

# ANNOUNCEMENT

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**RL No.:** 18-0032

**Issued:**01/24/2018

**To:** ALL HANFORD SITE EMPLOYEES

**Subject:** UPDATE ON PLUTONIUM FINISHING PLANT (PFP)

The Washington State Department of Health recently advised DOE that results are available from additional environmental monitoring after the June 8 spread of contamination at the Plutonium Finishing Plant (PFP), which show contamination was discovered up to 10 miles away from PFP on the Hanford Site in November and December. No contamination was detected off the Hanford Site.

I also wanted to let you know that some of the results of bioassays of Hanford Site employees following the December 2017 spread of contamination from PFP are available.

Here is a summary of the Department of Health's findings:

- Elevated levels of plutonium and americium contamination were detected outside the PFP radiological control area, in the vicinity of PFP:
  - The levels are below regulatory limits, but my expectation is that no contamination above background would be detected.
  - DOE used the highest readings of plutonium and americium detected near PFP in November and December 18 and estimated a worst-case, but unlikely, scenario for a potential dose to a Hanford Site worker.
  - If a worker were in the location of the highest reading around the clock, his or her maximum dose would be below the 100 millirem annual administrative control limit for radiation dose to a non-radiological worker.
  - Since no one will experience this scenario, the potential dose to Hanford Site workers is expected to be significantly less.
  - A map showing sampling locations, as well as a table of the DOE and DOH sampling data, are posted on PFP web page on [www.hanford.gov](http://www.hanford.gov).
  
- Elevated levels of contamination were also detected at two other locations on-site:
  - In November and December near the former K Reactors, located 10 miles from PFP
  - In December in a vegetation sample at the U.S. Ecology disposal site, located 3.5 miles from PFP

- Contamination detected at these locations further away from PFP was at levels above background, but do not pose a public health risk and were well below regulatory limits.
- In order to reach a 10 millirem dose, someone would need to be at one of those locations for one year. For comparison, the NRC estimates that for each 1,000 miles of jet plane travel, an individual receives approximately 1 millirem dose from cosmic radiation.

Numerous other DOE and DOH sampling locations around the Hanford Site, at the perimeter of the Hanford Site, and off the Hanford Site did not detect elevated levels of contamination. DOE and DOH will continue to monitor all Hanford locations as part of ongoing environmental monitoring programs.

We previously thought that contamination outside the radiological control area for PFP demolition was limited to December. Given the close proximity of the monitoring locations to PFP, and the detection of plutonium and americium, the contamination most likely came from demolition of PFP. It is not acceptable for contamination to be discovered outside of controlled cleanup areas.

DOE had ceased demolition of PFP by December 18, 2017, and is forming an expert panel to review all aspects of the work, including radiological control, to ensure corrective actions are identified and implemented prior to resuming demolition.

Some of the results of bioassays of Hanford Site employees following the December 2017 spread of contamination from PFP are available. As of Tuesday, January 23, 2018, the initial results show 89 negative results (meaning no inhalation/ingestion of contamination detected) and 2 initial positive results (meaning inhalation/ingestion of contamination detected). The remaining 180 results are expected to be received by early March.

Second samples for the 2 initial positive results are being analyzed for verification of dose. Estimated doses for the 2 initial positive results are approximately 1 millirem for one employee and between 10 and 20 millirem for the other employee.

Per the protocol for assigning doses using bioassay results, the dose to an employee is estimated over a 50-year period. So for an assigned dose of 20 millirem, an employee would be receiving a .4 (point-four) millirem dose per year for up to 50 years. Bioassay results are coming in on a daily basis, and results are communicated to individual employees as soon as they are available.

CHPRC is not authorized to conduct any additional PFP demolition work until DOE conducts a thorough review of the incidents, identifies corrective actions, and conducts a robust assessment of CHPRC's readiness to resume demolition.

CHPRC's sole focus at PFP will be entirely on the health and safety of the workforce, addressing any concerns that workers may have, continuing to ensure that the PFP facility/debris and rubble piles are in a stable condition, and mitigating the potential for any additional spread of contamination.

We will continue to update you on recovery actions at PFP and continue to post information on our PFP web page on [www.hanford.gov](http://www.hanford.gov).

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Manager