U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Hanford Prepares to Retrieve Waste from 21st Single-Shell Underground Tank

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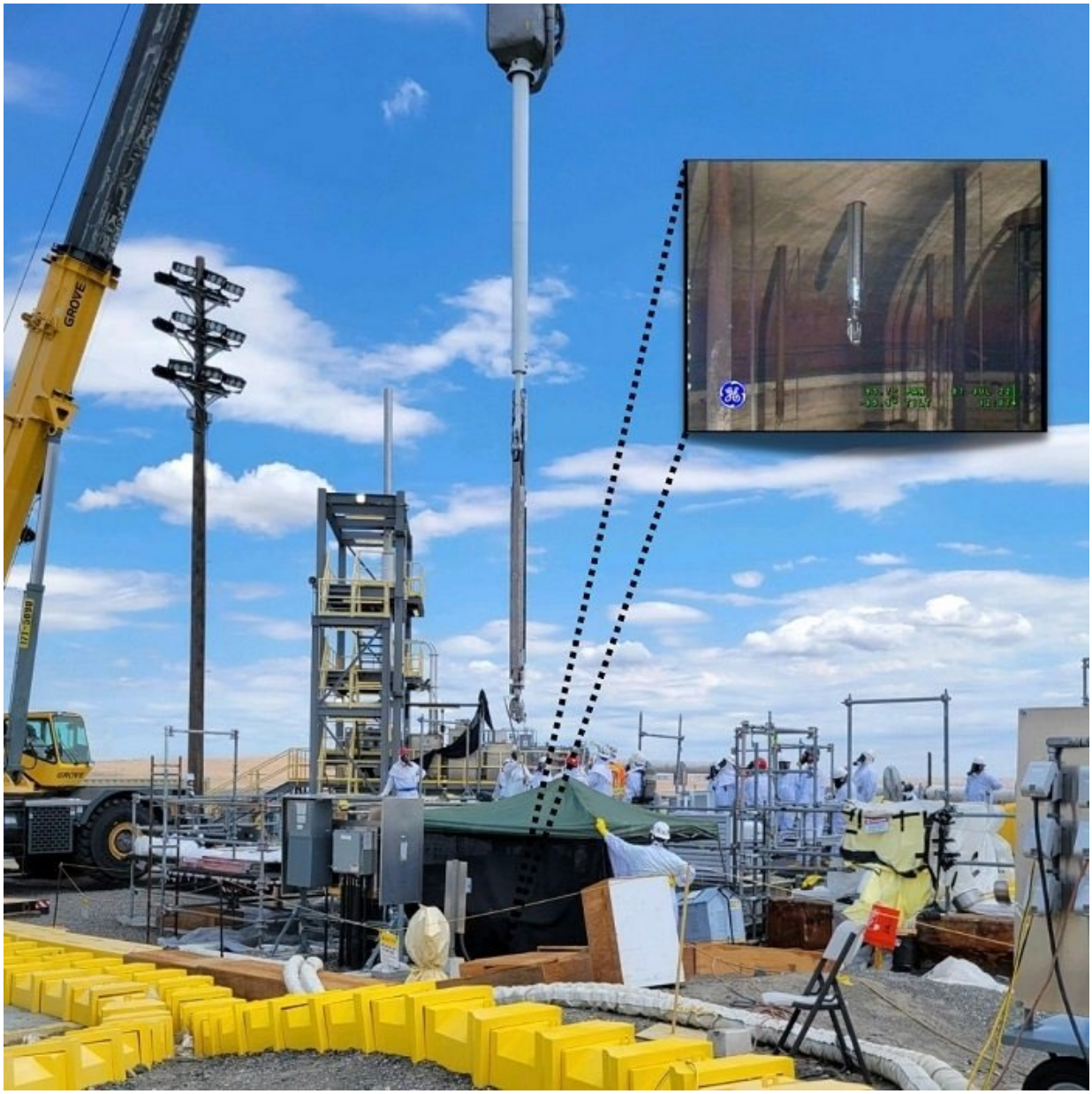

The last of three extended-reach sluicers was recently installed in Tank AX-101 at the Hanford Site to break down the waste stored in the tank and flush it to a pump during retrieval.

RICHLAND, Wash. – **EM** Office of River Protection tank operations contractor Washington River Protection Solutions (WRPS) is preparing to begin retrieving chemical and radiological waste from another massive underground storage tank at the **Hanford Site**.

Single-shell Tank AX-101 holds approximately 373,000 gallons of solid, salt-based waste called saltcake and sludge-like waste. It will be the last of the four 1 million-gallon tanks in the AX Tank Farm and the 21st single-shell tank at Hanford to have its waste retrieved and transferred to newer double-shell tanks.

*"*While the process of accessing underground tanks and moving waste is not easy, it is an important step in our risk-reduction mission,*"* said Jim Greene, program manager of the **Tank Farms** Program Division's Single-Shell Tank Retrievals Program. *"*Moving waste from older single-shell tanks to newer double-shell tanks ensures continued safe storage of waste until it is treated for disposal.*"*

The single-shell tanks are made of carbon steel and reinforced concrete. They were built between 1943 and 1964 to store waste created during plutonium production operations in World War II and the Cold War era.

Crews with Washington River Protection Solutions will soon begin retrieving approximately 373,000 gallons of waste from Tank AX-101, shown here in an image from an inspection video shot inside the tank.

This summer, workers installed the last of three extended-reach sluicers in the tank that will spray water on the waste to break it down so it can be pumped out of the tank.

Before installing the last sluicer, workers lowered video cameras through a tank riser — an opening in the top of the tank — and shot footage of the tank interior and waste surface. The images showed the waste level is uneven, ranging from about 11 feet to nearly 14 feet deep.

A tool known as a "wolverine" used water pumped through high-velocity nozzles to create a hole in the saltcake of Tank AX-101 to allow a sluicer to be installed.

To avoid submerging the sluicer in about two feet of saltcake waste on the deeper, uneven side of the tank, potentially plugging its nozzles, the team modified a high-pressure washing system normally used to clean tank risers, nicknamed the "wolverine," to make a hole in the saltcake waste for the sluicer nozzles to fit.

The sluicers, along with a slurry pump and other support equipment, are installed in several tank risers. During retrieval, workers will operate the equipment remotely from a nearby control trailer.

"We are excited to be nearing completion of a long preparation and installation process for this tank," said Peggy Hamilton, single-shell tank retrieval and closure manager for WRPS. "The team will finish installing equipment and will thoroughly test it before starting to retrieve waste from the tank."

The retrieval of waste from Tank AX-101 will take between one and two years.