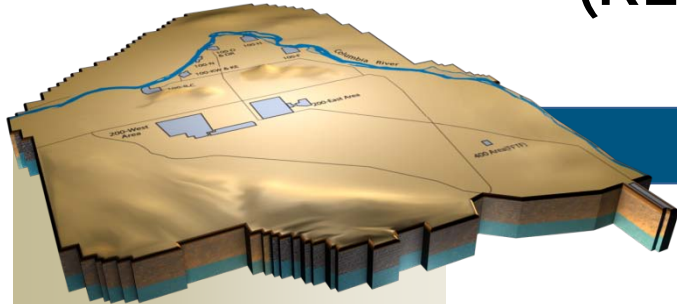


Section D

Soil and Groundwater Remediation Project (RL-0030)



Monthly Performance Report

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

M. N. Jaraysi
Vice President
Environmental Program
and Regulatory
Management

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



Workers dig a footing for the DX groundwater treatment facility. The facility, located in the 100 Area, is being constructed with Recovery Act funds to advance efforts to protect the Columbia River by treating hexavalent chromium contamination in the groundwater.

October 2009
DOE/RL-2008-69, Rev. 32
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

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 numerous wells that will be used for monitoring, extracting, and remediating groundwater near the Columbia River. Within the 100-HR-3 Operable Unit, the DX Groundwater Treatment Facility made significant progress in the construction of the facility. The concrete for the footings, stem wall, and foundation was successfully placed during the month of October. Overall, the construction of the facility is ahead of schedule. Workers performed the foundation work in the early morning and poured approximately 250 cubic yards of cement. Construction of the structure is expected to begin in the coming weeks. Recovery Act funding has allowed CHPRC to prioritize the DX project and accelerate its construction, whereas it might not have started until much later under base funding. The DX pump-and-treat system is being designed to help protect the Columbia River by cleaning up Chromium 6-contaminated groundwater in the 100 Area.

Additionally, Recovery Act funding is being used across the Hanford Site to prepare for and complete the drilling of numerous wells that will be used for monitoring, extracting, and remediating groundwater.

Recent progress includes:

- 100-HR-3 D Area: 12 wells have been drilled, constructed, and developed. The documentation to initiate drilling on the next 14 wells is in process. Drilling at three of the 14 wells has been initiated, and the remaining wells are awaiting approval from the State Historic Preservation Officer.
- 100-HR-3 H Area: 14 wells are being installed in support of the Remedial Process Optimization effort to increase the productivity of the treatment facilities. Three wells are in process, with one well developed, one well is under construction, and one well is in process of being drilled to total depth.
- 100-BC-5: Drilling continued on two of the four wells.
- 200-ZP-1 Expansion: Drilling continued on six wells in support of the 200 West Groundwater Treatment Facility. Two wells were developed, one well is under construction, and the remaining three are in the process of being drilled to total depth.
- 100-NR-2: Drilling on the 171 wells for the expansion of the strontium-90 apatite barrier continued with 12 wells being drilled and constructed. As a result of low Columbia River water elevations, the development of the wells is progressing slower than expected. Three of the twelve wells were developed and development will continue to be dependent on the water elevations.

Base

Three of five new wells required to support the Phase 2 realignment of the KX and KR4 pump-and-treat systems have been accepted from the driller. Drilling of the remaining two wells is pending completion of cultural reviews to support the excavation permit.

EPC Projects in Support of S&GRP

ARRA

All long-lead equipment contracts have been awarded. Concerns with pipe and well locations in the 200 West Area near the burial grounds is an emerging issue. This will require controls for nuclear safety concerns and has the potential to cause relocation of wells impacting modeling. Tc99 inventory and impact to the ERDF life span is an emerging issue.

Design changes from a joint decision by CHPRC and DOE on resin optimization have been incorporated into the DX 90% design. Construction activities included procurement of materials, installation of HDPE piping and road crossings, fabrication of well racks, placing of concrete for the process building stem walls foundation, and receipt of the transfer building materials. The AWA for HX acceleration has been approved.

Base

Finished construction of Modutank 2 and turned over the system to SGRP Operations. Modutank 3 construction is 80% complete and the expected completion is November 2009.

Completed Modutank Remedial Action Work Plan. Work continued on preparation of the 200W Area Pump and Treat Project 90% designs for the Process Facility and Balance of Plant. Additional design work is required to incorporate changes in the equipment sizing and the lime addition system. Balance of Plant mobilization is in progress and includes procurement of materials, well rack fabrication and start of field work on road crossings.

Continued construction activities on the KX and KR4 Phase II pump and treat expansion.

In October, 265 well locations were sampled with a total of 621 samples being collected. 81 aquifer tube samples collected from 25 tubes at 14 sites.

S&GRP EMS Objectives and Target Status

Objective #	Objective	Target	Due Date/Status	Completion Date
09-EMS-SGWR-OB-01	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	
09-EMS-SGWR-OB-03	Reduce the number of groundwater sampling events conducted annually.	Reduce the number of baseline sampling events by 10% in calendar year 2010	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. Down time associated with adding new capacity, re-alignments, and aquifer tests will require adjustments to the total gallons to be treated under this target.		
		Review and tally total number of gallons treated.	As of October month end, 29.6 million gallons have been treated	
		Treat up to 430 million gallons of 100 Area groundwater.	9/30/10	
10-EMS-SGWR-OB2-T1	Construct a new groundwater treatment facility that satisfies the pump-and-treat component of the 200-ZP-1 Operable Unit Record of Decision's selected remedy.	Construct new 200 West Area pump and treat facility to remediate groundwater which was impacted from past plutonium production operations.		
		Start construction of road crossings.	11/30/09 – working	
		Start early civil construction.	03/30/10 – started	
		Start construction of groundwater extraction buildings.	03/30/10 – started	
		Complete treatment facility construction.	12/31/11	
10-EMS-SGWR-OB3-T1	100-K Area Waste Site Remediation	Initiate and sustain remediation of waste sites at 100-K Area by 11/30/09.		
		Initiate and sustain progress toward Group 1 waste site remediation at 100-K.	11/30/09 – started	
		Complete Group 1 waste site remediation.	9/30/11	

TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	1	1	On 10/28/09, an employee picked up a case of water and experienced mid-back pain. The employee was treated with prescription medications and advised to remain off work one day. (20524)
Total Recordable Injuries	1	1	The recordable injury in October was the DART case noted above.
First Aid Cases	2	2	<p>On 10/12/09, a FSS Teamster felt a slight twinge in his knee as he stepped down from the cab of an S&GRP Purge water truck. The situation was reported to management and the employee was taken to first aid for evaluation. Ice was provided to the employee and he was requested to return to first aid on Tuesday morning for further evaluation. (20517)</p> <p>On 10/26/09, a Groundwater NCO involved in conducting well sampling operations was in the process of staging the sample van at well when a gust of wind caught one of the rear van doors and hit the employee knocking him down. The van door was not positively latched in the open position. The employee was taken to first aid for evaluation and was subsequently returned to work with no restrictions. The employee received a minor abrasion to his right hand and experienced discomfort to his right knee and ankle, was provided over the counter medication for the discomfort. (20523)</p>
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

30.01 Integration and Assessment

Base

Environmental Strategic Planning

The Central Plateau Cleanup Strategy was shared with the Oregon Hanford Cleanup Board and the HAB River and Plateau Committee in early October. The strategy was also discussed with the HAB committee on the whole October 29, 2009. The meeting was well attended and provided a good dialogue opportunity for all parties. The Change Packages that incorporate the Central Plateau Cleanup Strategy into the Tri-Party Agreement have been drafted and provided to regulatory agencies for comment.

Document Review & Standardization

The RD/RA Work Plan, RACR, and O&M Plan annotated outlines have been sent to the regulatory agencies and are awaiting comments. The ROD, ALARACT, Notice of Construction, Air Monitoring Plan, Removal Action Work Plan, and DQO Summary reports have been sent to DOE and are awaiting acceptance.

Risk and Modeling Integration Group

Several meetings were held with RL on Risk Integration issues, including a number of specific meetings on the Outer Area schedule and risk approach, and the path forward for non-operational areas. The Risk Integration Process Document was reviewed by the Risk Integration Core team to discuss comments and proposed path forward.

Environmental Database Management

The Waste Information Data System (WIDS) Redesign Committee continues to collect input for changes, modifications and/or updates to WIDS. A "bug" was resolved in the Well Maintenance Application (WMA), dealing with a field not updating and resulting in incorrect information being printed out on task orders.

30.03 Well Drilling and Decommissioning

ARRA

- Initiated drilling for 171 wells at 100-NR-2; drilling 12 and completed five.
- Continued drilling on the last of six 200-ZP-1 extraction wells; five wells are at total depth with two completed.
- Initiated drilling the 35 RPO wells at 100-HR-3 (H area); 12 wells are complete.
- Initiated drilling two of four wells at 100-BC-5.
- Initiated drilling 14 wells at 100-HR-3 (D Area); two wells are complete.

Base

- Completed construction and development of all three wells at 200-ZP-1.
- Completed three of five wells at 100-KR-4

River Corridor

30.10 100-BC-5 Operable Unit

ARRA

Drilling of two of the BC-5 four wells (C7505 and C7506) continued, with C7505 advanced to approximately 130 feet below ground surface (ft bgs) and C7506 to approximately 132 ft bgs.

Base

In response to the preliminary WCH river-pore sampling results, an additional expedited well-sampling event was completed for three existing wells along the river, and the BC aquifer tube sampling campaign was completed ahead of schedule. Additionally, one of the planned four-well drilling locations was

moved from near the C Reactor to a location near the river (planned well C7508 replaced by C7665). This change was approved in a TPA Change Notice (TPA-CN-303) to modify the four-well sampling analysis plan (SAP) (DOE/RL-2009-61).

30.11 100-KR-4 Operable Unit

Base

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

- Approximately 4.1 million gallons pumped at the KR4 pump and treat system.
- Approximately 12.6 million gallons pumped at the KX system.
- Approximately 8.6 million gallons pumped at the KW system.

The KR4 system and portions of the KX system remain under construction related to Phase 2 realignment. Flows through both systems were reduced during October pending completion of Phase 2 construction work, which was on hold as a result of the September 25, 2009, lock and tag issue. The hold on non-electrical construction work was lifted at month's end, allowing Phase 2 work to restart. Three of the five new wells associated with Phase 2 have been accepted from the drilling contractor, and drilling of the final two wells is pending completion of cultural reviews to support the excavation permit. Remedial Process Optimization evaluations resulted in recommendations for implementation of a phased approach to meeting the TPA target dates for remediation of the Chromium 6 plume in 100-KR-4. The recommendations were provided to RL in mid-September. The RPO technical memorandum is being readied for RL review.

Revision 2 of the KW RDR/RAWP (addressing the KW facility expansion to 200 gpm treatment capacity) was cleared and released. The 100-KR-4 Interim Action Monitoring Plan underwent final technical editing in preparation for RL review. The sampling and analysis plan (SAP) from the K Decision Unit Addendum to the 100 Areas Remedial Investigation/Feasibility Study (RI/FS) Workplan was approved by RL and EPA, and Rev. 0 issued. The first quarter of risk assessment sampling guided by this SAP was initiated. Staking of the K Area RI wells continued.

30.12 100-NR-2 Operable Unit

ARRA

Drilling of the multipurpose wells (barrier wells) began in early October using sonic drilling methods. Eleven wells were drilled and completed with one of those being continuously sampled for evaluation of the existing Apatite Permeable Reactive Barrier (PRB).

Base

The 100-N Eco Risk Document (Revision 1) was transmitted to RL early on October 5, 2009; awaiting RL approval of the document.

Field activities for the Jet Injection Treatability Test are expected to begin in early to mid November. All contractual submittals have been received and approved, including RL and Ecology approval of the contractor's Injection Plan. Mobilization is expected to begin on November 4, 2009, and the project kickoff meeting is tentatively scheduled for Monday, November 9, 2009.

The Draft A Proposed Plan for amending the Interim Record of Decision was transmitted to RL on September 30, 2009, (supporting TPA milestone #M-16-14B, due 12/30/2009); awaiting RL approval of the document and subsequent RL submittal to Ecology for review.

Resolution of the informal RL and Ecology comments continues for the 100-N Integrated Groundwater Sampling and Analysis Plan.

Decisional Draft A of the 100-N Decision Unit Work Plan Addendum was delivered to RL for review on September 14, 2009, and the associated SAP was delivered to RL for review on September 15, 2009. RL comments were requested to be returned by October 9, 2009. Initial RL comments were received.

Groundwater information needs to be better addressed. The document team has assembled new members and is working with technical leads to actively address RL concerns. Meetings were held to update RL on the document revision progress. The Draft A documents are expected to be submitted to RL by November 30, 2009 (supporting TPA milestone #M-015-61, due 12/31/09).

Engineering design was initiated for an injection system for the Apatite Barrier expansion. A 30% design-review meeting is scheduled for November 19, 2009. Additional planning activities are underway. Phytoremediation and TPH studies are continuing with PNNL as planned. The phytoremediation biomass has been harvested, and the TPH data-collection work is essentially complete.

30.13 100-HR-3 Operable Unit

ARRA

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

- Approximately 3.3 million gallons pumped at 100-HR-3.
- Approximately 1.1 million gallons pumped at 100-DR-5.

HR-3 operated at below-normal levels as part of the H Area Aquifer Test, in which three H Area wells are being pumped from the Ringold Upper Mud (RUM) to investigate communication between the RUM and the unconfined aquifer. The test commenced August 18, and in September a 24-hour step test was performed and a constant rate pump test started. Flow to HR-3 from the D Area has been throttled to about 1/3 normal for the constant rate test.

DR-5 also operated at below normal flows because two of the extraction wells, 199-D5-20 and -32, were out of service. They had been disconnected in support of the D Area hot spot pumping when construction was suspended for October as a result of the K Area Lockout/Tagout (LOTO) incident. Construction has now resumed and the well realignment will proceed.

The DX design team is completing the 90% design of the DX pump and treat, with the formal 90% design review planned for early November. DX which will have an operational capacity of 600 gpm with completion of ATP by 12/31/2010 in order to achieve the TPA and PBI for a total operational capacity of 500 gpm across the HR-3 OU. DX and HX systems together provide 1,300 gpm new treatment capacity versus the 1,000 gpm capacity used in the modeling. Ion exchange vessels for both systems are designed to operate on either Purolite A500 or ResinTech SIR-700 resins. BCRs documenting these changes are in preparation.

DX construction started in July with road crossings, yard piping and well rack fabrication. The contractor for the buildings had poured the process building floor slab by the end of September. Initial well drilling was completed in H Area (12 wells), where well locations were outside culturally sensitive areas, and started in D Area (three wells). A Cultural Resource review report for new well locations in culturally sensitive areas was reviewed by the State Historic Preservation Officer (SHPO) and the tribal nations.

Base

The third series of resin tests at DR-5 continued with ResinTech SIR-700 still removing Chromium 6 since the first series started on March 10, 2009 (over 45,000 bed volumes through October). The spent resin toxicity characteristic leaching procedure (TCLP) test has shown spent SIR-700 to be a dangerous waste, so that stabilization will be required before disposal.

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

The RI/FS Work Plan and Addendum 1 have been reviewed by regulators. Comment resolution is nearing completion on the Work Plan and Addendum 1, and SAP comments will be complete in

November. A mini-SAP was approved, allowing risk assessment sampling for the RI (planned for October) to proceed.

30.14 100-FR-3 Operable Unit

Base

Draft A of the 100-F & IU-2/6 Decision Unit Work Plan Addendum and SAP were transmitted to RL on August 31, 2009. The documents were subsequently submitted by RL to EPA on September 25, 2009 (meeting TPA milestone #M-015-63, due 9/30/09). Documents are currently under EPA review, and final comments are expected to be received by November 25, 2009.

Central Plateau

30.20 200-BP-5 Operable Unit

Base

K well C5860 (299-E29-54):

Initiated planning for the depth discrete groundwater sampling task which is expected to start early November. Drilling of the K well C5860 (216-B-6) and L well C7514 (216-C-1) scheduled to start in early November.

Completed the review of the draft Conceptual Model Report for the B-BX-BY. Initiated work on the 200-BP-5 RI Report. A data quality assessment (DQA) of groundwater data is underway in support of the RI Report. Initiated work on the 200-BP-5 DQO in support of the 200-BP-5 Treatability Test Plan.

30.21 200-PO-1 Operable Unit

Base

Continued work on the draft remedial investigation (RI) report. An internal draft of the report has been completed with the exception of the contaminant transport modeling results.

30.22 200-UP-1 Operable Unit

Base

The Draft A of Revision 3 to the 200-UP-1 OU Groundwater Remedial Design/Remedial Action Work Plan (DOE/RL-97-36, Rev 3) is currently under regulator review. Ecology requested a 30-day review extension with a new submittal date of November 2, 2009. No comments have been received to date.

A memo-to-file was provided to RL to correct language in the interim 200-UP-1 ROD indicating that carbon tetrachloride is not an F001 listed waste but instead is a dangerous waste. A DOE briefing on the memo-to-file has been scheduled for November 5, 2009.

Preparation of the draft 200-UP-1 OU remedial investigation/feasibility study (RI/FS) report continues.

The U Plant pump and treat system has been shutdown since October 15, 2009, due to an ETF outage, which is expected to last for at least 5 weeks.

30.23 200-ZP-1 Operable Unit

ARRA

Depth-discrete groundwater samples are currently being collected and analyzed during the drilling of six new extraction wells C7024 (EW-4), C7027 (EW-5), C7026 (EW-8), C7494 (EW-15), C7028 (EW-18), and C7029 (EW-19). Wells C7024 (EW-4), C7027 (EW-5), C7494 (EW-15), C7028 (EW-18), and C7029 (EW-19) are at total depth. Performed WSCF analyses on depth-discrete groundwater samples collected from these wells. Continued the merging of Performance Monitoring Plan and RCRA/CERCLA/AEA Integrated Monitoring Plan.

Base

Ten of 14 groundwater extraction wells are currently online pumping water at a rate of approximately 235 gpm. Extraction well 299-W15-44 is off line as it will be replaced by new extraction well C7017 (EW-1). Three other extraction wells are offline due to some minor technical difficulties that were repaired. Now that the electrical stand down is over, work to get these extraction wells back on line is currently being scheduled. Approximately 9.7 million gallons of groundwater were treated in October.

Two extraction wells in the vicinity of the T Tank Farm continue to pump water to the Effluent Treatment Facility at a rate of approximately 45 gpm. The groundwater modeling analysis report (DOE/RL-2009-38, Rev. 0) supporting the RD/RA Work Plan was issued during this reporting period after the MODFLOW model was validated.

Continued working on the 90% design for the 200-West Area Groundwater Treatment Facility. The SAP supporting the installation of next 11 extraction/injection wells has been revised based on RL and EPA comments.

30.24 200-PW-1 Soil Vapor Extraction (SVE)**Base**

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

30.30 300 FF-5 Operable Unit**Base**

The RI/FS Work Plan and SAP Draft A have been delivered to EPA on October 22, 2009, meeting the TPA milestone M-15-71.

The construction of an infiltration gallery to support treatability testing of remedial technologies was completed the week of September 28, 2009. Geophysical testing will continue prior to initiation of infiltration testing during low river stage anticipated to be in February or March of 2010.

30.31 Regulatory Decisions and Integration**ARRA**

- Issued revised Waste Management Plan for the K, L, and M wells.
- Developed PUREX EE/CA remedial action objectives.
- Completed draft geophysical investigations report for four 200-SW-2 landfills.
- Completed laboratory analyses for 200-SW-2 passive organic vapor sampling at approximately 350 locations in 200-East/West area landfills.
- Held a second comment resolution meeting with EPA and Ecology on the 200-UW-1 Remedial Action Goals document.
- Transmitted 200-MG-1 Action Memorandum (Decision Draft) for 37 remaining waste sites in the outer area to RL for review and comments.
- Transmitted 200-MG-2 OU Action Memorandum, Rev 0, for RL approval and transmittal to EPA for their concurrence.

Base

- Transmitted the Decisional Draft for the 200-MW-1 FS and PP (Decisional Draft) to RL for review and comment.
- Issued the 200-BC-1 DQA Report.
- Issued Draft A 200-BC-1 Treatability Test Report to Agencies for review.
- Completed Burial Ground sampling and analyses Report for July – September 2009 (two months

ahead of schedule) in support of TPA milestone M-91-40, Requirement 2.

30.32 Deep Vadose Zone Treatability Test Project

Base

- Deep Vadose Desiccation Pilot Test: Pilot Test activities for Desiccation are underway with the primary focus on establishing a contract for drilling of 20 boreholes needed for instrumenting and logging for the Pilot Test. The RFP for these boreholes should be issued this month. A Statement of Work is also in development that will be used to contract the procurement of a dry air delivery system for the project. Additionally, a contract has been released to the MSA contractor for design and construct of a 13.8 KV power supply needed to operate the three phase 480 volt equipment used in the Pilot Test.
- The Characterization Test Report has been drafted and will undergo technical editing the week of November 2, 2009. This test report is anticipated to be transmitted to RL in December of 2009 and satisfies a performance incentive goal due January 30, 2010.
- Desiccation Lab Testing: Additional testing will be performed in FY 2011 that will investigate re-wetting as a result of recharge and water vapor transport and will be used to model long term affects of re-wetting desiccated soils.
- Uranium Sequestration Testing: PNNL has drafted the test report on Uranium Sequestration and the document is now in tech editing. This report will be included in a related TPA milestone due on January 31, 2010. Additional testing has been selected to be performed in FY 2010 to support a large scale field test to be performed in FY 2011.
- Soil Flushing: PNNL continues to prepare a Test Plan to evaluate soil flushing as a mechanism to contact targeted contamination in the vadose zone with a leaching solution. The laboratory will be performing these tests to evaluate kinetics and stability of solubilization of Tc-99 and uranium, transport properties of the solubilized Tc-99 and uranium, and impact of vadose zone sediment properties on leaching solution processes. Additional modeling will also be performed to assess distribution, location, and stratigraphic factors that control the distribution of vadose contaminants and movement of injected fluids.

RISK MANAGEMENT STATUS

Unassigned Risk
Risk Passed
New Risk

● Working - No Concerns
● Working - Concern
● Working - Critical

Increased Confidence
 No Change
 Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Month	Trend	
SGW-001: 100-D Treatment Technology Selection Change	Review draft RD/RAWP with regulators; maintain close interface to minimize impact of regulatory changes.	●	↔	RD/RAWP approval behind schedule, but no issues identified to date
SGW-003A: Central Plateau Drilling - 200W P&T	Accelerate FY 2010 wells into FY 2009; utilize rotary drilling vs. cable-tool; modify vadose zone sampling approach	●	↔	We are ahead of schedule for the next six wells.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate. sample parameters.	●	↔	On schedule for all Central Plateau wells.
SGW-016: 300-FF-5 Infiltration Barrier Treatability Test	Review BPA river level projections to time treatability test; accept risk.	●	↔	Due to river levels the infiltration test has been moved to February 2010; this does not impact the schedule.
SGW-035: 200 W P&T Single Wall Piping	Discuss alternate leak detection in RD/RAWP; engage regulators early.	●	↓	A Positive Potential Inadequacy Safety Analysis (PISA) for the existing ZP-1 and other site piping in the near vicinity of the Burial Grounds was declared with subsequent analysis will be conducted during November 2009, which may impact the routing of injection well piping.
SGW-037: 100-NR-2 Infiltration Gallery Pilot Test	Risk accepted without mitigation.	●	↔	No issues expected at this time.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.	●	↔	Now two months past the agreement date; revised cleanup strategy will translate to a revised regulatory document approach.
SGW-051: Aggressive Schedule for 200 West P&T	Concurrent document/procurement process.	●	↔	On schedule with procurements; behind schedule on design but have a recovery plan in place.
SGW-031: P&T Design Changes - 100 D	Minimize parallel design/construct/ regulatory activities; finalize design prior to contract award; coordinate well locations with WCH.	●	↑	We have walked down the majority of the piping routes and road locations with WCH; design is now 90%.
SGW-047: Purgewater System Regulatory Issues	Engage regulators in changes in path forward and in design process.	●	↔	Working with Ecology to expand review of planned approach.
SGW-069: 100-HR-3 ISRM Barrier Amendment - Hexavalent Chromium Continues to Move through Barrier	Monitor zero valent iron injection; add four wells to P&T.	●	↔	Laboratory testing is nearing completion. The ISRM will not be amended with ZVI, but rather the 4 P&T wells installed.

PROJECT BASELINE PERFORMANCE

Current Month
 (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)
ARRA	4.7	5.9	4.8	1.2	24.5	1.1	18.0	208.1
Base	<u>8.5</u>	<u>7.6</u>	<u>6.8</u>	<u>(1.0)</u>	-11.4	<u>0.7</u>	20.4	<u>1,143.5</u>
Total	13.3	13.4	11.6	0.2	1.4	1.8	13.4	1,351.6

Numbers are rounded to the nearest \$0.1M.

ARRA**CM Schedule Performance: (+\$1.2M/+24.5%)**

Primary Contributors to the current month positive schedule variance and that exceed the reporting thresholds are as follows:

100-HR-3 Operable Unit (+\$1.3M)

The primary contributor to the current month schedule variance is the acceleration of procurement and construction activities for DX for 100-HR-3 Operable Unit. These activities were planned to begin in February 2010.

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

The current period negative schedule variance is primarily due to delays in 200W Area Pump-and-Treat road crossing construction. Originally the delays were associated with changing well location which impacted BOP design and material procurement. In addition, the excavation permit and AJHA took longer than planned due to changes /implementation of internal procedures affecting AJHA. Materials have been ordered and received for 60% of the crossings and construction startin the week of November 2. The impact associated with BOP road crossing construction delays is also considered minimal. This scope is not on the critical path and is expected to progress fairly rapidly once started.

CM Cost Performance: (+\$1.1M/+18.0%)

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

Drilling (+\$0.4M)

The positive cost variance is due to efficiencies obtained in well drilling for ZP-1, NR-2, and HR-3 during October. 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 wells depths have been less than originally planned. Many of these efficiencies are planned to continue resulting in additional positive cost variance.

Regulatory Decision & Closure Integration (+\$0.4M)

The positive cost variance is primarily due to the efficiencies realized in the CW-1 ponds characterization by combining with the Gable Pond characterization, as well as, efficiencies in the landfill characterization activities. These activities will be addressed in the PMB Rev2 baseline updates as part of the RL RCR comment resolution/incorporation and the positive cost variance will be reduced.

PBS RL-30 UBS, G&A, and DD

The overall XX.99 account is within reporting threshold for the month.

Base**CM Schedule Performance (-\$1.0M/-11.4%)**

Various positive and negative schedule variances that did not exceed the threshold contributed to the negative schedule variance. The following negative variance exceeded the threshold:

100-KR-4 OU (-\$0.6M)

The primary contributors to the current month schedule variance are as follows:

- Field planning /investigations were delayed due to lack of resources to perform well siting activities. Lab analysis/data evaluation work will be delayed until January but sufficient float is available and the report will be finished on time.
- Equipment/material installation for Phase 2 Well realignment was delayed due to lock-out/tag-out issues. Work is expected to finish on schedule.
- Bioremediation Test Plan and Test completion delayed due to ongoing remedial process optimization (RPO) evaluations. This schedule variance will continue until RL accepts the RPO recommendations and the work effort is re-planned.

CM Cost Performance (+0.7M/+9.9%)

Various positive and negative cost variances that did not exceed thresholds contributed to the positive cost variance which is within reporting thresholds. Variances that did exceed thresholds are as follows:

100-NR-2 OU (+\$0.4M)

Chemical treatment, maintenance, and reporting efficiencies were obtained during the month and are expected to result in continued underruns.

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

Cost variance is due to extension of the design effort due to change of resins which required modification of Ion Exchange (IX) trains. The overrun in design activities will continue and the project is evaluating potential funding sources through funds management.

Contract-to-Date (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)
ARRA	13.3	18.3	14.5	5.0	37.6	3.7	20.4	208.1
Base	<u>130.1</u>	<u>127.2</u>	<u>120.6</u>	<u>(2.9)</u>	-2.3	<u>6.6</u>	5.2	<u>1,143.5</u>
Total	143.4	145.4	135.1	2.0	1.4	10.3	7.1	1,351.6

Numbers are rounded to the nearest \$0.1M.

ARRA**CTD Schedule Performance: (+\$5.0M/+37.6%)**

The primary contributor to the CTD positive schedule variance is 100-HR-3 Operable Unit (+\$4.7M). Procurement and construction activities have been accelerated. These activities were planned to begin in February 2010.

CTD Cost Performance: (+\$3.7M/+20.4%)

The primary contributors to the CTD positive cost variance are:

Drilling (+\$0.8M)

Part of the positive cost variance is due to efficiencies obtained in well drilling for ZP-1, NR-2, and HR-3 during October. 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 wells depths have been less than originally planned. Efficiencies for ZP-1, NR-2, and HR-3 are expected to continue resulting in additional positive cost variance. However, the positive cost variance achieved in FY 2009 in FF-5 well drilling activities is not expected to be obtained in all future drilling campaigns.

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

The positive cost variance is due to efficiencies experienced in DX construction activities. Specifically, the DX construction project has completed 42 road crossing and procured road crossing sleeves, automatic frequency drives, and approximately 200,000 feet of high density polyethylene pipe for less than planned. It is anticipated that this positive cost variance will continue.

Regulatory Decision & Closure Integration (+\$1.1M)

The positive cost variance is primarily due to the efficiencies realized in the CW-1 ponds characterization by combining with the Gable Pond characterization, as well as, efficiencies in the landfill characterization activities. Cost was also lower for the development of the haul road for Multi Incremental Sampling as only a portion of the road from Beloit Avenue and around the site perimeter required development. In addition, subcontracting of drilling support and field performance of the burial ground sampling and analysis project, as well as, effective use of resources to prepare the 200-MG-1/2 EE/CAs, Action Memos, SAP, and RAWP documents has resulted in underruns in the Landfills/Misc Sites activities. CTD underruns are being evaluated and will be addressed as part of the RL RCR comment incorporation and implementation of PMB Rev.2.

Base**CTD Schedule Performance (-\$2.9M/-2.3%)**

This variance is within reporting thresholds.

CTD Cost Performance (+\$6.6M/+5.2%)

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

Integration and Assessments (+\$1.2M)

Budget was level loaded for technology initiatives that will take place in FY 2009. The horizontal drilling initiative contract award was delayed resulting in the CTD cost underrun. This work has now been identified as carryover scope and will be complete in the November time frame eliminating this portion of the CTD positive cost variance. Other efficiencies that have been achieved in Systematic Planning Integration and Sample Management and Reporting have contributed to the CTD underrun. These efficiencies are expected to continue.

200-ZP-1 Operable Unit (+\$1.3M)

The positive cost variance is due to efficiencies in the area of interim operations: The permanent hook-up of well EW-1, general operations/maintenance/modification cost, and annual system calibrations. It is expected that these efficiencies will continue and be available to use for other areas within the project.

PBS RL-30 UBS, G&A/DD (+\$1.1M)

The positive cost variance in the G&A accounts is due to company level and Other Hanford passbacks coupled with a 1 labor underrun in project support staff related to ARRA ramp-up.

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

FUNDS vs. SPEND FORECAST (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	FY 2010		
	Projected Funding	Spending Forecast	Variance
ARRA	146.0	153.4	(7.4)
Base	<u>146.4</u>	<u>131.9</u>	<u>14.5</u>
Total	292.4	285.3	7.1

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Funding has been adjusted to reflect the FY 2010 funding levels for RL30 ARRA and Base activities.

Critical Path Schedule

Critical path analysis can be provided upon request.

Estimate at Completion (EAC)

The BAC and EAC now include FY 2009 through FY 2018, the PRC contract period.

Baseline Change Requests

- BCR-PRC-10-004 PW-1, PW-3, PW-6, & CW-5 Scope Consolidation RL30
- BCRA-030-10-002 Waste Information Data System (WIDS) Redesign – FY 2010
- BCRA-PRC-10-005 General Administrative Changes for October 2009

MILESTONE STATUS

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

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-71	Submit RI/FS Work Plan For 300-FF-2/5 OUs For GW And Soil	TPA	10/31/09	10/21/09		Complete
M-091-40L-024	Submit July to September 4th Quarter FY 2009 Burial Ground Sample Results	TPA	12/15/09	10/22/09		Complete

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-40E	Parties Will Complete Negotiations And DOE Will Submit Change Packages W/New Milestones For RI/FS Process For Specified Operable Units	TPA	12/31/09			On schedule
M-015-61	Submit RI/FS Work Plan for the 100-NR-1 and 100-NR-2 OUs	TPA	12/31/09			On schedule
M-016-14B	Submit a draft CERCLA proposed plan, 100-NR-1/2 for interim action or to propose a new ROD	TPA	12/31/09			On schedule
M-016-112A	Complete Demos For Biostimulation And Electrocoagulation	TPA	12/31/09			On schedule. Electrocoagulation work complete 10/19/09 by CHPRC. PNNL has biostimulation portion of milestone.
M-015-54	Submit Report on Reactive Gas Testing for Sequestration of Uranium	TPA	1/31/10			On schedule
M-016-123B	DOE shall Initiate Construction Six Months after the 200-ZP-1 RD/RA Work Plan is Approved or as Specified in the Work Plan Schedule	TPA	2/3/10	1/31/09		Complete
M-015-44B	Submit 200-MW-1 OU FS and proposed plan to EPA	TPA	2/28/10			On schedule
M-91-40L-025	Submit Oct-Dec 1 st Quarter FY 2010 Burial Ground Sample Results	TPA	3/15/10			On schedule
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	3/31/10			On schedule
M-024-58C	Initiate Discussions of Well Commitments	TPA	6/01/10			On schedule
M-091-40L-026	Submit 2 nd Qtr FY 2010 Burial Ground Sample Results	TPA	6/15/10			On schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-016-155	Submit Revised RD/RA Work Plans for 100A in Accordance With M-016-150 ROD	TPA	6/30/10			On schedule
M-024-61-T01	Conclude Discussions of Well Commitments	TPA	8/01/10			On schedule
M-016-124	Submit 200-ZP-1 Remedial Design Report	TPA	8/31/10			On schedule
M-091-40L-027	Submit 3 rd Quarter FY 2010 Burial Ground Sample Results	TPA	9/15/10			On schedule
M-015-51	Submit Revised FS Report and Proposed Plan to EPA for 200-BC-1 OU	TPA	9/30/10			On schedule
M-015-17A	Submit a 200-UP-1 OU Combined Remedial Investigation and FS Report and Proposed Plan	TPA	9/30/10			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.