

HANFORD SITE

“This is an exciting new era in our cleanup mission as we prepare for 24/7 operations to treat waste from our large underground tanks through the Direct-Feed Low-Activity Waste Program. For the first time in our site’s history, we are treating a significant amount of tank waste on an industrial scale in our cesium removal system. In addition, our team continued to deliver taxpayer value in 2022 by safely progressing projects and conducting operations that reduce risks to our workforce, our community, and the environment of the Pacific Northwest. Given the exceptional accomplishments over the last few years, and especially this last year, I am very optimistic about our site’s future.”

–Brian Vance, Manager, Office of River Protection and Richland Operations Office

HIGHLIGHTS

- **Began the first large-scale treatment of waste from large underground storage tanks with the start of Tank-Side Cesium Removal System operations—an EM 2022 priority.**
- Initiated heat up of the first tank-waste vitrification melter in the Waste Treatment and Immobilization Plant.
- **Completed construction of a protective enclosure, or “cocoon,” around K East Reactor—an EM 2022 priority.**
- Treated more than two billion gallons of contaminated groundwater for the eighth consecutive year.

PREPARING FOR TRANSFORMATIONAL TANK WASTE TREATMENT ERA

In 2022, the Hanford Site made history by treating radioactive tank waste for the first time on an industrial scale.

The newly operational Tank-Side Cesium Removal (TSCR) System removes radioactive cesium and solids from tank waste. Under the Direct-Feed Low-Activity Waste Program, the treated waste will be fed directly

to the nearby Waste Treatment and Immobilization Plant (WTP) for immobilization in glass when the plant comes online.

Throughout the year, crews at the WTP continued commissioning major systems and building operator proficiency on systems that will immobilize tank waste in glass in two large melters in the plant’s Low-Activity Waste (LAW) Facility.



To mark Hanford Site’s progress in treating waste from underground tanks with the TSCR System, U.S. Representative Dan Newhouse signs his name on the base of the TSCR Ion Exchange Column Storage Pad.



A Vit Plant electrician assembles temporary heaters that started up the first melter inside the plant's Low-Activity Waste Facility at the Hanford Site.

Hanford took another major step toward the start of tank waste vitrification when workers initiated heat up of the first melter in the LAW Facility. The detailed and methodical process for melter heat up has been planned in a way that allows for issues identified during the complex startup to be effectively and safely addressed.

PROTECTING THE ENVIRONMENT, PRIORITIZING RISK REDUCTION, SAFETY, AND SECURITY

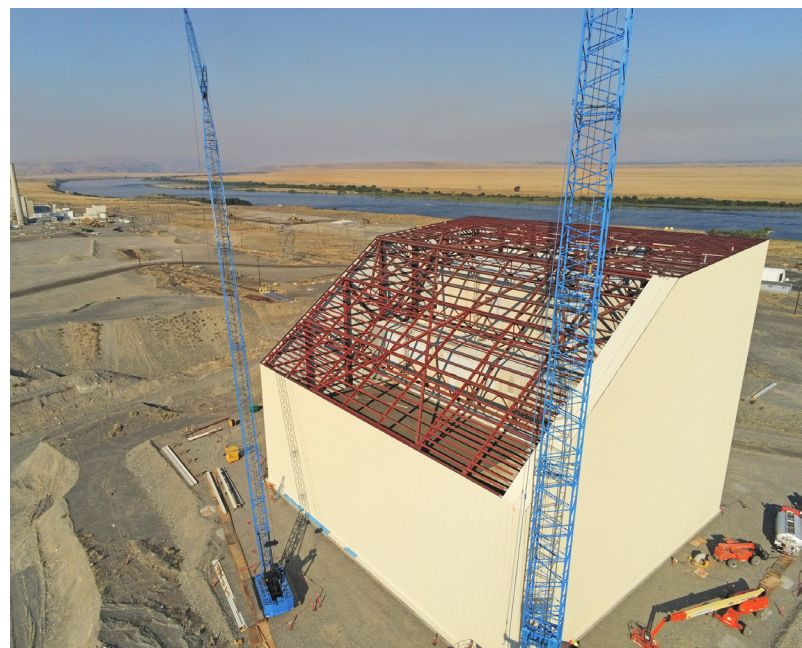
Hanford teams also advanced several important risk-reduction projects in the past year.

Just over a year after breaking ground, crews completed construction of a protective enclosure, or “cocoon,” around another former plutonium production reactor at Hanford, leaving just one more to go. This 2022 EM priority, completed ahead of schedule and under budget, marks a significant accomplishment in the Department’s risk-reduction cleanup mission along the Columbia River. K East is the seventh of eight former plutonium production reactors that will be cocooned, with Hanford’s ninth reactor preserved as part of the Manhattan Project National Historical Park.

In efforts to further safeguard the Columbia River, more than two billion gallons of groundwater was treated at Hanford in 2022. This brings the total to more than 30 billion gallons treated since DOE began removing contamination from groundwater in the mid-1990s.

ENSURING FUTURE SUCCESS

The One Hanford team remains focused on rightsizing and modernizing the site’s infrastructure to ensure Hanford’s electrical distribution system, information technology systems, water and sewer systems, and roads continue to support safe and cost-efficient cleanup progress. Construction of a new water treatment plant got underway in 2022 as part of the overall effort to support sustainable cleanup success into the future.



Hanford constructed an interim safe storage structure, or “cocoon,” around the K East Reactor.