I am proud of the many important achievements that our Hanford team has safely delivered during challenging times. I am optimistic about our site’s future, given what we have accomplished over the last few years, and especially this last year as we have prepared to start treating waste from our large underground tanks in the Direct-Feed Low-Activity Waste program. That next chapter of Hanford cleanup begins in 2022, when we start up our Tank-Side Cesium Removal System to produce a supply of waste that will be fed directly to our vitrification facility starting in 2023. Beyond the DFLAW program, our team continued to deliver taxpayer value in 2021 by safely progressing projects and conducting operations that reduce risks to our workforce, our community, and the environment of the Pacific Northwest.”

Brian Vance, Manager, Hanford Site

PREPARING FOR TRANSFORMATIONAL TANK WASTE TREATMENT ERA

In 2021, the Hanford Site made significant progress on preparing the entire site for 247 operations to treat radioactive and chemical waste from large underground tanks using vitrification, or immobilization in glass. The Direct-Feed Low-Activity Waste (DFLAW) program involves a set of interdependent projects and infrastructure improvements operating together to successfully treat and dispose of millions of gallons of low-activity tank waste.

The year began with the Department and its contractors making headlines throughout the U.S. that workers had finished constructing all WTP facilities needed for DFLAW. Over the summer, when the Department, state and contractor officials announced workers had made the 3,500-foot waste transfer line connection between Hanford tanks and the LAW Facility, regional editorial boards praised the accomplishment and editorial boards praised the accomplishment and neighboring communities responded with large signs and parades to celebrate the significant milestone.

Plant startup and commissioning activities reached a peak in November when the WTP completed startup testing of all systems needed to begin low-activity tank waste into a safe form for disposal.

Completed construction and startup testing of the Tank-Side Cesium Removal (TSCR) system that will start treating tank waste in 2022 to build up a supply of waste that is ready to be fed directly to the LAW Facility for vitrification beginning in 2023.

PRIORITY RISK REDUCTION, SAFETY, AND SECURITY

Hanford teams also advanced several important risk reduction projects in the past year. Workers finished stabilizing three underground waste disposal structures considered at risk, achieved another EM key priority for 2021. Workers began preparing the foundation for construction of a weather-resistant structure that will cover the K East Reactor until radioactive material in the core has decayed to levels safe for demolition. K East is the seventh of eight former plutonium production reactors that will be placed in interim safe storage, or “cocooned,” with Hanford’s ninth reactor preserved as part of the Manhattan Project National Park. In September, the site announced more than 2 billion gallons of groundwater had been treated for the seventh year in a row. This brings the total to nearly 28 billion gallons treated since facilities began removing contamination from groundwater in the mid-1990s as part of overarching efforts to safeguard the Columbia River.

ENSURING FUTURE SUCCESS

Infrastructure projects, facility upgrades, permitting and construction all continued to support safe and efficient operations and preparations for treating tank waste. In October, workers started building a new water treatment facility that will handle the increased demand when tank waste treatment gets underway in 2023. Further setting the course for future cleanup successes at Hanford, major transitions were completed for the Hanford Mission Essential Services, Central Plateau Cleanup and 222-S Laboratory contracts. The Plateau contract represents the first implementation of EM’s end-state contracting model, which is designed to accelerate progress of cleanup activities.