324 Building Disposition Project

THE HANFORD SITE

Fact Sheet – May 2021

The 324 Building provides radiation shielding from contaminated soil under the building.

The U.S. Department of Energy and contractor Central Plateau Cleanup Company are safely and compliantly managing the 324 Building at the Hanford Site in southeastern Washington state and preparing to remediate the highly contaminated soil beneath the building.

Background

The 324 Building, located in Hanford's 300 Area, supported research on highly radioactive materials and operated from 1966 to 1996. Demolition operations were postponed in 2010 after workers discovered significant contamination under a portion of the building, which likely came from a previous spill of highly radioactive waste within the building. Removing that contamination to allow for the eventual demolition of the building is a top priority for the U.S. Department of Energy (DOE) Richland Operations Office and contractor Central Plateau Cleanup Company (CPCCo), due to the proximity of the Columbia River and the city of Richland.

Mission

The Richland Operations Office and CPCCo are designing, testing, and procuring remotely operated equipment and making necessary building modifications to remove the highly contaminated soil, which allows for the eventual demolition of the facility. The contaminated soil is approximately 300 yards from the Columbia River, yet the contamination remains immobile and protected from rainwater because it is completely covered by the 324 Building. The 324 Building can be viewed using the self-guided Hanford Virtual Tour.

Worker safety remains a top priority for this project.

Workers are cleaning out contaminated rooms called "hot cells" to install remotely operated equipment.

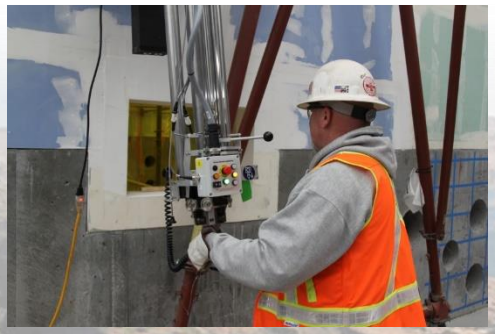
Contamination is estimated to extend 6 to 8 feet below the B-Cell floor. Radiation levels are so high that remotely operated tools must be used.

324 Building Disposition Project (continued)

Workers constructed a mock-up to replicate features inside the 324 Building.

Workers safely remove waste from the airlock, an area adjacent to B-Cell.

Workers installed and tested a saw at the mock-up, which will soon be installed in B-Cell to cut through the concrete floor.



Crews test and train on remotely operated equipment at the 324 Building mock-up.

Hazards

In addition to the high levels of radioactive contamination, workers must reinforce the building's foundation by installing micropiles around it to ensure the facility remains stable during the excavation of contaminated soil beneath the building. Additionally, the building's ventilation and other systems must be maintained to support the use of remotely operated equipment to remove the soil.

Safety and Efficiency

A short distance from the 324 Building, crews built a mock-up of the building's hot-cell area. In this contamination-free environment, personnel train on equipment needed to remove the contaminated soil beneath the building. The mock-up facility allows employees to train in a safe environment to gain confidence in using the equipment before having to perform actual hot-cell work in the 324 Building.

Progress

- Workers have installed remotely operated equipment inside B-Cell and are using it to remove debris from the hot-cell to gain access to cut through the floor.
- Workers are safely removing legacy debris from B-Cell and shipping it to Hanford's onsite regulated landfill.
- Inside and outside the building, work is underway to stabilize the building's foundation to ensure the building doesn't shift during soil excavation.

Future

CPCCo will use remotely operated equipment to finish removing debris and grout from the floor of B-Cell, the stainless steel floor liner of B-Cell, the 6-inch concrete floor, and will then start removing contaminated soil around the B-Cell perimeter. The most highly contaminated soil will be put into adjacent hot cells within the building for mixing with a cement-like material called grout. Less-contaminated soil will be packaged for safe shipment to the Hanford Site's regulated landfill.

This conceptual illustration shows the remotely operated excavator and loadout mechanism that will be used to remove contaminated soil from under the 324 Building.