



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending May 13, 2011

Contract DE-AC06-05RL14655

Protecting the Columbia River

Overview

Background Summary of Projects that Washington Closure Hanford (WCH) will accomplish using ARRA funds (pending definitization of scope and contract modifications).

A. The Environmental Restoration Disposal Facility (ERDF)

ERDF is the hub of the WCH scope of work and supports a major portion of other Hanford contractor (OHC) waste disposal. Wastes collected from sites around the Hanford complex are brought to ERDF for treatment and disposal. WCH operates the ERDF and is currently using ARRA funds to upgrade and expand its capabilities to meet the needs of Hanford's accelerating mission.

B. The 618-10 Burial Grounds

The trenches at 618-10 have long been regarded as some of Hanford's worst waste sites. Using ARRA funds, WCH will characterize the site. Intrusive and non-intrusive techniques will be used, and the subsequent analysis of data will enable the project to pursue remediation of the site safely and effectively.

C. The 618-11 Burial Grounds

Along with 618-10, the 618-11 Burial Grounds are among the biggest challenges faced by WCH using ARRA funds. The 618-11 characterization work will require special care because of its proximity to the Energy Northwest Generating Facility, north of the 300 Area.

D. Waste Site Remediation

WCH is employing ARRA funds to clean up many failed waste sites not originally part of its contract. Sites in the 100-F and IU 2&6 segments 1&2 are proposed for waste site remediation in the two year period starting in October 2009.

E. Confirmatory Sampling of other new sites

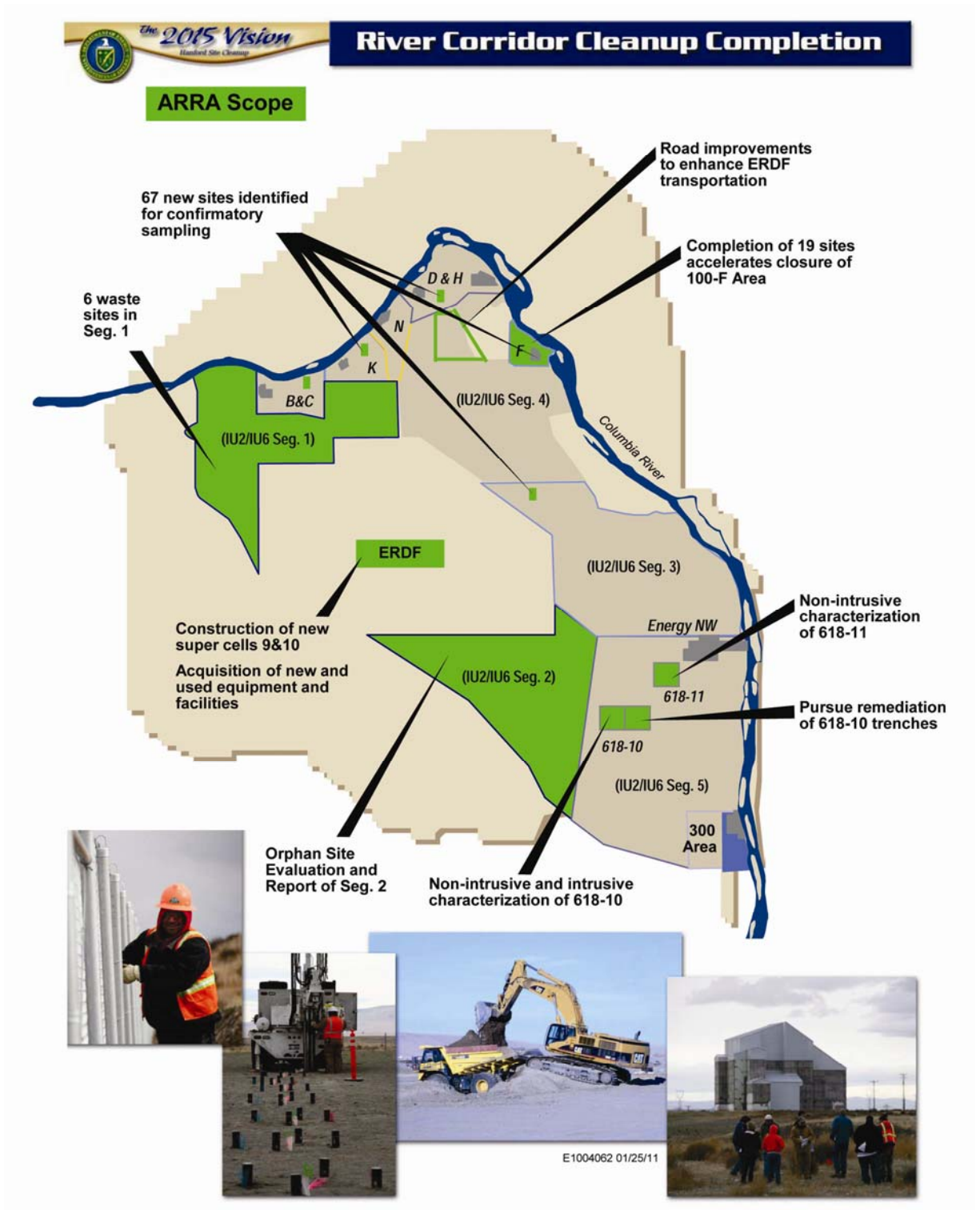
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

This weekly report will provide evidence of these activities as they occur in support of ARRA.

The following figure illustrates the overall scope of WCH's ARRA projects.



Overview (Continued)



Safety

Safety Accomplishments

As of April 17, 2011, WCH and its subcontractors worked 449,002 hours of ARRA scope with no safety incidents.

Hazard Reductions

The River Corridor Closure Project's "Take 5 for Safety" focuses on safety topics that affect Hanford Site workers. This week's topic was on electrical safety in the workplace. Many injuries, deaths, and property damage caused by workplace electrical hazards can be avoided.

The first step in avoiding these hazards begins with safety awareness. Before undertaking any type of electrical work, workers should plan their jobs and include all necessary steps to ensure personal safety and the safety of others.

For those experienced in working with electricity, the following points can help remind you of basic electrical safety practices.

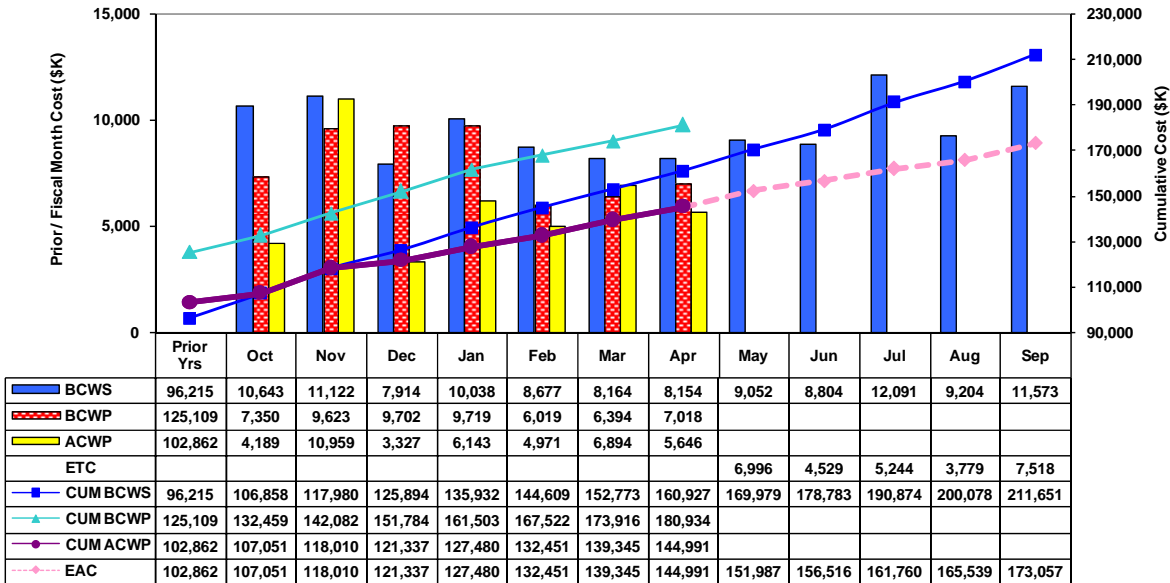
- Complete a detailed job plan and communicate it to all coworkers.
- Know safety requirements and follow them.
- Understand the construction and operation of the electrical equipment and the hazards involved.
- Identify all possible energy sources that could pose on-the-job hazards.
- Before working on or around electrical systems or equipment, identify the load circuits and disconnect.
- Remember, in some cases, turning power off may cause other hazards. Such hazards and additional guidance should be addressed in your work plan.
- Select the appropriate personal protective equipment (PPE). Remember, PPE must be worn until the electrical system is in a safe condition.
- Never assume that the equipment or system is de-energized. Remember to always test before you touch.
- Use lock-out/tag-out procedures.
- Make sure your test equipment is working properly both before and after you use it.
- If at any time the job becomes more hazardous than you had anticipated, stop and revise the plans.



Cost/Contract Status

Contract Mod #	Date	Scope	Obligated (\$M) (Inception to Date)	Not to Exceed (\$M) (Inception to Date)
099	4/9/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$28.0
105	4/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$44.5
126	7/23/09	H.37 Clause - Reporting Requirements	N/A	N/A
139	9/3/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$253.6	\$44.5
142	9/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$253.6	\$123.8
174	2/22/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$123.8
182	3/25/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$155.8
185	4/19/10	Phase 1 and Phase 2 Scope	\$248.2	\$178.0
192	4/27/10	Phase 1 and Phase 2 Scope	\$253.6	\$178.0
205	5/26/10	Reallocate Funds for Equipment and GPPs	\$253.6	\$178.0
210	6/23/10	Funding deobligation	\$229.3	\$178.0
217	8/4/10	Funding re-obligation	\$233.6	\$178.0
230	9/24/10	Phase 3 Definitization	\$233.6	\$178.0
241	11/22/10	Reallocate Funds for Equipment	\$233.6	\$178.0
242	12/1/10	Increase the Cost Authority on RL-0041.R2	\$233.6	\$196.6
247	12/16/10	Reallocate Funds for Capital Expenditures	\$233.6	\$196.6
253	1/18/11	Increase 41.R1 Cost Authority and reallocate funds for capital	\$233.6	\$214.4
266	2/17/11	Reallocate Funds for Capital Expenditures	\$233.6	\$214.4
281	4/5/11	Increase Cost Authority on RL-0041.R2	\$233.6	\$233.6
284	4/14/11	Reallocate Funds for Capital Expenditures	\$233.6	\$233.6
290	5/4/11	Authorization to charge ERDF operations to ARRA	\$233.6	\$233.6

RCC Project - ARRA
Current Performance Measurement Baseline (PMB)
Prior Years / FY11 Fiscal Month



ARRA Proposals 1, 2 and 3 Actuals (\$K)

Apportionment Number	Apportionment Title		April 2011	Inception To Date	Cost Authority
RL-0041.R1	ERDF Cell Expansion	PMB	3,680	101,385	156,847
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	1,966	43,606	76,754
Sub Total		PMB	5,646	144,991	233,601
Fee			575	14,389	
Total			6,221	159,380	

* PMB = Performance Measurement Baseline.



ERDF

Super Cells 9 and 10 Construction

The U.S. Department of Energy, Richland Operations Office (DOE-RL) approved the final Construction Quality Assurance report for Super Cell 10 and Leachate Storage Tank No. 3. The report also was reviewed by the U.S. Environmental Protection Agency (EPA).

WCH and subcontractors TradeWind Services and DelHur Industries completed construction of super cells 9 and 10 with no recordable injuries, months ahead of schedule, and under budget. Super cell 9 was placed into service in February.

“The ERDF project staff of DOE-RL, Washington Closure Hanford, and subcontractor personnel deserve a special thanks for completing the expansion of ERDF quickly, professionally, and above all, safely,” said David Einan, ERDF Project Manager for the EPA. “This expanded capacity is important in the continued cleanup at Hanford.”



A view from the northeast corner of the Environmental Restoration Disposal Facility shows super cell 10 in the foreground and super cell 9, right. Waste is disposed in the south side of super cell 9, and railroad ties are being laid out on the north side. (Photo 1)

ERDF (Continued)



The Waste Operations team continues to place railroad ties in super cell 9. Approximately 65,000 ties will cover about half of the super cell floor. The Hanford Site had more than 150 miles of railroad track, only a fraction of which is still in use. (Photo 2)

Facility and Equipment Upgrades

WCH continues to make progress with construction of the new maintenance facilities at ERDF. The project team is installing the water line for fire control at the transportation maintenance facility, and continued to install drywall, HVAC, and fire sprinklers. At the equipment maintenance facility/operations center, electrical and plumbing work continued. Finish work continued at the container maintenance facility.

The container maintenance facility will include a large container repair line, a maintenance shop, and a weld area. The equipment maintenance facility will include two service lines, an operational storage facility, a large concrete pad, and an exterior awning over a smaller concrete pad. The new operations center will help alleviate severe overcrowding of personnel and also accommodate new employees hired to handle the increasing waste volumes.

The expanded transportation maintenance facility will include two additional truck bays, a large concrete pad, an exterior awning that will cover two smaller concrete pads, and a conference room. The project began pouring the concrete footers on the east side of the building.

ERDF (Continued)



An employee with Washington Closure Hanford subcontractor ELRFowler installs gutters on the west addition of the transportation maintenance facility. (Photo 3)

ERDF (Continued)



An ELRFowler employee spreads gravel for the parking area on the east side of ERDF's new container maintenance facility. (Photo 4)

WCH continues installing the Global Positioning System and wireless equipment for ERDF's new waste container tracking system. The system, designed by Pacific Northwest National Laboratory, will provide status reports at waste generation sites, which will assist management in making daily assignments. Testing is scheduled for later this month.

The screen plant for ERDF's new batch plant is operational. Safe guards are being installed and electrical work continues at the batch plant. The batch plant will produce concrete used to mix with debris, ensuring no void space during disposal operations. It is expected to be placed into service by the end of the month.

ERDF (Continued)



The new screener for the batch plant is operational at the Environmental Restoration Disposal Facility. The batch plant, which will manufacture concrete for disposal, is expected to be in service this month. (Photo 5)

WCH received the approval letter from the Washington State Department of Health for ERDF's new septic system. A work package, operating procedures, and employee training are under development. The septic system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

WCH subcontractor TradeWind Services continues electrical and interior work in the weather enclosures for crest pads 1 and 2. The enclosures were designed by Vista Engineering, a local company.

Upcoming Activities

- Continue construction of the container maintenance facility.
- Continue construction of the equipment maintenance facility/operations center.
- Continue construction of the transportation maintenance facility.
- Continue construction of the crest pad buildings associated with cells 1 and 2.

ERDF (Continued)

Video

[*Click here to view the video of waste being disposed in super cell 9.*](#)



618-10 Burial Ground

Trench Remediation Project

WCH continued trench excavation at the 618-10 Burial Ground. The project team is working on the north and south sides of the burial ground. Through May 12, 20,100 bank cubic meters have been removed.



Washington Closure Hanford continues excavation of the waste trenches at the 618-10 Burial Ground. (Photo 6)

618-10 Burial Ground (Continued)

The 618-10 Burial Ground operated from 1954 to 1963, receiving low- and high-level radioactive waste from 300 Area laboratories and fuel development facilities. Low-activity wastes were primarily disposed in 12 trenches, while the moderate- and high-activity wastes were disposed in 94 vertical pipe units (VPUs). The VPUs were constructed by welding five bottomless drums together and buried vertically about 10 feet apart.

In September 2010, WCH completed intrusive characterization field operations at the burial ground. Test pits were dug through a subset of disposal trenches, unearthing a limited number of drums to verify the condition and types of wastes that were disposed.

Several drums containing radioactive waste, a shipping cask, and miscellaneous waste were discovered during the intrusive trench characterization activities. The drums contained depleted uranium and uranium oxide. In addition, "concreted" 55-gallon drums also were discovered. Based on the records research and the finds during intrusive characterization, the number of drums the burial ground may contain is estimated to be between 2,000 and 6,000 (most likely closer to 2,000). That includes an estimated 800 concreted drums that were used to dispose of highly radioactive waste nested inside a pipe surrounded by concrete. The pipe contains the waste and the concrete provides radiation shielding for its contents. Workers also found a cask with unknown contents, bollards, bottles, metal pieces, and other miscellaneous debris.

Nonintrusive characterization field activities were completed in May. The scope of activities carried out as part of nonintrusive characterization included geophysical delineation, in situ characterization using a multi-detector probe, and soil sampling from below a selection of 10 VPUs. During in situ characterization, measurements were collected for 100 cone penetrometers in the trench area and 375 cone penetrometers in the VPU area.

Upcoming Activities

- Continue trench excavation.
- Begin final testing of water system.



618-11 Burial Ground

WCH and subcontractor North Wind Inc. completed installation of cone penetrometers in support of nonintrusive characterization of the 618-11 Burial Ground and initiated radiological characterization of the vertical pipe units (VPUs).

The 618-11 Burial Ground, which operated from March 1962 to December 1967, contains three slope-sided trenches, five large caissons, and 50 VPUs. The burial ground received low- to high-activity waste from 300 Area laboratories and fuel development facilities.



The 618-11 Burial Ground (green rectangle) is shown in this July 1998 photo. The site is adjacent to the Columbia Generating Station, a commercial nuclear plant. (Photo 7)

North Wind installed two cone penetrometers (narrow steel tubes) about 6 to 8 inches from the exterior of each VPU and to an approximate depth of 6 feet below the VPU. The project team will now begin inserting a gamma-logging probe into the cone penetrometers to identify the location of radioactive materials within the VPUs.

618-11 Burial Ground (Continued)



An employee with Washington Closure Hanford subcontractor North Wind installs one of 100 cone penetrometers at the 618-11 Burial Ground. (Photo 8)

Prior to cone penetrometer installation, the project team conducted geophysical delineation to help locate each of the burial ground's VPU and caissons. The delineation was determined

618-11 Burial Ground (Continued)

using reconnaissance-level magnetic field survey, detailed-level magnetic and time-domain electromagnetic induction (TDEMI) survey, and ground-penetrating radar (GPR) survey.

The VPUs typically were constructed by welding five 55-gallon bottomless drums end to end. The caissons were constructed of corrugated metal pipe (8-foot diameter, 10-foot long). The top of the caisson was 15 feet below grade and connected to the surface by an offset pipe (3-foot diameter) with a dome-type cap. The trenches are 900 feet long by 500 feet wide and 25 feet deep.

Low- to-moderate-activity waste typically was disposed in the trenches, and moderate- to high-activity waste was disposed in the VPUs and caissons. Some high-activity waste was placed inside concreted-sealed drums and disposed in the trenches.

Upcoming Activities

- Continue VPU radiological characterization activities.

100-F Area

WCH and subcontractor Ojeda Business Ventures continued with the remediation of 19 waste sites at 100-F Area. The project team is demolishing concrete at 100-F-57 and loading out concrete and underlying soil. The site consists of stained concrete and soil containing hexavalent chromium.

Closeout samples also were collected from 100-F-26:4. The site contained a section of process sewer pipeline.



Washington Closure Hanford subcontractor Ojeda Business Ventures continues to demolish and load out concrete and soil from 100-F-57. (Photo 9)

100-F Area (Continued)



Concrete and soil from 100-F-57 is loaded out and transported to the Environmental Restoration Disposal Facility. (Photo 10)

The following sites have had the soil excavated and loaded out:

- 100-F-26:4 (process sewer pipeline section)
- 100-F-44:8 (fuel oil pipelines)
- 100-F-44:9 (process sewer pipeline)
- 100-F-45 (river bank pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal-pit debris)
- 100-F-49 (maintenance garage lube pit foundation)
- 100-F-51 (fish laboratory footprint, pipelines)
- 100-F-55 (contaminated ash layer)
- 100-F-58 (asbestos-containing surface debris)
- 100-F-8 (drains)
- 100-F-62 (animal farm septic lines)
- 100-F-63 (animal farm radioactive effluent lines).

100-F Area (Continued)

F Reactor operated from 1945 to 1965 as one of Hanford's nine surplus plutonium production reactors for the nation's nuclear weapons program. The reactor was cocooned in 2003. During reactor construction and operations, waste was disposed in unlined pits and trenches throughout the site.

The 100-F Area also was the home of the experimental animal farm (EAF), which from 1945 to 1976 operated adjacent to the reactor site. The EAF used animals for studying the potential effects of ionizing radiation exposure to humans in the occupational setting. Reactor and EAF sites in the 100-F Area contributed to the discharge of contaminated cooling water, other liquids, and solid wastes.

WCH completed cleanup of 53 waste sites at F Area in 2008, loading out more than 408,000 tons of waste. However, during the course of cleanup, 19 additional waste sites were discovered.

Upcoming Activities

- Begin excavation of western portion of 100-F-57 to 15 feet.
- Collect closeout samples from 100-F-63 and 100-F-51.



IU 2 & 6 Segment 1

WCH completed revegetation of the five IU 2&6 waste sites on November 30, 2010. Segment 1 encompasses about 28 square miles of the northwestern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. The waste sites were unique because they were primarily used for housing and support areas.

The remediation sites were:

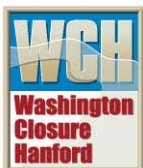
- 600-341 (four areas that contained dry cell battery remnants and/or battery debris)
- 600-343 (residual ash from burned material and dumped asphalt in excavation trench)
- 600-344 (stained area)
- 600-345 (stained area with oil filters)
- 600-346 (four small fly-ash dump areas with metal debris).

Earlier this year a global positioning environmental radiological survey indicated that an additional site, 600-342, did not require additional remediation.



Confirmatory Sampling

WCH completed sampling of ARRA confirmatory sites. Sampling was performed at 41 sites in accordance with the regulator approved work instructions that were completed earlier this year. Based on the sampling results, documentation is being prepared to recommend whether the sites require remediation. This documentation is then submitted to the DOE and the regulatory agencies for review and approval. The recommendations have been approved for more than 75% of the sites; the remaining documents are in the review and approval process.



General

Media, Visits, Press Releases

- Dennis McLerran, the Regional Administrator for EPA Region 10, visited ERDF as part of a Hanford Site tour. Mr. McLerran was selected by President Obama in 2010 to lead Region 10, which encompasses Washington, Oregon, Idaho, Alaska, and the Pacific Northwest Indian Country. Mr. McLerran was joined by Dan Opalski, EPA's Region 10 Director of the Office of Environmental Cleanup; Kendra Tyler, EPA's Region 10 Community Involvement; and Matthew Magorrian, EPA's Region 10 Office of the Regional Administrator. The group was briefed on ERDF's operations and procedures by WCH's Director of Waste Operations.
- The DOE-EM ARRA Project Review Team visited ERDF as part of a Hanford Site tour. The visitors were briefed by the WCH's Director of Waste Operations on the facility's operations and procedures.
- Six DOE public tours of the Hanford Site visited ERDF.

Contracting Actions

There were no significant contracting actions this week.

