Issue 38

*River Corridor Closure Project*

# Recovery Act Weekly Report

For the week ending May 30, 2010

Contract DE-AC06-05RL14655

*Protecting the Columbia River*

E0908027

# 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.

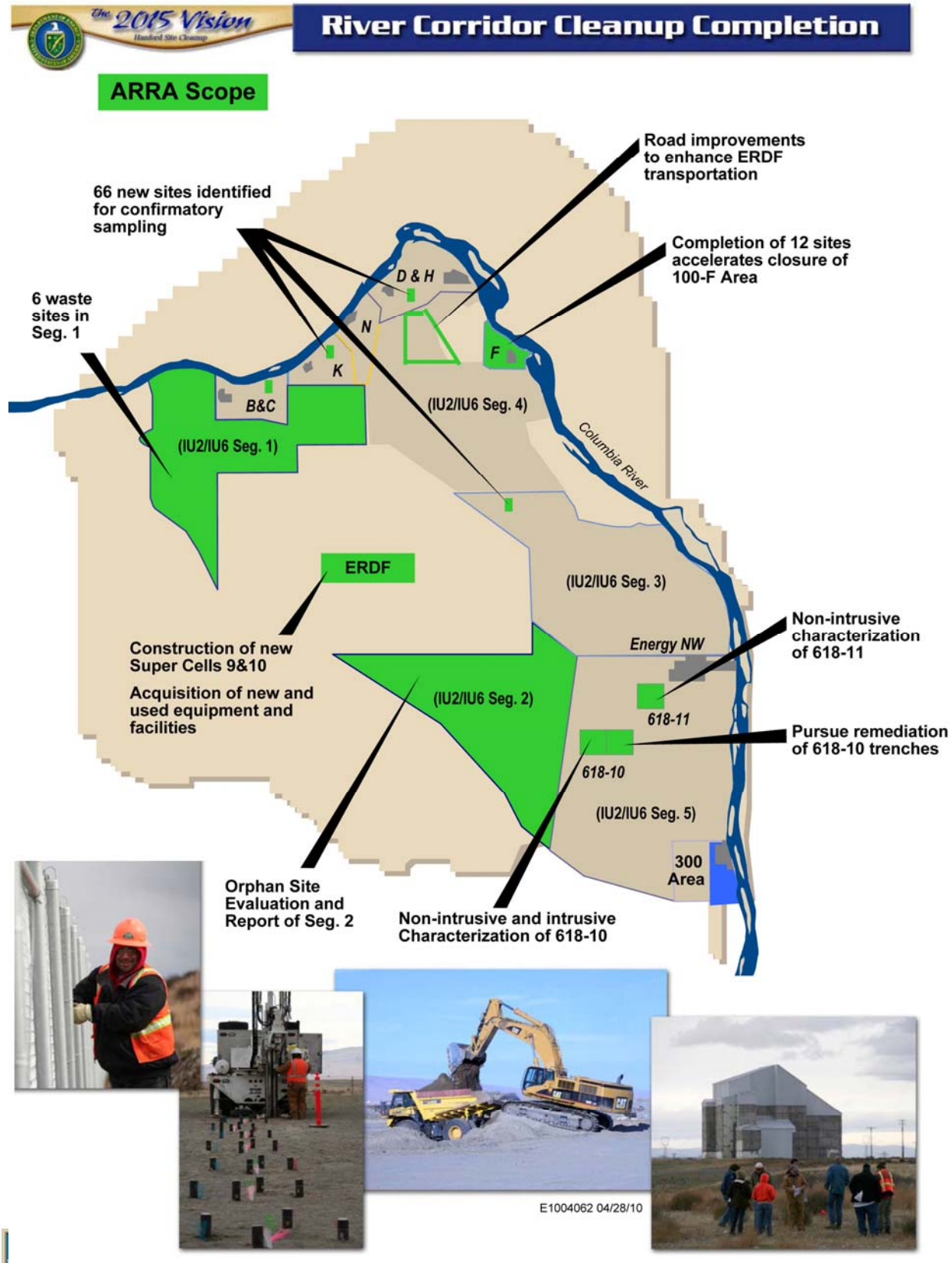
E. Confirmatory Sampling of other new sites

   WCH is proposing to complete the early sampling process of 66 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 25, 2010, WCH and its subcontractors have worked more than 189,913 hours of ARRA scope with no safety incidents.

**Hazard Reductions**
This week's River Corridor Project's Weekly Roundup for safety focused on the New Wireless Device Law for vehicle safety.

Beginning June 10, 2010, illegal use of a wireless device while driving can get you pulled over and a $124 fine. Since 2007, Washington State has had a law prohibiting hand-held cell phone use while driving, but you could not be pulled over for only that reason.

Substitute Senate Bill 6345 makes it a "primary offense" to use a wireless device without a hands-free device while driving (except in emergencies). This gives an officer of the law the ability to ticket a driver based solely on observing text messaging or illegal cell phone use.

The Washington State Patrol recently announced there would be no grace period on the new law. "Drivers have already had nearly two years to adjust their driving habits," said Chief John R. Batiste. "We will fully enforce this law from day one."

The importance of this law change goes beyond the legal issues involved if you are pulled over. Distracted driving endangers lives. It is any non-driving activity a person engages in while operating a motor vehicle. There are three main types of distraction:

- Visual – taking your eyes off the road
- Manual – taking your hands off the wheel
- Cognitive – taking your mind off what you're doing.

All distractions can endanger drivers' safety; things like cell phone use, texting, eating, drinking, talking to passengers, and using in-vehicle technologies and portable electronic devices. But texting is the most alarming, because it involves all three types of distraction.

Did you know?

- Driving while using a cell phone reduces the amount of brain activity associated with driving by 37%. (Source: Carnegie Mellon)

- Nearly 6,000 people died in 2008 in crashes involving a distracted driver, and more than half a million were injured. (National Highway Traffic Safety Administration/NHTSA)

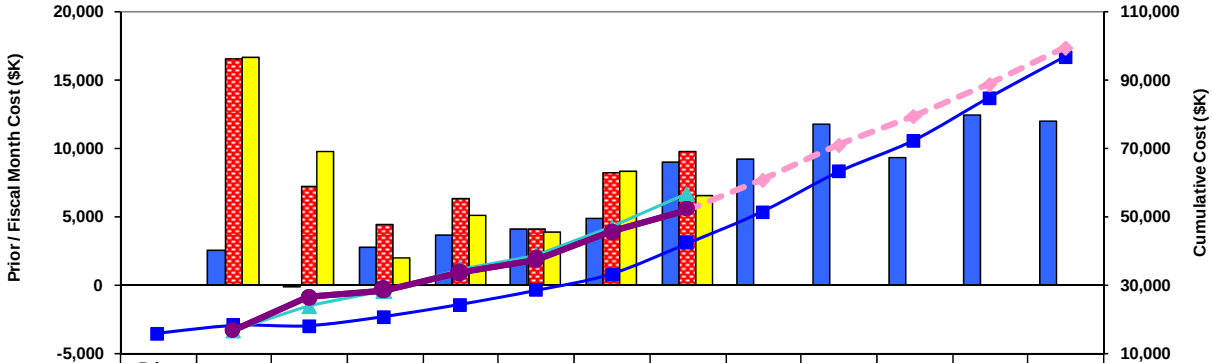
- Drivers who use hand-held devices are four times as likely to get into crashes serious enough to injure themselves. (Source: Insurance Institute for Highway Safety)

- Using a cell phone while driving, whether it's hand-held or hands-free, delays a driver's reactions as much as having a blood-alcohol concentration at the legal limit of .08%. (Source: University of Utah).

# 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 |

**RCC Project - ARRA**
**Current Performance Measurement Baseline (PMB)**
**Prior Years / FY10 Fiscal Month**




| | Prior Yrs | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BCWS | 15,634 | 2,468 | -217 | 2,707 | 3,594 | 4,057 | 4,808 | 8,963 | 9,122 | 11,770 | 9,267 | 12,374 | 11,938 |
| BCWP | 0 | 16,515 | 7,180 | 4,492 | 6,344 | 4,077 | 8,253 | 9,803 | | | | | |
| ACWP | 0 | 16,626 | 9,705 | 1,970 | 5,044 | 3,862 | 8,324 | 6,460 | | | | | |
| ETC | | | | | | | | | 8,601 | 10,215 | 8,344 | 9,443 | 10,680 |
| CUM BCWS | 15,634 | 18,102 | 17,885 | 20,592 | 24,186 | 28,243 | 33,051 | 42,014 | 51,136 | 62,906 | 72,173 | 84,547 | 96,485 |
| CUM BCWP | 0 | 16,515 | 23,695 | 28,187 | 34,531 | 38,608 | 46,861 | 56,664 | | | | | |
| CUM ACWP | 0 | 16,626 | 26,331 | 28,301 | 33,345 | 37,207 | 45,531 | 51,991 | | | | | |
| EAC | 0 | 16,626 | 26,331 | 28,301 | 33,345 | 37,207 | 45,531 | 51,991 | 60,592 | 70,807 | 79,151 | 88,594 | 99,274 |

**ARRA Actuals (includes Proposals 1 and 2)**

| Apportionment Number | Apportionment Title | | Apr 2010 | Inception To Date | Cost Authority |
|---|---|---|---|---|---|
| RL-0041.R1.2 | ERDF Cell Expansion | PMB | 3,911 | 37,114 | 139,072 |
| RL-0041.R2 | River Corridor Soil & Groundwater (618-10) | PMB | 2,550 | 14,877 | 38,907 |
| Sub Total | | PMB | 6,461 | 51,991 | 177,979 |
| Fee | | | 204 | 2,658 | |
| Total | | | 6,665 | 54,649 | |

*** PMB is the Performance Measurement Baseline.**

# ERDF

**Super Cells 9 and 10 Construction**
TradeWind Services and its prime subcontractor, DelHur Industries, continue placing admix in super cell 9. The admix, which is manufactured at an onsite pugmill, is a soil/bentonite material used for the low-permeability compacted soil layer of the liner and leachate collection system.

*An aerial photo taken earlier this month shows admix being placed in super cell 9 (upper right) at the Environmental Restoration Disposal Facility.*

The project team also made final preparations for construction of the liner system, which collects and removes liquid, or leachate, as it drains through the waste materials. The liner system consists of the admix layer, a leachate collection layer, a leak detection layer, and two high-density polyethylene (HDPE) liners covered with a 3-foot protective soil layer.

Work continues on the installation of leachate transfer pipe from super cell 9 to a new leachate holding tank, and on the construction of crest pad buildings for super cells 9 and 10.

# ERDF (Continued)

*Work continues on the foundation of the crest pad building for super cell 9 at the Environmental Restoration Disposal Facility.*

**Facility and Equipment Upgrades**
ELRFowler continues work on the design and submittals for ERDF's new operations and maintenance facilities. ELRFowler is a joint venture between local companies ELR Consulting and Fowler General Construction.

The upgraded transportation truck 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 new container maintenance facility will include a large container repair line, a maintenance shop, a weld area, a lunch area, and an exterior awning over a concrete pad. The new 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.

WCH completed the evaluation of Pacific Northwest National Laboratory's (PNNL's) final report on a waste container tracking system for ERDF. WCH also evaluated four other systems provided by companies that submitted an expression of interest. Next week WCH will decide which system to pursue. PNNL conducted a proof-of-concept demonstration of its system. As part of the demonstration, Radio Frequency Identification and global positioning system tags

# ERDF (Continued)

were attached to waste containers to show how accurately the system tracks waste shipments and container location, as well as generate maintenance reports.

WCH subcontractor George A. Grant is scheduled to begin construction June 7 on a new lighting system at ERDF's recently upgraded transportation yard. The transportation yard is used for truck-and-trailer combinations and other equipment.

Construction of a fueling station, designed by Sage Tech and WHPacific, is scheduled to begin mid- to late summer. Sage Tech is based in Richland, Washington.

Columbia Engineers and Constructors, a small business based in Richland, Washington, is working on the final design of ERDF's new septic system. The final design is due in early June.

WCH placed a purchase order for a Cat 770 off-highway truck, which will be used to haul daily operation cover at the facility. Bids on two Genie articulating boom manlifts have been completed and an award is expected next week.

Hanford Site contractor Mission Support Alliance (MSA) continues design and engineering preparations for repair work on three Hanford Site roads. The roads are used to transport waste material to ERDF.

WHPacific is developing a bid for a design basis for a batch plant at ERDF. The batch plant will manufacture concrete used to mix with debris, ensuring no void space during disposal operations. Purchase orders were issued for two concrete mixer trucks and a concrete pump truck.

**Upcoming Activities**

- Continue to manufacture admix and place in super cell 9.
- Continue construction of the liner and leachate system for super cell 9.
- Continue design and engineering preparations for repair work on Hanford Site roads.

# ERDF (Continued)

*An aerial photo taken earlier this month shows the Environmental Restoration Disposal Facility from the northeast corner of the site.*

# 618-10 Burial Ground

**618-10 Non-Intrusive Characterization/Trench Remediation Project**
Mock-up activities for intrusive characterization continue at the 618-10 Burial Ground. Intrusive characterization will provide information about the types and quantities of wastes, and the level of contamination. Field operations will be performed with test pits excavated through a series of the burial trenches.

The 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 23 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.

During mock-up activities, heavy equipment operators, who will perform the cross-trenching, conducted mock-ups using the excavation techniques, instrumentation, and procedure steps required in work packages. The operators also provided feedback to the work package planners. Progress also continues on the development of procurement packages for trench remediation labor and equipment.

The nonintrusive characterization report is under development and is scheduled to be issued in mid-August. Nonintrusive characterization activities were completed. Measurements were collected for 100 cone penetrometers in the trench area and 375 cone penetrometers in the VPU area.

**Upcoming Activities**
- Continue work on procurement packages for trench remediation labor and equipment.
- Continue mock-ups for intrusive characterization.
- Complete project startup for drum penetration facility setup and operation.

# 618-10 Burial Ground (Continued)

*An aerial photo taken earlier this month from the west side of the 618-10 Burial Ground shows the nonintrusive characterization project team (center) characterizing vertical pipe units.*

# Profile

Gary Johnson can't picture himself camped out in front of a computer all day long. He grew up on a small farm in Finley, Washington, and spent several years working as a meat cutter at a local grocery store.

"I'm definitely a hands-on type of guy," he said. "I don't mind putting in some time at the office, but I think I'd go crazy if I didn't get out in the field."

That's why Johnson is glad to be working at the 618-10 Burial Ground as a radiological control technician (RCT) lead for Washington Closure Hanford's subcontractor Eberline Services. The job allows him to work in the field and satisfy his interest in science and technology.

"I'm excited to be here," said Johnson, who was assigned to 618-10 about 2 months ago. "We're using cutting-edge equipment to clean up one of Hanford's most hazardous burial grounds. Every day is a challenge."


*Gary Johnson is a radiological control technician lead at the 618-10 Burial Ground, where intrusive characterization activities are underway.*

# Profile (Continued)

The 618-10 Burial Ground received low- and high-activity radioactive waste generated in the Hanford 300 Area, where research was conducted on nuclear fuel development and on the processing of irradiated fuel to remove plutonium for the nation's nuclear weapons program.

The 618-10 project is funded by the American Recovery and Reinvestment Act. The project team recently completed nonintrusive characterization of 23 trenches and 94 vertical pipe units. Washington Closure Hanford obtained the radiological characterization data using a multi-detector probe (MDP) designed specifically for the 618-10 and 618-11 Burial Grounds.

Johnson and his team now are focused on intrusive characterization. Test pits will be excavated through a series of trenches to gather information about the types and quantities of waste, and the level of contamination. The data will be used to determine how best to clean up the burial ground and what protective measures to employ during remediation.

As an RCT lead, Johnson supports the RCT supervisor on the project and oversees a team of eight RCTs. His duties include planning, staging, staffing, and making sure his team has all the necessary equipment. Most importantly, he ensures his workers are provided with radiation and contamination protection needed to keep all employees in a safe environment.

"Gary is young, energetic, and wiling to learn," said Bill Gowey, the RCT supervisor at 618-10. "He's doing everything he can to become a supervisor some day."

Johnson, who broke into the RCT field on the recommendation of a friend, has worked for Eberline for three years. He has worked on characterization of suspect nuclear fuel at D and H Areas. Previously, he worked at PEcoS (now Permi-Fix Environmental Services).

"I was looking for a career, something that allowed my wife to stay home and take care of our kids," said Johnson, the father of four. "Everything has worked out great."

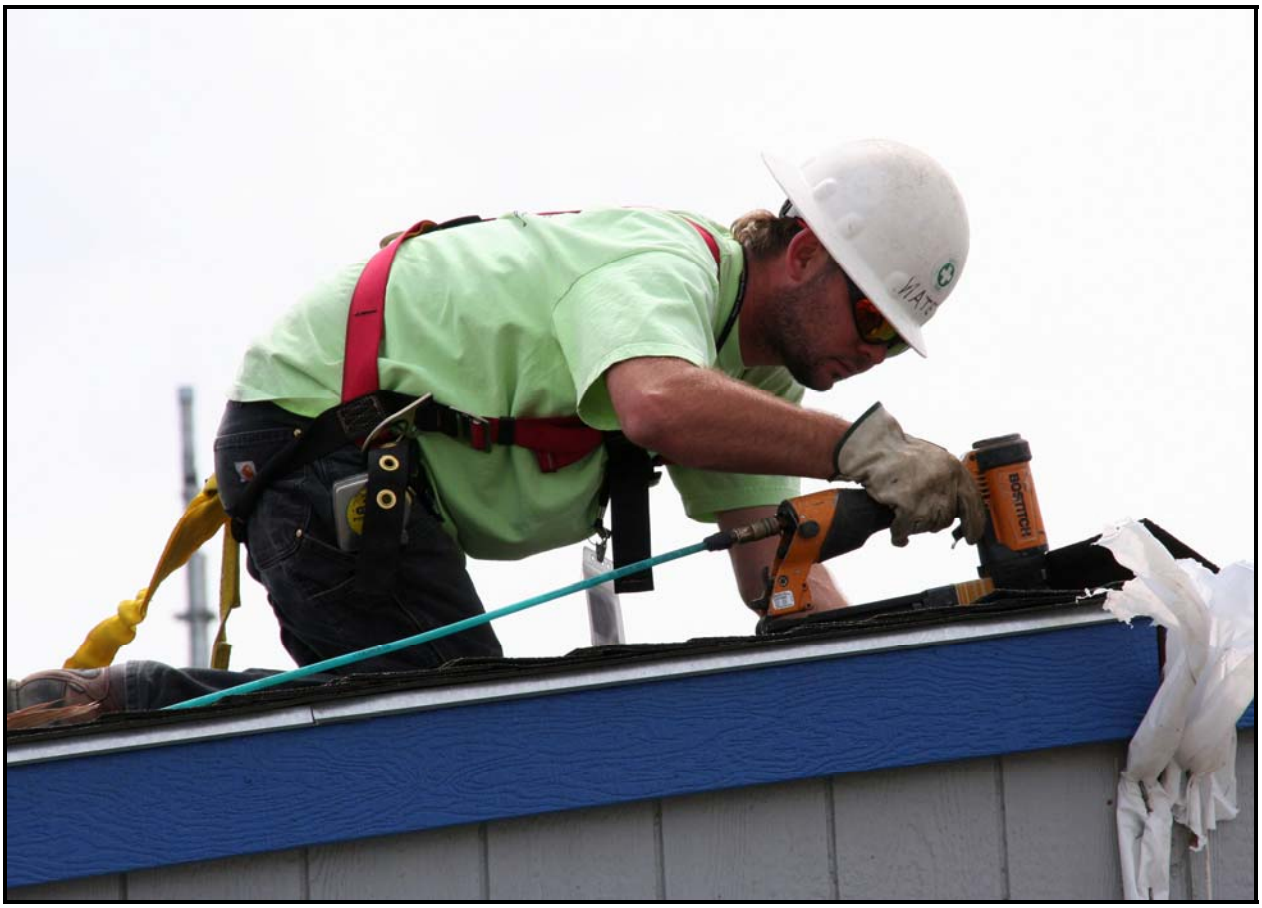
# 100-F Area

WCH continues to evaluate proposals from four small disadvantaged businesses for the remediation of 18 waste sites at the 100-F Area. The subcontract for remediating the sites is expected to be awarded in June, with remediation to begin in July.

The 18 waste sites include five that were recently added to the work scope for design, excavation, and loadout. The project team is currently working on the design of the five additional sites. Preparations also are being made for mobilization, including the installation of trailers and conduit for electrical communication.

*Three trailers are being installed and electrical work is being conducted at 100-F Area in preparation for Washington Closure Hanford to remediate 18 waste sites.*

# 100-F Area (Continued)




*A Washington Closure Hanford subcontractor installs roofing tiles on a mobile trailer at 100-F Area.*

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

Most of the cleanup work at F Area was completed in 2008. Washington Closure Hanford remediated 53 waste sites near the Columbia River. However, during the course of cleanup more waste sites were discovered. Some are located at the former experimental animal farm (EAF), which operated adjacent to the 100-F Reactor site from 1945 to 1976. The farm 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.

The 18 sites that require remediation include the following:

- 100-F-26:4 (process sewer pipeline section)

# 100-F Area (Continued)

- 100-F-26:7 (sodium dichromate and sodium silicate pipelines)
- 100-F-44:8 (fuel oil pipelines)
- 100-F-44:9 (process sewer pipeline)
- 100-F-45 (buried riverbank effluent pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal pit debris)
- 100-F-49 (maintenance garage lube pit foundation, pipelines, drywells)
- 100-F-51 (fish laboratory footprint, pipelines)
- 100-F-55 (contaminated ash layer)
- 100-F-56 (scattered surface debris, stains)
- 100-F-57 (buried pipeline cradle debris)
- 100-F-58 (asbestos-containing surface debris)
- 100-F-60 (pipeline)
- 100-F-61 (stained soil site)
- 100-F-8 (french drains)
- 100-F-62 (animal farm septic lines)
- 100-F-63 (animal farm radioactive effluent lines).

**Video**

***Preparations for F Area Waste Site Remediation***

# IU 2 & 6 Segment 1

Work continues on waste site-specific verification closeout sample plans to determine the number and location of waste site closeout samples including field quality control samples, sampling methodologies, analyte lists, and analytical methods. Once the work instructions are reviewed and approved by the DOE Richland Operations Office and the U.S. Environmental Protection Agency, verification closeout samples will be collected for laboratory analysis.

Last month, remediation of five IU 2 & 6 Segment 1 waste sites discovered during the 2008 orphan site evaluation was completed. The remediation sites are as follows:

- 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.

IU 2 & 6 Segment 1 encompasses about 23 square miles of the northeastern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. Segment 1 sites were unique in the fact they were used primarily for housing and support areas. The sites were small and contained mostly surface debris.

# Confirmatory Sampling

The project team continues to develop sampling instructions for waste sites at the 100-D and 100-IU 2 & 6 Areas, along with a new site in the 100-F Area. The team is conducting historical research and consulting regulatory documents, developing a list of contaminants of potential concern to be sampled, and determining potential sample locations for review by DOE and Hanford Site regulators. To date, more than 75% of the confirmatory work instructions have been issued, which includes DOE and regulator approval. All of the work instructions for the 100-K Area have been approved.

The team is also developing Remove, Treat, and Dispose (RTD) memos for 22 sites that have been determined to require waste site remediation. The memos provide a basis for developing the design for waste site cleanup. All of the RTD memos have been issued.

The request for proposal (RFP) for the confirmatory sampling contractor was issued in April and a pre-bid meeting was held. The scope of the RFP is to support implementation of the confirmatory work instructions (e.g., excavation and sampling). The contract is scheduled to be awarded in June, with field work beginning in July. Sites that pass the confirmatory sampling process will be closed out and no further action will be required under the existing interim record of decision. Those sites that fail will be recommended for remediation to meet regulatory standards.

# General

**Mentoring/Training**
No significant mentoring/training events this week.

**Media, Visits, Press Releases**
A group of interns from CH2MHill Plateau Remediation Company toured the Hanford Site on May 27 to learn about the history of Hanford and current clean-up activities. The group stopped at ERDF and was briefed on the facility's operations and procedures by the ERDF operations manager.

**Contracting Actions**
- Issued requests for proposals for two concrete mixer trucks and a concrete pump truck.
- Placed a purchase order for a new Catt 70 off-highway truck.
- An award will be made to Columbia Engineers for 618-10 Geotechnical support following completion of a QA review.