Hanford Facility Marks 20 Years of Testing New Technologies for Waste Retrieval

July 26, 2022

The Cold Test Facility was built on the edge of the 586-square-mile Hanford Site for testing equipment and training operators.

RICHLAND, Wash. – Twenty years ago, a mock-up single-shell tank on the **Hanford**

Site went into service, allowing workers to safely test prototype systems and train in a nonradioactive environment.

The mock-up is the **Cold Test Facility** (CTF), a key player for **EM** Office of River Protection (**ORP**) tank operations contractor Washington River Protection Solutions (WRPS) in managing chemical and radiological waste stored in Hanford's underground tanks. Hanford crews built the innovative facility to develop ways to retrieve the waste without having to subject equipment or workers to a radioactive environment.

"Testing equipment and practicing high-risk work in a mock-up setting is extremely important at Hanford," said Ricky Bang, ORP **Tank Farms** Program Division director. "Over the last two decades, the Cold Test Facility has helped us reduce the risks to our workers and develop the tools they need to work in the waste tanks."

The Hanford Site's Cold Test Facility went into service in summer 2002 and features a full-scale mock-up of a single-shell waste storage tank.

The centerpiece of CTF is an open-top steel tank with the same 75-foot diameter as a 1 million- gallon waste storage tank. The full-scale mock-up has platforms above it with attached risers simulating the heights of single-shell (35 feet) and double-shell (55 feet) waste storage tanks.

In the 20 years that CTF has been in operation, the facility has tested equipment and technologies for use in both single-shell and double-shell tank systems. "Most of these systems are complex engineered products that require operational testing prior to deployment," said Dave Saueressig, WRPS maintenance manager. "And some of the tests are minor modifications to existing tools or equipment to validate process improvements."

Prominent technologies that have been tested, modified and perfected over the years at CTF include a vacuum retrieval system, robotic arms, high-pressure water nozzles that help mobilize the waste inside the tanks during retrieval, tools for tank inspections and repair, and several in-tank camera systems.

Additionally, CTF is used to train new personnel and allow seasoned nuclear chemical operators, engineers and other staff to gain proficiency on tasks not frequently performed.

Often a destination during Hanford Site official visits, the facility also features a briefing center to help visitors understand the story of the waste storage tanks, the waste stabilization and retrieval process, and the **Waste Treatment and Immobilization Plant**.