



DEPARTMENT OF ENERGY HANFORD

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**RICHLAND
OPERATIONS OFFICE**
United States Department of Energy

CH2MHILL
Plateau Remediation Company

DOE Begins Removal of Radioactive Sludge Stored Near Columbia River at Hanford

RICHLAND, WASH. – The U.S. Department of Energy (DOE) and its contractor CH2M HILL Plateau Remediation Company (CHPRC) have begun removing highly radioactive sludge from temporary storage near the Columbia River to a more secure long-term storage location near the center of the Hanford site.

The sludge has been stored in containers located inside the 105-K West Basin – a water filled pool - adjacent to the 105-K West Reactor and about 400 yards from the Columbia River.

“Our top priority is safety as we remove this highly contaminated sludge from the basin near the Columbia River. The sludge is some of the most hazardous material at Hanford, so moving it away from the river to safe storage in a robust engineered facility in the center of the site significantly reduces risk,” said Doug Shoop, manager of DOE’s Richland Operations Office.

Operational readiness reviews performed by both the contractor and Department helped planners focus on safety and ensure readiness to begin removal and transfer of the sludge, according to Shoop.

The sludge was created when irradiated fuel rods stored in the 105-K West Basin began to deteriorate years after plutonium production at Hanford stopped in the 1980s. It is a mixture of tiny fuel corrosion particles, metal fragments, and dirt that accumulated over time. A total of 35 cubic yards of sludge sits in the basin, which is approximately equal to the volume of a 20-foot-long cargo-shipping container.

“Due to the high radiation levels and how difficult it is to pump the sludge out of the pool, we undertook extensive preparations before beginning this project,” said Ray Geimer, vice president for CHPRC’s Sludge Removal Project. “I am proud to say our workforce is ready.”

Geimer said workers spent years developing the sludge removal system in the Maintenance and Storage Facility (MASF) building. The MASF contains a mock-up of the 105-K West Basin, where the sludge is stored and allows workers to master the tools and procedures for operations.

“The mockup at the Maintenance and Storage Facility, where we tested all of the equipment and processes that will be used to remove the sludge, was critical to the preparations that have brought us to this point,” Shoop said.

Now that sludge removal has begun, workers will pump the sludge to an adjacent building known as the 105-K West Annex. There, workers will package and prepare the sludge for transfer to T Plant, a nuclear facility at the center of the Hanford Site that was modified for safe storage of the sludge. Some of T-Plant’s safety features are secondary containment basins, leak detectors, and vents to keep the containers in a safe configuration. The sludge will remain at T Plant until final disposition decisions are made.

Sludge removal is expected to be completed in 2019.

[View animation of the sludge removal process](#)

[Video of the start of sludge retrieval](#)

[View photos of the sludge removal process](#)

The Department of Energy (DOE) is responsible for the federal government’s cleanup of the legacy of more than 40 years of plutonium production at the Hanford Site near Richland, Wash. Except for a tank waste mission managed by the DOE Office of River Protection, the DOE Richland Operations Office is responsible for all remaining Hanford cleanup and is currently focused on cleaning out and demolishing the high-hazard Plutonium Finishing Plant, excavating and disposing of contaminated soil and waste, treating contaminated groundwater, moving radioactive sludge out of the K West Basin and away from the Columbia River, and configuring Hanford Site infrastructure for the future. The office oversees Hanford Site work that is conducted by a federal and contractor workforce of approximately 4,000 personnel. Visit www.hanford.gov.

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