Hanford Site Delivers Safe Progress During Pandemic

RICHLAND, Wash. – When the Hanford Site moved to an essential mission-critical operations posture in late March to ensure the safety of the site and local communities, the number of employees that reported to work dropped to about 10 to 15 percent of the normal 11,000-person workforce. The site had been preparing for a significant reduction in activities and services for several weeks, and thousands of federal and contractor employees had already shifted to a telework status.

Approximately six months later, the site is in the second phase of remobilizing the onsite workforce. More people are working safely onsite than are teleworking, and employees continue to deliver safe progress while protecting the workforce and the local communities during the COVID-19 pandemic.

Shortly after the site began remobilizing in late May, Hanford’s liquid waste processing facilities marked 25 years of safely treating contaminated wastewater while stretching the storage capacity of the site’s underground double-shell tanks. Since 1995, the facilities have processed more than 330 million gallons of contaminated wastewater to remove radioactive and chemical waste, primarily from an industrial evaporator that boils liquid tank waste to evaporate water and increase storage space in the tanks system.

As work ramped up on the site, Hanford’s occupational medical services provider continued to adjust its services to help ensure the health and well-being of Hanford workers. Virtual options were set up for health education, work conditioning, the employee assistance program, and check-ins prior to returning to work. The medical services provider received a 100-percent patient satisfaction response in May, while maintaining an overall patient satisfaction level near that percentage this calendar year.

Audrey Wright, health educator for the Hanford medical services provider, conducts a brief health screening for a worker entering one of the site’s occupational medical facilities.

In June, Hanford officials reported that groundwater treatment systems were on track to meet the Department of Energy’s (DOE) goal of treating at least 2.2 billion gallons of contaminated groundwater this fiscal year. Hanford’s advanced pump-and-treat systems allow operations...
managers to safely monitor the facilities remotely from home, meeting social distancing requirements while ensuring the facilities continued to operate efficiently. Hanford announced earlier this month that the annual treatment goal was surpassed for the sixth year in a row.

That same month, workers finished startup testing at the Analytical Laboratory in Hanford’s Waste Treatment and Immobilization Plant, marking the first nuclear facility at the plant to reach that point prior to moving into the commissioning phase for operations. The laboratory is a critical part of the system that will be used to treat millions of gallons of waste from Hanford’s underground storage tanks through the Direct-Feed Low-Activity Waste approach. Moving these facilities from the construction to commissioning phase is one of DOE’s priorities for 2020.

Eddie Fernandez, field superintendent, monitors the flow of a test batch of engineered grout before it is used to stabilize aging underground structures in the 200 West Area of the Hanford Site.

In July, workers removed obstructions from single-shell tanks as they prepared to retrieve radioactive and chemical waste from the site’s A Tank Farm. At the same time, offsite workers followed COVID-19 safety protocols while they built a full-scale mock-up to test operations to fill three aging underground disposal structures with engineered grout to stabilize the structures later this year.

Workers paved roads and parking lots at the Waste Treatment and Immobilization Plant, establishing the future operational area of the plant that will treat tank waste. The vitrification process immobilizes the tank waste in glass. Workers also began installing fencing, utilities, support structures, and other infrastructure for the nearby disposal facility that will receive canisters of vitrified low-activity tank waste. Vitrified waste is immobilized in glass.

Workers paved roads and parking lots at the Waste Treatment and Immobilization Plant in July, establishing the future operational area of the plant that will treat tank waste.

In August, training kicked off for the final class of commissioning technicians who will prepare the massive treatment plant for 24/7 operations to vitrify millions of gallons of tank waste. Workers also finished successfully testing a pretreatment system that removes radioactive cesium and solids from
tank waste to provide a feed of low-activity waste to the plant, and they started constructing a concrete pad next to Hanford tanks to hold the pretreatment system.

Energy Secretary Dan Brouillette viewed progress on that project and others that month.

"I'm pleased to see the tremendous work the team here at Hanford has done to protect its people, the communities, and the Columbia River," Brouillette said. "We are now getting ready to move into the tank cleanup phase and address it in a safe, timely and cost-effective manner."

In August, Energy Secretary Dan Brouillette, at podium, toured AVANTech in Richland to see the Tank-Side Cesium Removal system that will be used at Hanford as part of the Direct-Feed Low-Activity Waste approach to tank waste treatment.

Chemists also made their final move into the Analytical Laboratory, culminating two years of developing training and procedures and verifying laboratory equipment performance while working at a nearby community college.

Workers broke ground on a storage area that will hold dry casks of nearly 2,000 capsules of cesium and strontium that are now stored in an underwater basin, while other workers continued building a mock-up to safely train and test equipment that will be used to move the highly radioactive capsules into the casks.

In the closing weeks of fiscal 2020, Hanford enhanced safety for workers and reduced the risk posed by chemical vapors by installing a new exhauster ventilation system above waste tanks in the A Farm to draw air from the tanks and send filtered air through 50-foot stacks, well above workers. And water treatment plant staff received a distinguished Silver Certificate of Achievement from the Washington State Department of Health for five consecutive years of high performance on removing particles from water to help protect workers at the site.

Employees with Mission Support Alliance at the Hanford Site’s 283 West Water Treatment Plant — from left, Vinni Dragoo, Richard Herrera, Ed Lerma, Burke Neuman, and Bob Ward — display the Silver Certificate of Achievement presented by the Washington State Department of Health. The award recognized the superb quality of drinking water at Hanford and the team’s high performance.
for the past five years in removing even the smallest particles from water during treatment to ensure worker safety.

Brian Vance, manager of the DOE’s Richland Operations Office and Office of River Protection, encouraged site workers in a recent message.

“Please remember the lessons we have learned over the past few months: maintain social distancing, wear face coverings, wash your hands often, and stay home if you are ill,” said Vance. “I remain confident that, working together, we will move forward towards a prosperous future, continuing to provide safe, efficient and effective cleanup of the Hanford Site.”

The Department of Energy (DOE) is engaged in one of the great public works of this century at the Hanford Site near Richland, Washington. Responsible for the federal government’s cleanup of the legacy of more than 40 years of producing plutonium through the 1980s, DOE is transforming the site back into a 24/7 operations mode to treat tank waste from the production era. The DOE Office of River Protection (ORP) is responsible for the safe and efficient retrieval, treatment and disposal of the 56 million gallons of chemical and radioactive waste stored in Hanford’s 177 underground tanks. The mission includes building and commissioning the world’s largest radioactive waste treatment plant, which will immobilize the legacy tank waste through vitrification. The DOE Richland Operations Office is responsible for all remaining Hanford cleanup and is currently focused on stabilizing and demolishing former plutonium production structures, excavating and disposing of contaminated soil and waste, treating contaminated groundwater, and configuring Hanford Site infrastructure for the future, with an emphasis on supporting the tank waste mission. Hanford Site work is conducted by a federal and contractor workforce of approximately 9,400 personnel. Visit www.hanford.gov for more information about the Hanford Site.

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