

Paducah



An aerial view of Paducah.

Paducah

Overview

In 1950, the Atomic Energy Commission, a precursor agency to DOE, selected a 3,556-acre tract of government-owned land near Paducah, Kentucky, in McCracken County, as the location to construct a second gaseous diffusion uranium enrichment plant (GDP) to support U.S. national security needs. The Paducah GDP enriched uranium from 1952 to 2013 and was the last government-owned uranium enrichment facility operating in the U.S. The Paducah GDP produced low-enriched uranium originally as feedstock for nuclear weapons and later for commercial nuclear power plants.

Environmental cleanup of the Paducah GDP began in 1988 when groundwater contamination was discovered off the DOE property. Environmental cleanup includes remediation of groundwater, surface water, soil, lagoons and burial grounds. All of the facilities and buildings (over 500), along with their associated slabs, will be removed and/or remediated.

The Paducah site is also home to one of two DOE DUF6 conversion plants. DUF6 was a by-product from the uranium enrichment operations at the three enrichment plants in Oak Ridge, Tennessee; Portsmouth, Ohio; and Paducah, Kentucky. DOE has a total inventory of approximately 67,000 steel cylinders at the Portsmouth and Paducah sites. At Paducah, the DUF6 conversion facility began operation in 2011.

Cleanup accomplishments include:

- **Initiated deactivation activities at Building C-333, one of the large process buildings, including the removal and disposition of asbestos cell housing panels, disposition of process gas components, removal of hazardous materials and reduction in the fire loading and characterization of all loose process gas equipment on the ground floor.**
- **Processed 3,889 cylinders at the DUF6 conversion facility through November 2019.**

Cleanup Highlights 2020-2030

At Paducah, work over the next decade will focus on remediating a trichloroethylene groundwater contamination plume, along with activities to prepare the site's former uranium enrichment process buildings for demolition.

Over the next decade, DOE will perform fieldwork associated with the characterization and remediation of the C-400 Complex Operable Unit (OU), the highest environmental priority at the site. The C-400 Complex (city block) includes the C-400 Cleaning Building, which utilized trichloroethylene (TCE) for cleaning equipment. The Complex is the primary source of the TCE groundwater contamination that was discovered off the DOE property in 1988. The Remedial Investigation/Feasibility Work Plan has been approved by the U.S. Environmental Protection Agency, and the remedial investigation of the entire C-400 city block for all media and contaminants has begun.

DOE will work with federal and state environmental regulators to perform remedial investigation activities, developing and reaching consensus on final remedial actions, and preparing and implementing the remedial action work plans. By the end of 2021, remedial investigation fieldwork activities will be completed at the C-400 Complex. The C-400 Complex OU Record of Decision, which details the remedial actions, is scheduled for issuance in 2024.

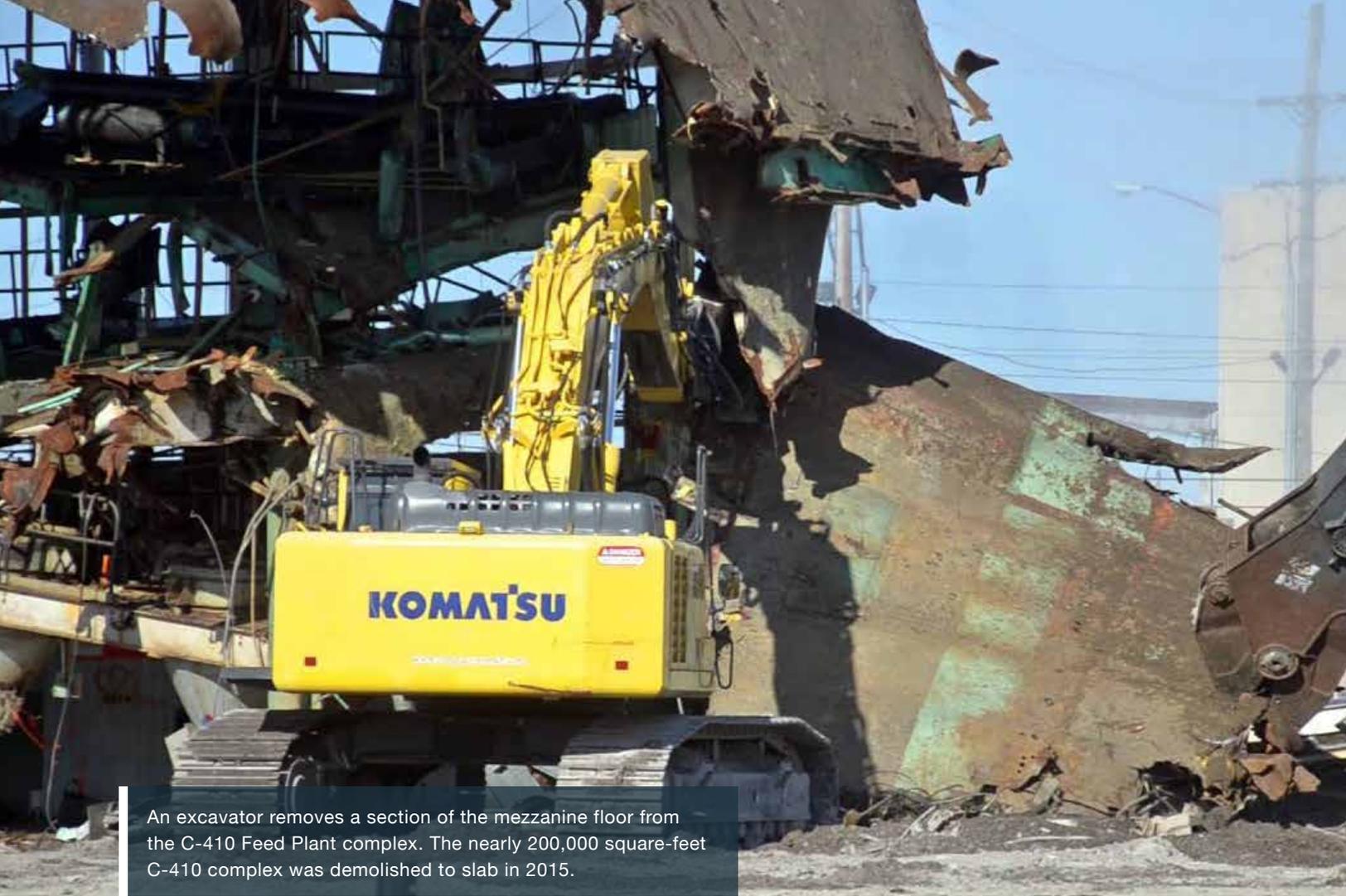
By the end of 2027, DOE also plans to complete deactivation work at the C-333 Process Building.

These activities include hazard removal (including freon, chemicals, fire hazards, etc.), characterization of the components within the facility, characterization and disposition of converters and select uranium deposits, utility isolation, conversion of wet sprinkler system to a dry hybrid system and other actions to prepare the C-333 Process Building for demolition.

At the Paducah DUF6 conversion facility, approximately 11,500 cylinders will be converted, and approximately 22 million gallons of hydrogen fluoride will be shipped off-site for commercial use by 2030.

Remaining Cleanup Scope Post-2030

Beyond 2030, site activities will include the design and construction of an On-Site Waste Disposal Facility (OSWDF), if selected as the waste disposal alternative, and continued deactivation and demolition of the more than 500 GDP facilities. Completion of design for the final cleanup of C-400 is anticipated to occur in the 2031 timeframe. Additionally, the remaining environmental cleanup activities related to groundwater, surface water, soils lagoons, and burial grounds will still need to be completed. DOE expects to complete disposition of the entire inventory of DUF6 located at Paducah by 2057. DOE currently projects completing cleanup activities at Paducah in 2065.



An excavator removes a section of the mezzanine floor from the C-410 Feed Plant complex. The nearly 200,000 square-foot C-410 complex was demolished to slab in 2015.



Rail cars from the Depleted Uranium Hexafluoride conversion plant are staged to be shipped offsite.