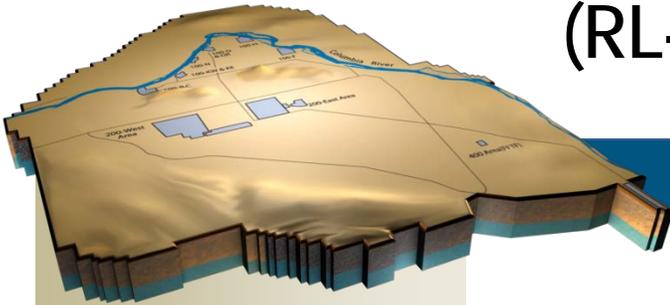


Section D

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

March 2010
DOE/RL-2008-69, Rev. 17
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



Workers oversee the covering of a road crossing that will protect high density polyethylene pipe as it passes underneath an active roadway. The high density polyethylene pipe will connect groundwater wells to the 200 West Groundwater Treatment Facility, which will be the largest groundwater treatment facility on the Hanford Site.

PROJECT SUMMARY

American Recovery and Reinvestment Act (ARRA)

ARRA dollars are at work across the Central Plateau and along the Columbia River, constructing two groundwater treatment facilities and drilling numerous wells that will be used for monitoring, extracting, and remediating groundwater near the Columbia River. Progress through the end of the fiscal month March is summarized in the table below.

Activity	March		Cumulative	
	Planned	Completed	Planned	Completed
Well drilling	21	19	93	114
Well decommissioning	13	28	77	44
200 West P&T – Final Design	4%	10%	42%	50%
200 West P&T – Construction	2%	1%	8%	6%
200 West P&T – Testing/Startup	1%	2%	9%	11%
100 DX P&T – Construction/Startup	10%	8%	39%	54%

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 concluded at the KR4 system, and acceptance testing of affected components was completed. Phase 2 realignment construction actions were completed at the KX system and acceptance testing initiated. The second of three rounds of risk assessment sampling for 100-HR-3 and 100-KR-4 decision units completed. Sampling and groundwater treatment completed in March include the following:

- 254 well locations were sampled with a total of 1,171 samples being collected
- 85 aquifer tube samples were collected from 45 tubes at 32 sites
- 11.4M gallons groundwater treated by ZP-1 treatment facility
- 15.1M gallons groundwater treated by KX treatment facility
- 8.8M gallons groundwater treated by KW treatment facility
- 11.9M gallons groundwater treated by KR-4 treatment facility
- 45.8M gallons groundwater treated by HR-3 treatment facility
- 0.77M 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	On schedule
		Construct 30 new wells for the P&T system	6/30/10	20 wells constructed
		Finish construction of DX P&T system	10/31/10	On schedule
		Finish ATP for DX P&T system	12/30/10	On schedule
		Treatment sys is 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	On schedule
		Review and tally total number of gallons treated	Monthly	206.8M gal treated as of 3/31/2010
		Treat up to 430M gallons of 100 Area groundwater	9/30/10	On schedule
10-EMS-SGWR-OB2-T1	Construct a new GW treatment facility that satisfies the P&T component of the 200-ZP-1 OU ROD selected remedy	Construct new 200 West Area P&T facility to remediate GW which was impacted from past plutonium production operations	12/31/11	On schedule
		Start construction of road crossings	11/30/09	Complete (11/2/09)
		Start early civil construction	3/30/10	Complete
		Start construction of GW extraction buildings	3/30/10	Complete
		Complete treatment facility construction	12/31/11	On schedule

TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	1	N/A
First Aid Cases	7	25	<p>3/2/2010 - Employee received a cut when removing a cutting tool from its container. (20721)</p> <p>3/14/2010 - An employee received a bug bite and was taken to Advanced Med (200 West) for treatment. The bite area was washed, OTC Cortaid and antihistamine was administered. Employee was released with no work restrictions. (20769)</p> <p>3/18/2010 - A pipefitter was knocked off balance due to coughing and dizziness; falling on a piece of loose metal lying on the concrete floor. Employee reported the left wrist and forearm injury to the supervisor, and was sent to Occupational Medicine at 200-West. Employee was examined and released without restriction. (20782)</p> <p>3/20/2010 - Employee stepped backwards and stepped on a large rock and injured their knee. (20781)</p> <p>3/25/2010 - Employee complained of eye irritation. Eye irritation was still present on 3/29/2010 so employee went to AMH. Irritation was removed and employee returned to work. (20807)</p> <p>3/30/2010 - Employee was fastening caution lights to road closure barricades with tie wires. Tin snips were used to cut the tie wire. Employee proceeded to bend the wire when the tin snips had difficulty cutting the wire. The wire broke and punctured through a seam in the employee's glove, creating a small cut below the right thumb. Employee was taken to AMH; the cut was cleaned and the employee was given a tetanus shot. Employee was released for work with no restrictions. (20809)</p> <p>3/31/2010 - Employee scraped hand while reaching under work station. Employee self treated with a Band-Aid. (20818)</p>
Near-Misses	0	1	N/A

KEY ACCOMPLISHMENTS

EPC Projects in Support of S&GRP - ARRA

- Work continues on the 200W Area Pump and Treat Project 90 percent designs for the Process Facility and Balance of Plant; anticipated completion May 2010. Twenty-four road crossings have been completed. Site preparation and welding activities for the transfer piping continued. The Process Facility, intersection of Beloit and 22nd has started. Initiated mobilization for construction on the 4-BOP transfer buildings; Engineering released 32 drawings and 46 specifications for construction of the four BOP transfer buildings. DOE approved safety basis change to enable transfer and injection water to be transferred near the low level burial grounds; the best and final offers from the bids for the Process and Rad facilities due April 1, 2010.
- The 100-DX Pump and Treat construction is 57% complete. Construction of the process building and two transfer buildings by the fixed price contractor is complete. Electrical service installation to the buildings was completed February 9, 2010. Final tie-ins at the power poles are planned for after equipment installation is complete. Mechanical equipment installation is 50% complete, electrical installation is 25% complete. All 49 required road crossings for DX completed on March 29, 2010. Started equipment installation at individual well sites.
- The design for the 100-DX chemical addition system completed March 18, 2010. A contract modification to the building shell erection subcontractor is complete. The subcontractor began construction on the chemical treatment system civil/structural components April 7, 2010.
- Procurement and receipt of materials for the 100-DX facilities continues. A contract was awarded for the dual laminate Fiberglass Reinforced Plastic (FRP) Polyvinylidene fluoride (PVDF) lined tank for storage of sulfuric acid for the chemical addition system. This tank is scheduled to arrive on site July 22, 2010. A contract was also awarded for the carbon steel vertical storage tank for storage of sodium hydroxide on March 25, 2010. This tank is scheduled to be delivered July 1, 2010.

EPC Projects in Support of S&GRP – Base

- Work continues on the Phase 2 realignment of the KR4 and KX pump-and-treat systems. Phase 2 realignment construction actions concluded at the KR4 system, and acceptance testing of affected components was completed. Phase 2 realignment construction actions were completed at the KX system and acceptance testing initiated.
- Design of the first group of road crossings for the 100-HX project has been released. A contract has been placed with the MSA Transportation Services group to perform necessary road improvements to allow safe access to the construction site.

Environmental Programs and Strategic Planning - Base

The Central Plateau Cleanup Strategy Tentative Agreement was signed by all Tri-Party Agencies and change packages have been prepared to be sent out for public review.

Risk and Modeling Integration Group

Completed modeling in support of the groundwater protection calculations for the 200-PW-1/3/6 OU. Developed groundwater protection removal action levels (RALs) for U Plant EE/CA.

Finalized local capture zone model for S/SX plumes, presented the results to DOE-RL and planned a presentation to Ecology. In addition, the B-BX-BY Tank Farm pump-and-treat capture zone analysis in support of the treatability test design was also completed.

Environmental Data Management

The Sample Data Tracking system has been updated to improve current operations dealing with sample and data management of environmental samples taken from wells and bore holes. Upgrades were made to the “Chain of Custody” section, the Quick Print form and other sections as requested.

Environmental Compliance

On March 11 Ecology approved the closure plan for the 600 Area Purgewater Storage and Treatment Facility (DOE/RL-2008-73, Rev. 0). This closure plan has been in intermittent revision and discussion with Ecology for most of the past decade.

Environmental Protection Agency (EPA) approved termination of National Pollutant Discharge Elimination System (NPDES) stormwater permit coverage for the 100 K Area on March 18, ending the conduct of stormwater inspection and best management practices for the 100 K Area.

Well Drilling and Decommissioning – ARRA

	March		Cumulative	
	Planned	Completed	Planned	Completed
100-NR-2	11	11	52	71
100-HR-3 H Area	2	0	14	12
100-HR-3 D Area	5	4	13	18
200-BP-5	1	2	2	3
200-ZP-1	2	1	8	6
100-BC-5	0	1	4	4
Drilling Total	21	19	93	114
Decommissioning Total	13	28	77	44

Notes:

- *100-HR-3 H Area*: Subcontractor will remobilize in April after Eagle Nesting.
- *200-ZP-1 Expansion*: Currently, nine of 17 wells have been initiated. Additional drill rigs mobilized to recover schedule.

River Corridor

100-BC-5 Operable Unit - Base

- Extensive reorganization of the Draft A 100-BC Operable Units Work Plan Addendum was completed to satisfy the EPA requested format, and all of the comment responses were incorporated into the Rev. 0 versions of the work plan and associated SAP. The documents were finalized and approved by RL and EPA on March 23, 2010.
- Planning is underway for recently approved RI/FS work plan field-investigation activities. This field work will support the development of the RI/FS Report and Proposed Plan that are due November 30, 2011 under TPA target milestone M-15-68-T01.
- Three new clusters of aquifer tubes (three depths at each site) were installed in late March. Two of the clusters (C7718, 19, 20 and C7724, 25, 26) are within the segment of shoreline impacted by the chromium and strontium-90 plumes. The third cluster (C7780, 81, 82) is located near the downstream boundaries of those plumes. The new aquifer tubes will be sampled in late summer.
- The summary report for the 100-B-27 excavation-site field sampling activities was revised following internal review, and the resulting document is under the final approval and release process.
- Wells 199-B8-7 and 199-B8-8 were decommissioned in preparation for 100-C-7 waste-site remediation activities.

100-KR-4 Operable Unit - Base

- Acceptance testing field checks of 100-KR-4 pump-and-treat system components impacted by Phase 2 realignment were completed, and flow through the 100-KR-4 system was restored to full capacity (300 gpm). Extraction wells 199-K-144, 199-K-145, and 199-K-162 now flow through the 100-KR-4 system, having been switched from the KX system during Phase 2 construction to address tritium concerns.
- KX transfer building 1 continued to operate at reduced flow due to construction.
- Area of Potential Effect (APE) notification regarding proposed locations of three of the four planned Phase 3 realignment wells sent out this month for cultural resources review. RL comments incorporated into the draft revision to the KR4 pump-and-treat system cultural treatment plan (DOE/RL-96-44) and being prepared for issuance. This revision was conducted with consultation with Tribal Nations and revises the 1996 plan to include updated information about cultural and historic resources in the 100-K Area (and vicinity), as well as updated information about the ongoing groundwater remedial actions in the area.
- TPA change package M-16-09-10 was approved on March 25, 2010 creating two new TPA Milestones, M-15-115 and M-015-116. M-015-115 includes a test plan for in-situ bioremediation at 100-D Area, and M-015-116 includes a test plan for bio-infiltration at 100-K. These two new milestones replace the deleted M-016-155 Milestone for a revised RD/RA work Plan for 100 Area interim remedial actions. Work planning has been initiated to prepare the bio-infiltration treatability test at 100-KW.

100-NR-2 Operable Unit - Base

- Additional informal regulator (Ecology and EPA) comments were received in March on the recently revised NR-1/2 OU Proposed Plan to Amend the Interim ROD. The document has again been revised to address these additional comments in an effort to finalize as Rev. 0. An expedited schedule has been developed to meet a goal to have the IROD amended by September.
- The 100-N Operable Units Work Plan Addendum and Sampling and Analysis Plan (SAP), as transmitted in December, were reviewed by Ecology and the resulting comments were received in February. Comment responses have been developed, and these responses are being incorporated into a Draft B version of the document for submittal to Ecology in mid-to-late April.
- Internal review of the 100-N Integrated Sampling and Analysis Plan has been completed, and a resulting revision is complete. The document is being produced as a Draft A for submittal to RL, alongside the 100-N RI/FS Work Plan Addendum and SAP, by mid-to-late April.
- Core samples collected (as part of the 171 well drilling campaign) in February to support evaluation of the Jet Injection test are being analyzed by Pacific Northwest National Laboratory (PNNL). All related aquifer-tube sampling activities, as required by the Jet Injection Treatability Test Plan (TTP), are now complete. All results will be incorporated into a final test report, which has been initiated.
- A contract has been awarded for fabrication of the injection system for the Apatite Barrier expansion. Procurement has begun, and actual fabrication is expected to start in April. The draft TTP for allowing the future apatite Permeable Reactive Barrier (PRB) expansion activities has been produced for Draft A issuance.
- Total petroleum hydrocarbon (TPH) studies are continuing with Pacific Northwest National Laboratory (PNNL) as planned. This work has been extended to summer 2010 to allow results from recently collected groundwater samples (collected from new wells installed along the TPH portion of the river shoreline as part of the 171 well drilling campaign) to be included into the study.

100-HR-3 Operable Unit - Base

- HR-3 operated at near normal levels as the H Area aquifer test continued. Two RUM wells are being reconfigured for long-term operation as extraction wells. Until these modifications are completed, the HR-3 system will run in its pre-test configuration.
- DR-5 suspended operations after exceeding the 48 ppb effluent discharge limit. Personnel are evaluating the cause of the exceedances and performing a full regeneration of the system.
- Design activities continued on the HX pump and treat facility, with progress continuing on the walk down, routing and design of HDPE pipe runs and road crossings. The cultural review documentation has been submitted by RL to the tribal nations for review.
- Treatability Test Plans are being prepared to support design testing of in-situ bioremediation and a sub-grade bioreactor technology within the area of the southern D “hot-spot” plume. Meetings were held with RL, Ecology, and EPA to present the approach for the test. Useful feedback was provided guide development of the treatability test plan required by newly approved TPA Milestone M-015-115. Design efforts continue, with a 30% design to be complete in early April.
- The transitional-stage spatial and temporal groundwater sampling event was completed, and additional informational sampling was conducted in wells at the PNNL Biostimulation study site and the 128-H-1 burn pit.
- The D/H Addendum 1 to the 100 Area Integrated RI/FS Work Plan was approved on March 25.

100-FR-3 Operable Unit - Base

- Extensive reorganization of the Draft A 100-F & IU-2/6 Operable Units (OU) Work Plan Addendum was completed to satisfy the EPA requested format, and all of the comment responses have been incorporated into the Rev. 0 versions of the work plan and associated SAP. The documents are being prepared for release and approval.
- Planning is underway for RI/FS work plan field-investigation activities. This field work will support the development of the RI/FS Report and Proposed Plan that are due November 30, 2011 under TPA target milestone M-15-64-T01. As part of this effort, final preparations were completed to initiate the first round of spatial and temporal groundwater sampling from existing wells in April for IU-2/6 OUs.

300 FF-5 Operable Unit - Base

- The RI/FS Work Plan and SAP Rev. 0 is being prepared and is scheduled for signature on April 15, 2010. Drilling is scheduled to begin in late April. The PNNL tracer infiltration study began on March 5, 2010 and is ongoing, but behind schedule due to unanticipated infiltration impediments. An engineered lithology will be emplaced at the bottom of the existing excavation at 618-1 in May and will be used in subsequent treatability test plans to evaluate remediation technology delivery mechanisms.

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

- DOE transmitted the final approved Rev. 3 200-UP-1 OU Groundwater Remedial Design/Remedial Action Work Plan (DOE/RL-97-36) to Ecology on March 16, 2010. Procured services to design the extraction system for remediation of the Tc-99 plumes in the vicinity of Waste Management Area (WMA) S-SX. Performed Tc-99 plume capture zone analyses to optimize extraction well locations.
- Completed a chemical treatment of the U Plant extraction wells to remove scale buildup on screens and enhance pumping rate.
- Continued preparation of the 200-UP-1 OU RI/FS report. Met with EPA and Ecology on 3/18/2010 to present our proposed approach for preparing the 200-UP-1 Proposed Plan for the

purpose of amending the 200-ZP-1 ROD. EPA concurred with the approach.

200-BP-5 Operable Unit – Base

- The final draft 200-BP-5 conceptual model report was provided to DOE on March 15, 2010 for a final review. DOE requested a one month extension to facilitate regulator, Tribal and Oregon feedback. A regulator and Tribal briefing meeting has been scheduled for April 20, 2010.
- Lab analyses for K and L well samples are complete. M well sample analyses continued.
- Twelve of the 14 wells planned for depth discrete groundwater sampling were completed.

200-PO-1 Operable Unit - Base

- Completed the DOE review of the decisional draft 200-PO-1 Groundwater OU RI Report, DOE/RL-2009-85. Comments are in the process of being dispositioned and incorporated to produce the Draft A.

200-ZP-1 Operable Unit - Base

- Eleven of the 14 groundwater extraction wells are on line pumping water at a rate of approximately 240 gpm.
- New extraction wells EW-6 (299-W11-50, C7020), EW-7 (299-W11-90, C7022), EW-9 (299-W17-3, C7577), EW-10 (299-W17-2, C7576), and EW-12 (299-W11-49, C7019) are currently at a depth of 186.6 ft, 526 ft, 367 ft, 286 ft, and 433 ft respectively.
- EPA is currently reviewing the Performance Monitoring Plan and Operation and Maintenance (O&M) Plan. EPA has requested an extension for the Performance Monitoring Plan. Comments on the O&M Plan are due back May 14, 2010.
- Two separate test plans are currently being prepared to support laboratory testing of resins for uranium removal, and activated carbon for Tc-99 removal.
- Preparing simulator based training program for the 200-West Area Groundwater Treatment Facility.
- Performing new GW modeling runs that include selected interim injection/extraction wells.

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

- PW-1 active SVE operations continue.

Regulatory Decisions and Integration - Base

- Issued the 200-BC-1 Excavation Treatability Test Report.
- Submitted 200-CW-5 Feasibility Study Draft C to DOE for Review.
- Completed Conceptual Site Models for the 200-BC-1 Feasibility Study.
- Held two workshops with EPA and Ecology to present methodology for screening hazardous constituents for groundwater modeling.
- Continue the Tier I and Tier II sample analysis by PNNL for the K, L, and M wells.
- Work continues with the RL/Ecology working groups, including EPA participation, to resolve comments on the SWL and NRDWL closure plans. The workshops to produce draft closure plans for public comment are scheduled to begin the week of April 12, 2010.
- Completed soil sampling of 200-CW-1 Outer Area Ponds and Gable Pond pipeline. The Inner Area ponds and the Gable Pond pipeline samples are scheduled to be completed in April.
- Submitted West Lake Draft A SAP to RL for transmittal to Ecology for comment.
- Resolved Ecology's comments on the 200-MG-1 Action Memorandum for 37 waste sites in the Outer Area.
- Submitted the decisional draft Closure Plan for the Hexone Storage and Treatment Facility to RL for review.

Deep Vadose Zone Treatability Test Project - Base

Work continues on the deep vadose zone project including the pilot test, characterization test report, desiccation lab testing, uranium sequestration, soil flushing and grouting. The following summarize key accomplishment for March:

- Drilling of the 20 boreholes needed for instrumenting and logging for the pilot test continued with completion of 9 (of 10) four inch boreholes for logging and completion of 2 (of 10) six inch instrument boreholes.
- Field work for the 13.8 KV power supply to the BC Cribs Desiccation Pilot Test area was initiated on March 29, 2010. This will operate the three phase 480 volt equipment used in the pilot test. Field work for the electrical upgrade will be completed in April.
- The test report on Characterization of the Soil Desiccation Pilot Test Site was formally transmitted to RL on March 2, 2010, satisfying one of the completion criteria for draft PI RL-0030-08-1a.1 due March 15, 2010.
- Development of the DQO supporting the Uranium Sequestration field test is ongoing (approximately 60% complete at this time).

MAJOR ISSUES

Issue – RI/FS Work Plans and SAPs for 5 of 6 river OUs are now approved by RL and the OU regulatory authority. Continued planning is ongoing, contracts are and have been issued, and field work is imminent or underway for many of the RI activities. There have been client and/or regulator requests to modify the sampling approach, following RL and regulatory approval of the RI/FS and SAP documents. These changes result in increased sampling/analysis costs as well as the need for last minute modifications to documents including TPA change notices, drilling contracts of which some are already awarded, sampling instructions, and field resource planning. A specific example is the request for significant additional vadose sampling for seven RI wells in the KR-4 OU beyond what was agreed to in the SAP approved on January 19, 2010. The request was identified last week just as the Notice to Proceed (NTP) was given to the drilling contractor. If pursued, the request will cause significant change control and rework. The RI/FS efforts are already on an extremely tight schedule to meet TPA target milestones for the RI/FS Reports and Proposed Plans (e.g., KR-4 due 7/31/11).

Corrective Action – CHPRC is committed to responding to required changes to ensure the implementation and quality of RI field work. The corrective action includes the early identification of modifications to the approved documents and obtaining technical direction from RL for changes to approved Work Plans and SAPs. CHPRC can then appropriately identify how the work will proceed in terms of cost and schedule and to update documents, modify field contracts, rework field instructions, and realign resources. Impact to the TPA target milestone(s) will also be evaluated.

Status – Resolution for the KR-4 scope change request is underway with identification of the need to request technical direction from the client; while on parallel path, identifying scope, cost, and schedule impacts, initiating a TPA Change Notice (CN), modification of drilling contract and field planning, and integration with Washington Closure Hanford (WCH) to modify their Work Order.

Issue – The NRDWL and SWL Closure Plans have been delayed due to prolonged indecision on the regulatory path forward and scheduling conflicts for workshops to finalize comment incorporation. Public review of these documents will be further impacted by delays in completion of the Environmental Assessment (EA) and RL's commitment to extend the public review for the EA to 45 days.

Corrective Action – Meetings have been scheduled with RL and Ecology to finalize these documents and begin the public review (see status).

Status – The workshop with Ecology to resolve comments on the NRDWL and SWL closure plans has

been rescheduled for the week of April 19 (originally scheduled for the week of March 29). The goal is to continue this workshop until all comments have been resolved to eliminate future scheduling difficulties. A meeting has been scheduled with RL on April 19 to resolve any remaining comments on the EA before finalization, which will support a public review schedule beginning May 1. Impact of recent RL commitments to provide a presentation to the Tribe before public review and extend the public review period to 45-days is under evaluation.

Issue – As a result of discussions with RL and the regulators, the treatability test plans must be revised to support higher visibility by regulators, and potentially, the public. These changes are directly related to the cancellation of the hexavalent chromium focused feasibility study and proposed plan.

Corrective Action – Internal meetings have been held to reorganize the documents, and add material appropriate to withstand additional scrutiny by regulators and the public. A meeting will be held with RL the week of March 8 to describe the changes anticipated to the test plans. Outcome from this meeting will guide the revision of the test plans.

Status – Revision to the documents is underway to support newly approved TPA milestone M-015-115. This milestone is due August 30, 2010. The new milestone date provides adequate time to deliver a treatability test plan sufficient to withstand the additional scrutiny expected by regulators and the public.

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.	●	↔	RD/RAWP approval behind schedule, but no issues identified to date. The subject document is under revision to update to the current and proposed remedy for HR-3.
SGW-050: Regulatory Strategy for Decision Docs	Continue to support RL in strategy negotiations with Agencies.	●	↔	Revised cleanup strategy will translate to a revised regulatory document approach.
SGW-080: 100-BC-5 Pump and Treat Required	Risk accepted.	●	↔	Additional characterization through the installation of RI/FS wells and aquifer tubes 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 a pump and treat is not planned for the OU.
SGW-081: 100-FR-3 Pump and Treat Required	Risk accepted.	●	↔	Concentrations of chromium are low at this site and no Pump and Treat is planned.
SGW-003: Central Plateau Well Drilling Demands	Adjust drilling schedules; cross-train workforce; evaluate sample parameters.	●	↔	No significant issues will preclude completion of well drilling.
SGW-003A: Central Plateau Drilling - 200W P&T	Use rotary drilling vs. cable-tool; modify vadose zone sampling approach.	●	↔	No issues this month.
SGW-008B: Regulatory Document Comments for 100-HR-3	Routine meetings are being held with regulators during document development; no additional mitigation is feasible.	●	↔	Nothing to report this month.
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.	●	↑	Nothing to report this month.
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-051: Compressed Schedule for 200 West P&T Project Due to TPA Commitment	Concurrent document/procurement process.	●	↔	On schedule with procurements; behind schedule on design but have a recovery plan in place.
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.	●	↑	No issues this month.
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	●	↑	No issues this month.
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 will be developed, approved and implemented that will the necessary additional deep boreholes to the current baseline.
SGW-110: Multi-Incremental Sampling - Increased Waste Sites	MIS Project designed to meet requirements; no further mitigation warranted.	●	↔	No issues at this time.
SGW-111: 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	9.0	7.2	8.5	(1.8)	-20.2	(1.3)	-18.6
Base	11.0	10.0	11.3	(1.0)	-8.8	(1.3)	-12.7
Total	20.0	17.2	19.8	(2.8)	-13.9	(2.6)	-15.2

ARRA

CM Schedule Performance: (-\$1.8M/-20.2%)

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

Well Drilling (+\$0.3M)

The current month positive schedule variance is due to efficiencies obtained in well drilling. Sonic drilling methodology has allowed wells to be drilled more rapidly (cable tool drilling methodology used in the past).

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

The negative schedule variance is primarily due to the following: Distribution of electricity and piping for DX pump and treat was planned in March but completed earlier; delays installing equipment in process facility due to late delivery of pumps and first set of ion exchange trains; and partially offset by the positive schedule variance in March for installation of equipment at M1 and M2 transfer buildings. These variances will not impact the projected completion of the project.

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

The current month negative schedule variance is primarily due to the following: delays in vendor fabrication of long lead process equipment; focus of the engineering design team has been on the completion of the 90% design, resulting in delays to engineering review of submittals; installation HDPE, fiber optical, and electrical cable is progressing slower than planned; completion of the 1st fluidized bed system completed in earlier months that was scheduled to be completed in March; and a slight delay in the mobilization of the contractor for construction of the transfer buildings. The impact of these delays is being evaluated to determine overall impact to construction completion. TPA milestone M-016-122 is on schedule for completion on December 31, 2011.

Ramp-up and Transition (-\$0.5M)

The current period negative schedule variance is primarily due to the following: The Soil & Groundwater building concrete foundation which was placed in February 2010 required removal this month. The foundation had been installed incorrectly due to misinterpretation of drawings. Performance was therefore adjusted to reflect the re-work with an estimated schedule slip of approximately six weeks; the contractor is struggling to fully staff the EPC1 Shop construction activities resulting in a schedule slip of approximately three weeks; the subcontractor reports a two-week schedule slip of utility completion due to JSA issues being resolved; design and specification for interiors of certain buildings is slightly behind schedule due to lack of Mechanical Engineering resources; and delays in finalizing layout of Phase IV mobile units is causing schedule delays. The project team meetings have taken place and corrective actions identified to avoid further slips.

CM Cost Performance: (-\$1.3M/-18.6%)

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

Well Drilling (+\$0.6M)

Efficiencies are being realized with the drilling subcontract by using faster and less expensive well drilling technology (sonic drilling). Savings are achieved in the well drilling activities as well as the corresponding support cost.

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

The negative cost variance is primarily due to unexpected late charges for distribution of DX electricity and piping. It is still estimated that DX construction will complete work with a positive cost variance.

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

The current month negative cost variance is primarily due to the following factors: 1) Greater than planned cost towards completion of the 90% 200W P&T design resulting from continued design changes associated with mass balance calculations, sludge stabilization, Fluidized Bed Reactor (FBR) skid changes, etc.; 2) inefficiencies associated with road crossing and transfer piping installation. Road crossings are taking longer than planned to install due to delays in obtaining excavation permits. Crews continue to work in the field, but progressing at a slower rate than planned, resulting in a negative cost variance; and 3) Completion of a progress payment for HDPE piping (earned value method 0-100) for piping that has been purchased incrementally over the past several months, resulting in a positive variance. Impacts to construction cost are being quantified in the current REA that is being developed.

PBS RL-30 UBS, G&A, and DD (-\$0.4M)

The CM negative cost variance is discussed in Appendix C.

Base**CM Schedule Performance (-\$1.0M/-8.8%)**

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

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

The negative schedule variance is primarily due to delays in resolution of comments for the Remedial Investigation/ Feasibility Study work plan and the Treatability test plan. Project is mitigating the delays by applying additional resources and starting design work prior to issuance of Treatability test plan.

Regulatory Decision/Closure (+\$0.3M)

The current month positive schedule variance is largely attributed to acceleration of the well drilling effort associated with the "L" and "M" wells. The well drilling was able to be completed ahead of schedule due to less than anticipated contamination encountered during drilling operations.

CM Cost Performance (-\$1.3M/-12.7%)

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

Groundwater Monitoring and Performance Assessments (-\$0.3M)

The primary driver for the CM negative cost variance is the effort taking place with realignment of liners within the Modutank, due to leaking. This problem was not expected and has caused additional effort to resolve the issue. From a CTD perspective Modutank activities are within budget.

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

The negative cost variance is primarily due to the following: RI/FS work plan, treatability test plans, DX design and project management required more effort than planned. As the completion of comment resolution on RI/FS work plan and the treatability test plan are completed it is expected that the monthly cost variances will improve. The CTD cost variance still remains positive.

Regulatory Decision/Closure (-\$0.4M)

The current month negative cost variance is primarily due to subcontractor accruals were overstated due to delays in getting to the field to begin work. CTD cost variance for these overall activities remains positive.



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

The CM negative schedule variance is discussed in Appendix C.

Contract-to-Date (\$M)

WBS 030/ RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
ARRA	51.5	52.0	44.3	0.5	1.0	7.7	14.9	201.8	197.8	4.1
Base	182.5	180.4	170.6	(2.1)	-1.1	9.8	5.4	1,202.9	1,195.1	7.7
Total	234.0	232.4	214.9	(1.6)	-0.7	17.5	7.5	1,404.7	1,392.9	11.8

Numbers are rounded to the nearest \$0.1M.

ARRA**CTD Schedule Performance: (+\$0.5M/+1.0%)**

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

100-HR-3 Operable Unit (+\$3.2M)

The primary contributor to the CTD positive schedule variance is acceleration of procurement and construction for DX. With the implementation of AWA-PRC-10-017, work scope was scheduled to start at the beginning of FY 2010. However, a significant amount of work had already been performed in FY 2009 and that work scope is representative of the CTD positive schedule variance.

200-ZP-1 Operable Unit (-\$1.9M)

The CTD negative schedule variance is primarily due to the following: delays in vendor fabrication of long lead process equipment; focus of the engineering design team has been on the completion of the 90% design, resulting in delays to engineering review of submittals; installation HDPE, fiber optical, and electrical cable is progressing slower than planned; completion of the 1st fluidized bed system completed in earlier months that was scheduled to be completed in March; and a slight delay in the mobilization of the contractor for construction of the transfer buildings. The impact of these delays is being evaluated to determine overall impact to construction completion. TPA milestone M-016-122 is on schedule for completion on December 31, 2011.

CTD Cost Performance: (+\$7.7M/+14.9%)

The primary contributors to the CTD positive cost variance are:

Drilling (+\$2.2M)

The positive cost variance is due to efficiencies/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. Efficiencies in NR-2 and HR-3 are expected to continue resulting in additional positive cost variance.

100-HR-3 Operable Unit (+\$1.4M)

CTD positive cost variance is due to efficiencies experienced during installation of HDPE piping and road crossings.

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

The contract-to-date negative cost variance is a result of ongoing design changes which have required

more resources to complete the design than originally planned. Impacts to overall construction cost are being quantified in the current REA that is being developed.

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

The positive cost variance is due to completing work scope more efficiently than planned; primarily in the areas of multi-incremental sampling, borehole drilling, landfill characterization, and document preparation. Funds will be available to support other activities.

Ramp-up and Transition (+\$1.9M)

The positive cost variance is due to the following: Project support functions (PM, CM, Engr, etc.) continue to perform with staffing levels below estimated levels; contracted costs for the 4 shop building are currently below estimated values; and initial site prep, utilities and trailer procurements/placement contracts are below estimated values. Some subcontract and labor costs were misapplied to the Mobile Offices project (000.19.01.01.06) and corrections continue to be processed to redirect the appropriate costs to this project.

PBS RL-30 UBS, G&A, and DD (+\$1.5M)

The CTD positive cost variance is discussed in Appendix C.

Base

CTD Schedule Performance (-\$2.1M/-1.1%)

No CTD schedule variances exceed the reporting thresholds:

CTD Cost Performance (+\$9.8M/+5.4%)

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

Integrated Field Work (-\$1.8M)

The primary driver for the CTD negative cost variance is the WSCF laboratory cost that have been greater than initially planned, due to rate and volume changes. Although this account will continue to overrun, the total WSCF cost for RL30 is being evaluated to determine the overall impact to RL30 projects.

100-KR-4 OU (+\$2.0M)

The primary contributor to positive cost variance are efficiencies obtained with the KR-4 Operations and Maintenance accounts, which are expected to continue throughout the fiscal year.

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

The favorable CTD cost variance resulted from performing chemical treatment & maintenance scope, jet grouting pilot test work and RI/FS Work Plan and Interim Proposed Plan Reporting more efficiently than planned. It is anticipated that this underrun can be funds managed for other project scope.

200-ZP-1 Operable Unit (+\$1.7M)

The positive cost variance is largely the result of the following factors: 1) Interim Operations reflects significant progress and cost under runs have been achieved to date for Annual System Calibration. 2) Design of the permanent hookup of well EW-1 (C7017) 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. This positive cost variance is expected to be available for funds management within other areas of the project.

Regulatory Decision & Closure Integration (+\$1.3M)

The positive cost variance is due to completing work scope more efficiently than planned; primarily in the areas of multi-incremental sampling, borehole drilling, landfill characterization, and document preparation. Funds will be available to support other activities.

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	142.9	110.0	32.9
Base	<u>177.4</u>	<u>153.5</u>	<u>23.9</u>
Total	320.3	263.5	56.8

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-030-10-006R0, Remediation Decision Support Supplement

BCR-030.10-007R0, KR-4 Phase 3 Update & KW Bioremediation Re-planning

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, defines CHPRC planning with respect to TPA milestones.

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	3/31/10	3/31/10		Complete
M-024-58C	Initiate Discussions of Well Commitments	TPA	6/1/10			On schedule
M-091-40L-026	Submit 2 nd Qtr FY10 Burial Ground Sample Results	TPA	6/15/10		5/30/10	On schedule
M-016-155	Submit Revised RD/RA Work Plans for 100 Area in Accordance With M-016-150 ROD	TPA	6/30/10		N/A	Deleted per change request M-16-09-10. Changed product to treatability test plans, as agreed to by regulators.
M-015-83	Submit Proposed Plan for 200-UW-1	TPA	6/30/10		6/30/10	Proposed for deletion by approved Tentative Agreement. Not being worked due to contractor redirection. (BCR in process).
M-024-61-T01	Conclude Discussions of Well Commitments	TPA	8/1/10		7/30/10	On schedule
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			On schedule, created by change request M-16-09-10.
M-015-116	DOE will submit to EPA a Treatability Test Plan for Hexavalent chromium of groundwater at 100-K	TPA	8/30/10			On schedule, created by change request M-16-09-10.
M-016-124	Submit 200-ZP-1 Remedial Design Report	TPA	8/31/10			On schedule

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-091-40L-027	Submit 3 rd Quarter FY10 Burial Ground Sample Results	TPA	9/15/10		8/30/10	On schedule
M-015-51	Submit Revised FS Report and Proposed Plan to EPA for 200-BC-1 OU	TPA	9/30/10		N/A	Proposed for deletion by approved Tentative Agreement. Not being worked due to contractor redirection. (BCR in process).
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.