable-tool; work closely to resolve subcontractor issues and manage schedule.			The next 6 (4 with option of 2 more wells) contract was awarded to a new subcontractor to Hanford, who is experiencing a number of field delays (late start, re-tooling, birds nesting), so therefore the assessment will remain yellow with decreasing confidence. Project team descopeing one well and including with a second RFP to obtain a second drilling rig.
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. ARRA funded wells have been completed.
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 baseline has incorporated the realized risk from the final issuance of the "issued for construction" drawings. As the scope is being constructed in the field the impact of design changes continues to be monitored.

## 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-041, Maintenance on the groundwater pump and treat systems is higher than planned due to reduced system reliability.	Shutdown of the older facilities as new facilities are brought on line.			Some groundwater pump and treat systems have been in operation for more than 10 years. As the systems age, the maintenance costs can be expected to increase slightly. There is a risk that the aging systems will begin to experience additional downtime and require increased maintenance, including equipment change outs. The probability of this risk occurring increases as the systems age. The probability for the existing 200-ZP-1, 200-UP-1, 100-KR-4, TX/TY (excluding the expansion), systems requiring maintenance beyond the planned maintenance budget is moderate. The risk from the existing ZP-1 facility will be eliminated once that building is shut down in FY2012. In addition, KR-4 went through a major upgrade in 2011 that will mitigate some of the risk for KR-4.
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.			Agreed upon completion criteria with RL and Regulators. Progress is consistent but delays associated with the issuance of IFC have been 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-082, BC/FR RI Impacts	Delays in preparing earlier River Corridor RI/FS/PP documents impact scheduled for 100-BC-5 and 100-FR-3 documents.			The 100-BC-5 and 100-FR-3 RI/FS and Proposed Plan documents are scheduled to follow the preparation of the 100-HR-3 and 100-KR-4 documents. Delays in the development of documents for those operable units could impact the ability to meet the TPA schedule for BC-5 and FR-3. Because of current schedule issues associated with 100-HR-3 and 100-KR-4, there is a low probability the BC-5 and FR-3 schedules will be impacted.
SGW-083, River Corridor Characterization	Additional characterization wells are required to support the development of an RI/FS and Proposed Plan for the River Corridor groundwater operable units or to investigate findings from WCH data gathering.			WCH is gathering data in and along the river. This data could result in the need to install additional characterization wells in the River Corridor operable units. Information and conclusions from WCH risk assessments is raising questions regarding the Riparian Zone and Columbia River component human health risk assessment
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.			All major long lead equipment (LLE) has been received and accepted in the field. Significant interferences have been encountered in the field, including identification of ~700 suspect/counterfeit bolts. On-site support has been employed to modify, replace, and/or repair the interferences.

## 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.			The project is working closely with subcontractors to understand and work through impacts from design changes and maintain the accelerated project schedule. OT and additional shifts have been utilized in certain areas to ensure schedule requirements are met. Work continues to support software, simulator, procedures, and CAT development.
SGW-101, 100-NR-2 Strontium Downstream From Barrier	Strontium contaminants located downstream from the apatite barrier must be treated.			The 100-NR-2 apatite barrier is designed to control and treat the strontium in the soil and groundwater to prevent migration to the river. There is a very low probability risk that strontium that is downstream from the barrier will require additional treatment.
SGW-108J: 200-UW-1 Increased Characterization Required	Incorporate additional deep boreholes into the baseline.			Risk has been realized; however, near-term funding constraints will prevent additional deep boreholes from being drilled before FY2013
SGW-108L: 200-IS-1 Increased Characterization Required	Work closely with the regulators to expedite resolution of characterization requirements in order to minimize cost and schedule impacts.			Acceptability of existing characterization; expectation that additional characterization will be required. A series of Workshops will be held with the regulators to create a path forward for characterization and revise the 200-IS-1 Work Plan accordingly
SGW-117, OPP: 100-KR-4 Resin Changes	The opportunity exists to replace the 100-KR-4 pump and treat systems resins with the SIR-700 resin, thus reducing the life-cycle operating costs for the pump and treat system.			The SIR-700 resins have been successfully tested at 100-HR-3. Minor modifications to the resin or P&T systems may enable the SIR-700 resin to be successfully used in the 100-KR-4 pump and treat systems. This is a likely probability opportunity.
SGW-120: 200 West Safety Considerations	CHPRC oversight including site safety, IH, and construction management will work with the contractor on a daily basis to reduce this risk potential.			Successful completion of the project is contingent upon ongoing implementation of safety and health practices. There has been an adverse trend concerning hoisting/rigging and use of dedicated spotters. Project is hosting mandatory spotter training to mitigate risk going forward. Further, project is reiterating existing policies and participating in safety critiques to ensure compliance and improve performance going forward.

## 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	8.9	8.3	6.4	(0.6)	-7.1	1.9	22.4
ARRA RI-0030.R1.2 GW Operations	4.2	4.4	4.4	0.2	5.3	(0.1)	-1.5
<b>ARRA Total</b>	<b>13.1</b>	<b>12.7</b>	<b>10.9</b>	<b>(0.4)</b>	<b>-3.2</b>	<b>1.8</b>	<b>14.1</b>
<b>Base</b>	<u>12.4</u>	<u>10.7</u>	<u>10.1</u>	<u>(1.6)</u>	-13.3	<u>0.6</u>	5.6
<b>Total</b>	<b>25.4</b>	<b>23.4</b>	<b>21.0</b>	<b>(2.1)</b>	<b>-8.1</b>	<b>2.4</b>	<b>10.2</b>

Numbers are rounded to the nearest \$0.1M.

#### ARRA

##### CM Schedule Performance: (-\$0.4M/-3.2%)

Current month schedule variances that exceed thresholds are as follows:

##### ARRA RL-0030.R1.1 GW Capital Asset (-\$0.6M)

###### 200-ZP-1 OU (-\$0.6M)

200W P&T construction is performing ahead of the baseline schedule, the negative schedule variance (SV) in the current month (CM) is the result of previously completed work with BCWS being realized in the CM.

##### ARRA RL-0030.R1.2 GW Operations (+\$0.2M)

Current month schedule variances are all within thresholds.

##### CM Cost Performance: (+\$1.8M/+14.1%)

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

##### ARRA RL-0030.R1.1 GW Capital Asset (+\$1.9M)

###### 200-ZP-1 OU (+\$1.9M)

200W P&T construction has a positive cost variance due to efficiencies experienced with project support resources, installation of well rack instrumentation and procurement of fiber optic/electrical cable and transfer of costs for work scope moved to R1.2.

##### ARRA RL-0030-R.1.2 GW Operations (-\$0.1M)

Current month cost variances are all within thresholds.

**Base****CM Schedule Performance (-\$1.6M/-13.3%)**

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

**Drilling (-\$0.5M)**

CHPRC site wide Lock Out / Tag Out stop work delayed current drilling programs. Crews have had to drill deeper due to sample results that showed a high concentration of Tc-99. Also, ZP-1 did not make the planned drilling production rates. The project de-scoped wells due to schedule slippage from the first subcontractor and rebid three wells and awarded to a second contractor. The six well ZP-1 and the third extraction well for UP-1 will be carried over into FY2012 and have been included in the FY2012 planning.

**100 HR-3 Operable Unit (-\$1.0M)**

100HX P&T construction has performed work ahead of schedule, the negative variance is the result of realizing BCWS in the CM for work completed in previous periods.

**200-UP-1 OU (+\$0.4M)**

The positive variance is primarily associated with completing S-SX construction activities in July that the BCWS was planned in prior months. No significant variance exists for the Contract-S-SX project.

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

200W P&T negative variance is due to delays associated with sludge stabilization subcontractor submittals, fair cost estimates, award of contract and delayed procurements.

**CM Cost Performance (+\$0.6M/+5.6%)**

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

**Integration and Assessments (+\$0.4M)**

Less support required to Central Plateau Strategy development due to changes in requirements. This positive variance will continue through FY2011.

**Drilling (-\$0.3M)**

Encountered Radiological contamination on two NR-2 wells and now expect to see it on the other two wells. Due to contamination issues, a full time health physics technician is required and additional well drilling rigs are being used to recover the variance. This has resulted in additional cost and the current month overrun.

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

100HX P&T negative variance is the result of CAT activities requiring more resources than budgeted, based on experience with 100DX and this project that budgeted resources for CATs were not sufficient to complete the work scope.

## 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)
<b>ARRA RL-0030.R1.1 GW Capital Asset</b>	157.4	162.3	164.4	4.9	3.1	(2.1)	-1.3	175.0	175.0	0.0
<b>ARRA RL-0030.R1.2 GW Operations</b>	<u>82.3</u>	<u>83.2</u>	<u>79.4</u>	<u>0.9</u>	1.1	<u>3.8</u>	4.5	<u>92.1</u>	<u>89.4</u>	<u>2.7</u>
<b>ARRA Total</b>	<b>239.7</b>	<b>245.5</b>	<b>243.8</b>	<b>5.8</b>	<b>2.4</b>	<b>1.6</b>	<b>0.7</b>	<b>267.1</b>	<b>264.4</b>	<b>2.7</b>
<b>Base</b>	<u>387.6</u>	<u>384.7</u>	<u>388.2</u>	<u>(2.8)</u>	-0.7	<u>(3.4)</u>	-0.9	<u>1,284.0</u>	<u>1,227.5</u>	<u>56.6</u>
<b>Total</b>	<b>627.3</b>	<b>630.2</b>	<b>632.0</b>	<b>2.9</b>	<b>0.5</b>	<b>(1.8)</b>	<b>-0.3</b>	<b>1,551.1</b>	<b>1,491.9</b>	<b>59.2</b>

Numbers are rounded to the nearest \$0.1M.

### ARRA

#### CTD Schedule Performance: (+\$5.8M/+2.4%)

The major primary contributors to the ARRA positive schedule variances that exceed the reporting thresholds are discussed below:

#### ARRA RL-0030.R1.1 GW Capital Asset (+\$4.9M)

##### 200-ZP-1 Operable Unit (+\$4.9M)

200W P&T positive variance is the result of managing the primary contractor to an accelerated completion date.

#### ARRA RL-0030.R1.2 GW Operations (+\$0.9M)

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

200W P&T CM positive variance is due to early completion of business information modeling and early start on installation of heat trace.

#### CTD ARRA Cost Performance: (+\$1.6M/+0.7%)

The major primary contributors to the ARRA positive cost variances that exceed the reporting thresholds are discussed below:

#### ARRA RL-0030.R1.1 GW Capital Asset (-\$2.1M)

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

The negative cost variance for 100DX is the result of increased installation costs on the pH adjustment system, the impacts of weather on completing construction punch-list items, and the Acceptance Test Plan for the facility/process.

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

200W P&T construction negative cost variance is due to modifications in design of Long Lead Equipment (LLE) procurements.

#### ARRA RL-0030.R1.2 GW Operations (+\$3.8M)

##### Drilling (+\$2.3M)

The positive cost variance is due to efficiencies and savings obtained in drilling for 100-NR-2 and 200-BP-5 wells. Cost efficiencies have been obtained through an aggressive drilling schedule with savings in support personnel and faster drilling methods. Well decommissionings have also been completed for less than planned.

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

The positive cost variance is primarily due to 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).

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

The negative cost variance was driven by increased Project Services Distribution to RL-0030.

PBS RL-0030 UBS, G&A, and DD (+\$0.8M)

The positive cost variance is discussed in Appendix C.

**Base****CTD Schedule Performance (-\$2.8M/-0.7%)**

The primary contributors to the Base CTD schedule variance that exceed the reporting thresholds are:

Drilling (-\$1.7M)

Primary contributor to the schedule variance is ZP-1 well drilling activities due to a broken 16" casing, shipment delays in receiving the under reamer tool for the 12" casing, and nesting of a protected bird species in the mast of one of the rigs. UP-1 planning process also took longer than planned. It is anticipated that some of the ZP-1 drilling will slip into FY2012.

100 HR-3 Operable Unit (+\$1.6M)

HX construction activities for Procure/Install Equipment, Distribution of Electricity and Piping, and Transfer Building Construction have been performed ahead of schedule to support the completion of construction activities and acceptance testing by September 2011. The project is currently forecast to complete ahead of baseline schedule.

**CTD Cost Performance (-\$3.4M/-0.9%)**

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

Integration & Assessments (+\$3.6M)

Primary drivers for this positive cost variance are as follows:

- Less subcontractor support required for Central Plateau strategy development and integration
- Sample Management and Reporting has performed work scope more efficiently than planned
- Less cleanup document reviews were required than originally planned, requiring less contract support. Also efficiencies/savings were realized in establishing document templates, reviewing procedures, and software procurements.

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.

100 HR-3 Operable Unit (-\$2.8M)

Primary contributors to the negative cost variance are as follows:

- 100 DX extensive effort required to design the pH adjustment system, cost overruns in completing the OU Remedial Process Optimization studies.
- 100 DX unplanned modifications on the system after completion of construction and higher than expected cost to complete acceptance test plan and the operational test plan

- Cost of realigning wells from DR-5 to 100 DX
- 100 HX Construction cable cost increased due to increases in copper prices
- Additional time and resources being spent on internal CERCLA (RI/FS) document development that will be recovered in completed Draft A document

#### 200-ZP-1 Operable Unit (+\$3.5M)

Major contributors to the variance are as follows:

- Interim Operations reflects significant progress and cost underruns achieved to date for System Calibration
- Design of the permanent hookup of well EW-1 was lower than planned as only minor changes were needed to an existing design
- Cost for performing general operating and maintenance and minor modification activities have been lower than planned as the system has been running smoothly
- Cost for collecting depth-discrete groundwater and soil samples during the installation of new wells was less than planned
- 200W Pump-and-Treat Remedial Design/Remedial Action work plan and preliminary design activities were completed with fewer resources 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 as well as the removal of two old SVE units.

#### Usage Based Services (-\$1.5M)

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.

#### PBS RL-30 UBS, G&A, and DD (-\$2.2M)

The negative cost variance is discussed in Appendix C.

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

#### **Estimate at Completion (EAC)**

ARRA – The projected variance at completion is positive 1.0%.

Base – The projected variance at completion of positive 4.4% is spread among several operational areas and is not considered significant.

ARRA – The EAC change from the previous month is within reporting thresholds.

Base – The EAC change from the previous month is within reporting thresholds.

## FUNDS vs. SPEND FORECAST (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
<b>ARRA</b>	157.6	157.6	0.0
<b>Base</b>	174.9	165.9	9.0

Numbers are rounded to the nearest \$0.1M.

### Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority.

### Critical Path Schedule

Critical path analysis can be provided upon request.

### Baseline Change Requests

BCRA-PRC-11-041R0, Gen Admin & Metric Schedule Coding Changes for July 2011

### FY2011 Management Reserve (Funded):

ARRA = \$0.0M

Base = \$0.0M

See management reserve table in the CHPRC Overview.

## MILESTONE STATUS

The Tri-Party Agreement (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, 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-015-82B	Initiate 200-BP-5 Aquifer Tests Within 6 months of TTP Approval	TPA	8/1/11	4/30/11		Complete. A letter was sent to RL on July 28, 2011 indicating that CHPRC has met TPA Milestone M-015-82B by the installation of water level monitoring equipment and the initiation of baseline monitoring in April 2011.
M-091-40L-031	Submit April to June 3rd Quarter FY2011 Burial Ground Sample Results.	TPA	9/15/11	7/25/11		Complete
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		11/10/11	On Schedule
M-015-68-T01	Submit CERCLA RI/FS Report and Proposed Plan for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units for groundwater and soil.	TPA	11/30/11		11/30/11	On Schedule
M-091-40L-032	PMM Submittal Jul-Sep 4th Qtr FY11 Burial Ground Sample Results	TPA	12/15/11		11/30/11	On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
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		12/14/11	On Schedule
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-015-90	Submit RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) and RI/FS work plan for 200-IS-1 OU to Ecology	TPA	12/31/11		12/30/11	On Schedule
M-015-91A	Submit RI/FS Work Plan for the 200-WA-1 OU to U.S. Environmental Protection Agency (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		12/31/11	On Schedule
M-091-40L-033	Submit Oct-Dec 1 <sup>st</sup> Quarter Burial Ground Sample Results	TPA	3/15/12		2/28/12	On Schedule
M-037-03	Submit revised closure plans to support TSD closure of two TSD Units: 216-B-3 Main Pond system and 216-S-	TPA	4/30/12		4/30/12	On Schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
	10 Pond and Ditch					
M-015-38B	Submit a revised Feasibility Study Report and revised Proposed Plan (s) for the 200-CW-1, 200-CW-3 and 200-OA-1 OU for Waste Sites in the Outer Area of the Central Plateau to EPA	TPA	4/30/12		4/30/12	On Schedule
M-024-58E	Initiate Discussions of Well Commitments.	TPA	6/1/12		6/1/12	On Schedule
M-091-40L-034	Submit January to March 2nd Quarter FY-12 Burial Ground Sample Results.	TPA	6/15/12		5/31/12	On Schedule
M-015-110D	Submit Technicium-99 Pilot-scale Treatment Study Test Report as an element of the Remedial Investigation for the 200-WA-1 OU to EPA.	TPA	6/30/12		6/30/12	On Schedule
M-024-63-T01	Conclude Discussions of Well Commitments Initiated Under M-024-058 and Add a New Interim M-024 Milestone Commitment for 12/31/15 to Incorporate New Well Installations Needed to Maintain a Three-year Rolling Prioritized Drilling Schedule.	TPA	8/1/12		8/1/12	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.