Site Preparation and Long-Lead Procurements

URANIUM PROCESSING FACILITY

Site Preparation and Long-Lead Procurements were critical components of the Main Process Building (MPB) Subproject, the last of seven Uranium Processing Facility (UPF) subprojects. UPF was authorized to execute these scopes of work in advance to prepare for future nuclear construction.

Site Preparation and Long-Lead Procurements included:

- Excavating 350,000 cubic yards of soil at the future site of UPF's three primary buildings and replacing it with 132,000 cubic yards of concrete
- Procuring items with long lead times, such as tower cranes and rebar

Site Preparation

Mass excavation of the UPF site began in summer 2016. The excavation removed about 350,000 cubic yards of soil from the facility footprint.

Approximately 132,000 cubic yards of concrete were placed in the excavated area to form the base for the foundations of UPF's buildings. The depth of the concrete ranges from 3 to 30 feet and is based on seismic requirements. The mass fill required more than 13,200 truckloads of concrete.

The Y-12 National Security Complex has three primary national security missions that protect the U.S. and its allies around the world: maintaining the U.S. nuclear deterrent, reducing global nuclear threats, and fueling the U.S. nuclear Navy. Currently, key operations that support these missions are conducted in buildings that originated in the 1940s and are costly to operate and maintain. UPF is one of the Department of Energy's largest investments in Tennessee since the Manhattan Project and one of the National Nuclear Security Administration's largest construction projects. UPF will support Y-12's key missions and will ensure the long-term viability, safety, and security of uranium capabilities in the United States.

Long-Lead Procurements

Some equipment and materials needed for UPF, such as the tower cranes and rebar, have long lead times for delivery and were procured as part of this scope of work to ensure they would be available when nuclear construction began.

Two tower cranes, which are 300 and 360 feet tall, were installed in early 2018 as part of the construction of UPF. Locating high capacity, stationary cranes within the footprint of the buildings gave UPF the ability to reach every spot in the construction zone, making materials handling safe and efficient. The tower cranes were demobilized in 2024.

Site Preparation Fast Facts

Concrete	132,000 cubic yards	Enough to cover a football field 80 feet deep, or as tall as a 7-story building
Soil	350,000 cubic yards	Equivalent to an 18-story building the size of a football field