

PFM Recovery Update – March 22, 2018

Updated 1:00 p.m. PST

Updates since March 19, 2018 highlighted

The next scheduled update is March 26, 2018

Summary

The focus at the Plutonium Finishing Plant (PFP) is on the health and safety of the workforce, addressing worker concerns, ensuring the remaining PFP facility debris and rubble piles are stable, and mitigating the potential for any additional spread of contamination.

During the week of March 19, crews continued shipping previously packaged waste containers to the Central Waste Complex. Shipments will continue during the coming weeks. Work planning is underway to support future waste shipment activities. Routine surveys and fixative application also continue.

The [DOE Expert Panel](#) is currently reviewing CHPRC’s Draft Root Cause Evaluation Report and will provide feedback before the report is finalized in the coming weeks.

Plant Status

System/Area	Status
PFP Workforce	<ul style="list-style-type: none">• No new safety issues.
PRF Area	<ul style="list-style-type: none">• The area remains stable with no contamination detected. Routine fixative applications continue.
PFP Property Area	<ul style="list-style-type: none">• The area remains stable with no contamination detected. Routine fixative applications continue.

Radiological Surveys, Sampling and Analysis

- Surface monitoring: metal plates, called “cookie sheets,” are placed throughout the work control area, usually near air monitors. The metal plates are checked with detectors, normally twice a day, for contamination. Any contamination detected is expressed in disintegrations per minute, a unit that measures how many radioactive atoms decay in a minute.
- Continuous air monitors (CAMs): stationary monitors are placed in or near the PFP demolition zone and provide real-time information about the level of airborne radioactivity. The monitors are set to alarm, allowing workers to take protective measures if there is an indication of airborne radioactivity. Filters may also be collected from the CAMs for analysis in a laboratory to provide additional information about any airborne radioactivity. Contamination values are expressed as derived air concentrations times hours (DAC-hours).
- Fixed air samplers: stationary monitors are placed around radiological boundaries to provide retrospective, not real-time, data about the presence and type of airborne radioactivity. The monitors are fitted with filters that are routinely collected for further analysis. Contamination values are expressed as derived air concentrations times hours (DAC-hours).

On-Site and Environmental:

Cookie Sheets (69 total)		
	March 22 Day Shift	March 21 Swing Shift
Number Surveyed	55	69
Number Clean*	55	69

Number Contaminated (Note location and level)	0	0
*Clean = direct contamination < 500 dpm/100cm ² and removable contamination < 20 dpm/100cm ² (or < 100 dpm/100cm ² in a posted CA or HCA)		

- **Continuous air monitor (CAM)** readings (14 total): Nine of the 14 CAMs reading less than 1 DAC-hr as of 12:40 p.m., March 22. The other five CAMs are reading approximately 1 DAC-hr with results in the radon spectrum, which is consistent with the weather inversion on March 22. Crews will continue to monitor.
- **Fixed air samplers** (24 total): Air filters removed and analyzed with no indication of radioactivity as of March 21.

Bioassays: All of the bioassays requested as a result of the December 2017 contamination event have been completed and the results are summarized below. CHPRC distributed an employee message (*Attachment 1*) discussing the final results. The data shows radiological doses to personnel in millirems (mrem). Individual employees were briefed on their bioassay results as soon as the results were available.

Bioassays are used when a person is potentially exposed to contamination to determine whether there has been an intake (e.g., inhalation or ingestion) of radioactive material and results include an estimated dose.

Requested	281*
Negative	270
Positive with Verified Dose Assigned	11
Less than 1 mrem: 2	
1-10 mrem: 8	
10-20 mrem: 1	

*The number of employees requesting bioassays was adjusted as a result of follow-up conversations with workers who had not yet submitted a bioassay sample after requesting a bioassay. Some workers decided to withdraw their request for a bioassay, decreasing the number of originally requested bioassays from 294 to 281.

- Doses are the expected dose over 50 years.
- DOE requirements for protecting individuals from ionizing radiation set an administrative control level, or dose limit, of 100 mrem/year for non-radiological workers and members of the public visiting DOE sites (DOE Order 458.1). The DOE administrative dose limit for radiological workers is 500 mrem/year.

External:

- **Department of Health Web Page:** The Washington State Department of Health has set up a [web page](#) with environmental monitoring information about Hanford.
- **Government Vehicle Radiological Surveys:**
 - On Feb. 23, crews surveyed two additional government vehicles that were in the vicinity of the PFP in December. No contamination was detected.
 - On Feb. 22, follow-up interior surveys of 54 PFP-controlled government vehicles were completed. No contamination as detected.
 - On Feb. 1, CHPRC completed requested surveys of four Hanford Fire Department (HFD) government vehicles. No contamination was detected.

- Surveys of PFP-controlled government vehicles were completed Jan. 23. Decontamination and dispositioning of 27 contaminated vehicles is ongoing. Those vehicles remain in a radiologically-controlled area.

	Total
PFP-Controlled government vehicles surveyed	97
Decontaminated and returned to service	2
Contaminated and awaiting disposition (held as radiologically-controlled vehicles or decontaminated)	27
No contamination found and returned to service	68

- **Personal Vehicle Radiological Surveys:**

- Personal vehicle survey summary:
 - Dec. 26: Seven personal vehicles identified as contaminated by close of business Dec. 19 were decontaminated, surveyed and released as of Dec. 26
 - Jan. 26: One of seven original personal vehicles surveyed and released Dec. 26 (and remained on site since that time) was found to be contaminated; vehicle was decontaminated Jan. 28.
 - Jan. 31: One of seven original personal vehicles surveyed and released Dec. 26 (rental car) was resurveyed and found to be free of contamination.
 - Feb. 1: Seven Hanford Fire Department personal vehicles surveyed; no contamination was detected.
 - Feb. 26: One employee's personal vehicle surveyed; no contamination was detected.
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- **Home Surveys:**

- There have been no new requests for home surveys since Feb. 5. Home survey summary:
 - Dec. 20: Seven originally-requested home surveys complete with no contamination found.
 - Feb. 6: Requested survey of PFP employee's home completed with no contamination found.

Expert Panel: Members of the PFP Expert Panel continue to meet. The panel consists of federal, officials with expertise in several scientific and technical disciplines who can consult with industry and academic leaders with similar expertise. The panel will evaluate CHPRC's recovery from the contamination event and its proposed technical approach for safely completing demolition of PFP. The panel will provide observations and recommendations to CHPRC. The Expert Panel's charter and biographies of its members are available at www.Hanford.gov.

Workforce Management:

- The workforce remains committed to the current mission of hazard recognition and control despite the challenging situation.

Communications:

- During the week of March 19, PFP leadership conducted six briefings with groups of Hanford employees about stabilization activities. One briefing is scheduled the week of March 26, with additional briefings scheduled the following weeks.