



Aerial view of Hanford's AX Tank Farm

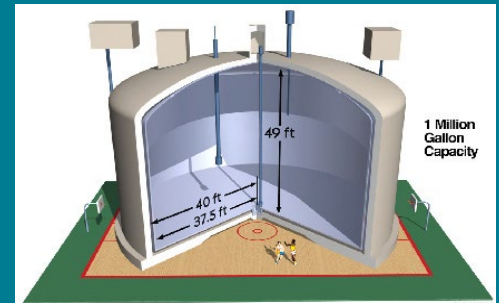
The U.S. Department of Energy and contractor Washington River Protection Solutions are retrieving waste from underground storage tanks in the A and AX Tank Farms on the Hanford Site in southeastern Washington state.

Background

Hanford's A and AX Tank Farms consist of six 1-million-gallon single-shell tanks constructed between 1953 and 1955 (A Farm) and four 1-million-gallon single-shell tanks constructed between 1963 and 1965 (AX Farm). The A and AX Farms are part of the overall Hanford Site legacy of 56 million gallons of radioactive and chemical waste stored in 158 underground tanks. The waste is left over from World War II and Cold War production of nuclear materials for the nation's defense. Due to the ages of the 10 tanks, the waste inside must be retrieved (transferred) to newer, double-shell tanks. Retrieval requirements are driven by a U.S. District Court order and an agreement between the U.S. Department of Energy, U.S. Environmental Protection Agency and Washington State Department of Ecology.

Mission

The overall mission of A/AX Tank Farm retrieval is to safely retrieve tank waste from the aging single-shell tanks into newer double-shell tanks until it can be treated for long-term storage. The A/AX Tank Farm facilities can be viewed using the self-guided [Hanford Virtual Tour](#).



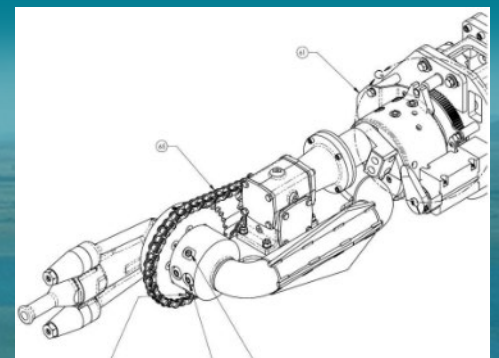
Typical 1-million-gallon tank.



Air lift circulators before installation in waste-storage tanks. Man on right for scale.



Air lift circulators in a tank. View from bottom of tank up.



Assembly and electrical drawing of sluice nozzles, used to break up waste in tanks.



A/AX Tank Farms Retrievals (cont.)



Tank AX-101 extended-reach sluice system.

Hazards

In addition to high levels of radioactive contamination, workers risk exposure to chemical vapors that can be released when tanks are opened. Current safety requirements dictate that workers entering a tank farm wear air purifying respirators or a self-contained breathing apparatus during waste-disturbing activities, such as retrieval operations.

Safety and Efficiency

The retrievals project implemented best practices and new technologies to control radiological and industrial hazards. New technologies have been implemented to protect workers from potential exposure to tank-waste vapors. The development of new technologies is also crucial to reducing the time and cost required to safely retrieve tank waste.

Progress

- Tank AX-102 was officially declared retrieved on Sept. 7, 2022.
- Retrieval of Tank AX-104 was completed on Feb. 1, 2021. Post-retrieval sampling was completed, and analysis is ongoing.
- Retrieval of Tank AX-103 was completed on Feb. 28, 2022. Post-retrieval sampling was completed, and analysis is ongoing.

Future

Work continues on preparing remaining tanks at A and AX Tank Farms for waste retrieval. Installation of retrieval equipment in Tank AX-101 was completed in 2022, while infrastructure work continues in A Farm. Removal of old in-tank equipment will be ongoing over the next several years in A Farm to prepare the tanks for the installation of new retrieval equipment.



Inside Tank AX-103 before waste retrieval.



Inside Tank AX-103 after waste retrieval.

