



U.S. DEPARTMENT OF  
**ENERGY**

**Richland Operations  
Office**

**DOE News Release**

**Media Contact:**

Cameron Salony, DOE

(509) 376-0402, [Cameron.Salony@rl.doe.gov](mailto:Cameron.Salony@rl.doe.gov)

Dee Millikin, CH2M HILL Plateau Remediation Company

(509) 376-1297, [Dee\\_Millikin@rl.gov](mailto:Dee_Millikin@rl.gov)

**For Immediate Release:**

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**Highly Radioactive Sludge Removal Complete**  
***Historic Cleanup Effort Reduces the Risk along the Columbia River***

*Note: Video is available on YouTube at: <http://ow.ly/dHmjZ>; Photos are available on Hanford's website at <http://ow.ly/dHpGt>.*

RICHLAND, WASH. – The U.S. Department of Energy (DOE) and contractor CH2M HILL Plateau Remediation Company (CH2M HILL) announced today the removal of the first phase of highly radioactive sludge from under water storage in the K West Basin about 400 yards away from the Columbia River.

“This is a major step forward in protecting the river and a historic accomplishment in environmental cleanup,” said Tom Teynor, DOE project director for sludge treatment. “The successful removal of this highly radioactive material into safe storage now readies us for the next, and final, phase of this priority cleanup project.”

The material, called knockout pot sludge, was stored 17 feet under water in a large concrete basin adjacent to Hanford's K West Reactor. Sludge is a dense, radioactive material that resulted from the corrosion of spent nuclear fuel stored in the basin and other debris left from plutonium production operations, more than 30 years ago. Knockout pot refers to a filter-like structure that captured coarse sludge during fuel washing activities.

CH2M HILL is the prime contractor managing DOE's Sludge Treatment Project to remove all sludge away from the river by September 30, 2015. The project is designated into two phases – knockout pot sludge and sludge contained in engineered containers.

“Removing sludge is a top priority in the DOE vision to reduce the active area of Hanford cleanup. It required careful planning in order to successfully handle this challenging material,” said Mike Johnson, CH2M HILL, project director for sludge treatment. “Our engineers fine-tuned the loading projections in order to reduce the number of shipments, thus also reducing the need for worker handling.”

CH2M HILL removed the knockout pot sludge in a total of five shipments which began in July.

Using long-handled tools, workers processed the material under water, transferring it into copper inserts and scrap baskets that were then loaded into stainless steel structures called multi-canister

overpack containers. The containers were then transferred to a safe and compliant storage facility at the center of the site where they will remain until a final disposal alternative is available.

In addition to being a first-of-its-kind waste removal, the sludge's unique consistency (coarse metallic grit but almost twice as dense as lead and highly erosive) and high level of radioactivity make it a challenge to remove.

Workers spent months preparing for this high-hazard work in a building called the Maintenance and Storage Facility. CH2M HILL constructed a mock-up of the reactor basin to create a non-radiological site where workers could master the retrieval tools and processes.

“This full-scale test and training setup increases worker safety while reducing cost and schedule because our workers are able to successfully deploy their approach in the live environment,” Johnson said.

CH2M HILL is preparing to remove the next and last batch of sludge, which is stored in engineered containers in the K-West Basin. This summer CH2M HILL completed an assessment to demonstrate the readiness of the technology that will be used to retrieve the material and awarded an \$11 million subcontract to Federal Engineers & Constructors to modify a facility where workers will package the material for shipment and storage.

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