



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Teams Upgrade Hanford's Effluent Treatment Facility

October 3, 2023



The Hanford Site's Effluent Treatment Facility has been expanded to handle almost 7 million more gallons of wastewater per year when Hanford's Waste Treatment and Immobilization Plant begins treating waste from large underground tanks.

RICHLAND, Wash. – Construction is complete on more than 40 upgrades that will increase the capability, efficiency and reliability of the [Hanford Site's](#) Effluent Treatment Facility ([ETF](#)). The upgrades allow the facility to process liquid waste streams from the Waste Treatment and Immobilization Plant ([WTP](#)) and other facilities during tank waste treatment operations.

Managed by [EM Office of River Protection](#) (ORP) tank operations contractor Washington River Protection Solutions (WRPS), ETF is part of Hanford's Direct-Feed Low-Activity Waste ([DFLAW](#)) Program to vitrify tank waste, immobilizing it in glass for safe onsite disposal.

“The ETF is the last step in the DFLAW process, and these upgrades prepare it for playing a key role in treating and disposing of contaminated wastewater from the vitrification process,” said Bibek Tamang, EM’s ETF program manager. “These upgrades were needed to prepare the ETF for 24/7 waste treatment operations.”

Upgrades to the nearly 30-year-old facility began in 2019. They include replacing monitoring and control systems, freeze protection systems and wastewater filtration systems, as well as the installation of a system to remove and safely dispose of hazardous byproducts of vitrification. Workers also constructed equipment to provide cooling water for the new system, and expanded a [load-in station](#) for more waste transfers from across the site.

In addition to preparing ETF to receive larger volumes of wastewater, WRPS expanded the capacity of the nearby Liquid Effluent Retention Facility (LERF) by adding a fourth [7.8 million-gallon storage basin](#) to receive and store wastewater prior to treatment at ETF.

ETF’s upgrades were needed to handle the increased volume of wastewater that will be generated by the start of DFLAW operations. When fully operational, WTP is expected to transfer as much as 5.4 million gallons of effluent per year to ETF for processing, while Hanford’s [Integrated Disposal Facility](#) will add another 1.2 million gallons annually.

“ETF’s role in reducing tank waste volume is integral to the overall Hanford Tank Farms mission, since tank waste storage space is limited,” said Adam Mathews, ETF and LERF manager for WRPS. “The facility will become even more essential as the DFLAW process comes online.”

WRPS is testing the new systems in preparation for upcoming tank waste treatment activities to ensure ETF is ready to carry out its mission when 24/7 DFLAW operations begin.