

After nearly 70 years in service, the Plutonium Finishing Plant's 200-foot-tall ventilation stack was demolished in July 2017.



The U.S. Department of Energy and contractor CH2M HILL Plateau Remediation Company are demolishing the Plutonium Finishing Plant, one of the most complex nuclear decommissioning and demolition projects at the Hanford Site in southeastern Washington State.

Background

Fifty years of plutonium production left the Plutonium Finishing Plant (PFP) heavily contaminated with chemical and radiological hazards. Demolishing the PFP eliminates a significant hazard on the Hanford Site and frees up resources that may be used for additional cleanup. PFP is considered one of the most at-risk facilities on the Hanford Site in the event of a natural or man-made disaster. The cost of keeping the antiquated facility safe for employees, the public, and the environment was considerable.

Mission

After operations ended in 1989, crews spent many years stabilizing and removing the remaining plutonium, decontaminating and removing the processing equipment, and preparing the complex for demolition. Of the more than 90 structures that once made up PFP, only the Main Processing Facility remains and it is mostly demolished.

History

PFP operated from 1949 to 1989 and represented the final step in plutonium production at Hanford. At this facility, plutonium was processed into solid, hockey-puck sized “buttons” and plutonium oxide powder that could then be safely shipped to the country’s weapons production facilities. The plant produced nearly two-thirds of the nation’s plutonium stockpile.



Aerial views of the Plutonium Finishing Plant from 2010 (top) and 2019 (above) show footprint reduction since demolition began in 2016.



Demolition of the four main buildings that made up the Plutonium Finishing Plant began in 2016.



Plutonium Finishing Plant (Continued)

Waste Disposal

The PFP components have been thoroughly measured for radiological and chemical hazards. The most hazardous items were removed from the building prior to demolition and packaged for eventual offsite disposal.

When it was not possible to safely remove high-hazard items like glove boxes from the building prior to demolition, the items were carefully prepared to be removed during demolition.

Low-level waste is disposed of in the regulated landfill at the center of the Hanford Site.

Progress

The last structure at PFP, the Main Processing Facility, was demolished in February 2020.

Since demolition began in 2016, crews have adjusted demolition practices, expanded radiological boundaries, and added monitoring devices to control contamination to ensure employee and environmental safety.

Future

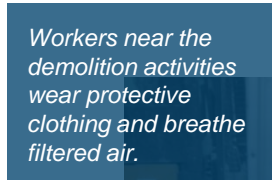
Following completion of the main facility, the final activities at PFP include packaging and safe disposal of the rubble from the Plutonium Reclamation Facility, core sampling soil beneath the building pads and stabilization of the site with soil cover. This work is scheduled to be completed by summer 2020.



Crews package a glove box for eventual offsite disposal.



A fogger is used to suppress dust during PFP demolition.



Workers near the demolition activities wear protective clothing and breathe filtered air.



More than 100 sampling and monitoring devices, including monitors that alarm to indicate a spread of contamination, are located near PFP.



Crews routinely apply a blue paint-like substance, called fixative, to limit the spread of radioactive contamination.

This conceptual illustration shows the PFP after demolition.

