PORTSMOUTH/PADUCAH PROJECT OFFICE

“The collective endeavor of PPDPO’s workforce to safely and successfully implement site-altering projects at Portsmouth and Paducah is having a dramatic impact on the cleanup mission.”

— Joel Bradburne, Manager, Portsmouth/Paducah Project Office

HIGHLIGHTS

• Initiated demolition activities on the X-326 process building at Portsmouth and demolished 40 percent of the first of three massive structures—an EM 2023 priority.

• Portsmouth Infrastructure Support Services contract awarded—an EM 2023 priority.

• Opened the Portsmouth Sh-Site Waste Disposal Facility (OSWDF) and removed the first demolition debris generated from deactivation and decommissioning at this site to the landfill.

• Completed excavation of the X-740 groundwater plume at Portsmouth and used its soil as engineered fill for the OSWDF site—an EM 2023 priority.

• Completed the next steps of a multi-year project by removing an additional 1.5 million pounds of redundant containment at the Paducah site—an EM 2023 priority.

• Completed deactivation of the C-531 switchyard, the last of four switchyards at Paducah that supported electrical needs during legacy uranium operations.

• Completed the installation of a bulk hydrogen system at the C-400 maintenance building.

• Workers use a drill rig to access and collect samples at the Portsmouth Piping Maintenance Project.

• The project team also continued the multi-year deactivation process removal of R-114 refrigerant from the Paducah site. Used in cool equipment to provide a deactivation and decommissioning process. In 2021, the site was left with eight million pounds of R-114 refrigerant and 1.5 million pounds for treatment and disposal.

PORTSMOUTH

Cleanup at the Portsmouth site entered a new era in 2021 with the onset of demolition of the X-326 process building, the operational start of the OSWDF and excavation of the previously closed X-740 groundwater plume to provide fill for the OSWDF. The successful alignment of these three projects paved the way for final cleanup of the site.

PROCESS BUILDING DEMOLITION

In May, following more than nine years of safe and systematic deactivation, workers began the structural demolition of the 2.4 million square-foot X-326 process building, one of the three large former uranium enrichment facilities at the site. By the end of December, 40 percent of the building's structure had been demolished, with the expectation that the remaining structural demolition will be completed in 2022.

DEMONSTRATING THE X-326 PROCESS BUILDING DEMOLITION BEGINS IN MAY

While demolition occurs at one process building, deactivation continues at the second of three process buildings. Workers are fully engaged in activities to complete deactivation of the X-333 building, readying it for demolition to begin in 2023.

OSWDF PROVIDES A PATH FOR SAFE DISPOSAL OF DEMOLITION DEBRIS

The OSWDF began operations in 2021 as the landfill specifically engineered to safely accept debris from demolition at the Portsmouth Gonseous Diffusion Plant. The OSWDF expects to receive up to 5 million cubic yards of demolition debris and soils from the Portsmouth cleanup project.

Workers prepare to load a 40-foot container at the C-460 remediation treatment building.

OSWDF is expected to safely and effectively handle demolition debris from the Portsmouth facility.

In addition to deactivation efforts, workers began base sampling at the C-460 remediation treatment building to support the C-460 remedial investigation and feasibility study. The study is a key step in an iterative process that will develop a path for the future primary source of TCE groundwater contamination that was discovered off DOE property in 1984.

BULK HYDROGEN SYSTEM INCREASES DUFS PLANT PRODUCTION

Although DuFS conversion operations were paused in 2021, the project moved forward with several major upgrades to the plants at Portsmouth and Paducah that will enhance their reliability and safety. The included the installation of the bulk hydrogen system at the plants. The bulk hydrogen systems will give the plants an alternate source of hydrogen, which is required for DuFS conversion, thereby decreasing downtime because unplanned shutdowns will no longer be needed.

A north-south aerial view of the X-340 Hydrogen Transfer Facility activation project shows continuing progress on the site's east side.

A 40-foot container is loaded with low-level waste materials at the C-460 remediation treatment building.