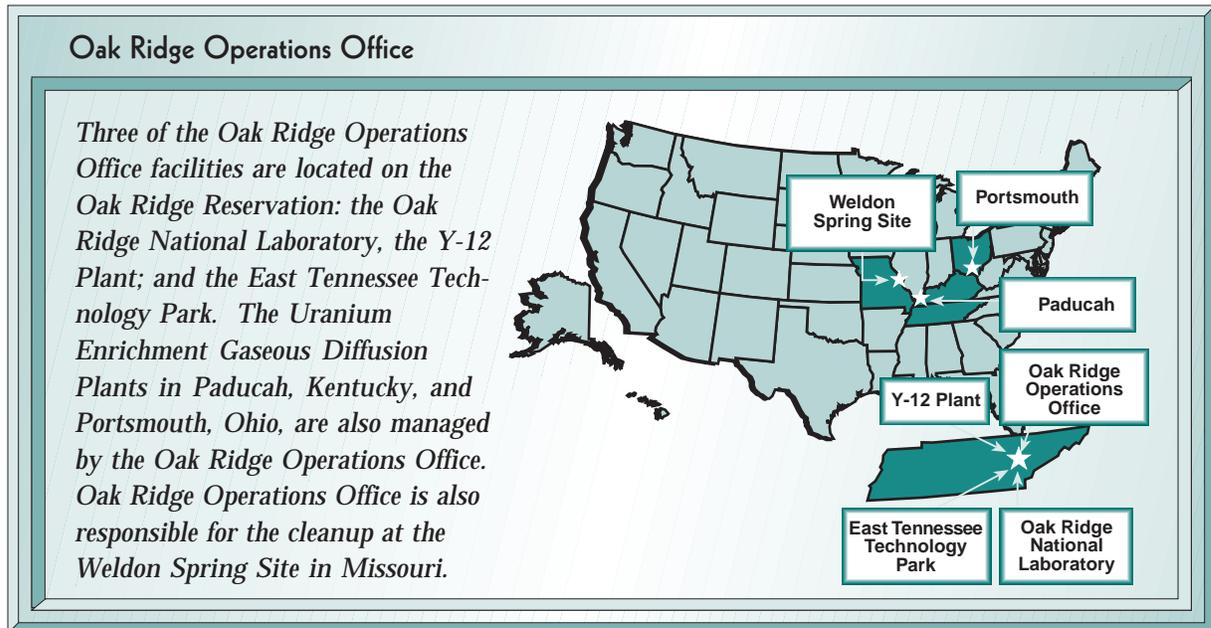


E.6 Oak Ridge Operations Office Summary

The mission of the Oak Ridge Operations Office is to oversee and manage various facilities and programs related to the Office of Nuclear Energy, Energy Research, Uranium Enrichment, Defense Programs, and Environmental Management in Tennessee, Ohio, Kentucky, and Missouri. The largest Oak Ridge Operations Office site, the Oak Ridge Reservation located in Oak Ridge, Tennessee, has approximately 1,100 acres of unlined radioactive and mixed waste burial grounds, inactive tanks, surplus facilities, and unlined ponds. As a result, soil, surface water, groundwater, and two major rivers in the area are contaminated. To address these issues and the issues at the Paducah Gaseous Diffusion Plant, the Portsmouth Gaseous Diffusion Plant, and the Weldon Spring Site, the Oak Ridge Operations Office has developed an aggressive strategy for the accelerated completion of its Office of Environmental Management mission.



Oak Ridge National Laboratory is one of the country's largest multi-disciplinary and multi-program laboratories and research facilities. Weapons research facilities were established at the site of the Oak Ridge National Laboratory in 1943 as part of the World War II Manhattan Project. The laboratory's original mission was to produce and chemically separate the first gram quantities of plutonium as part of the national effort to produce the atomic bomb.

Y-12 Plant was built in 1943 as part of the Manhattan Project. The original mission of the Oak Ridge Y-12 Plant was a uranium enrichment and nuclear weapons production facility. Since World War II, the role of the Y-12 Plant has evolved into supporting highly sophisticated manufacturing; development

engineering associated with the production, fabrication, and dismantlement of nuclear weapons components; and the national repository for enriched uranium.

The **East Tennessee Technology Park** (formerly K-25) was built as part of the Manhattan Project during World War II to supply enriched uranium for nuclear weapons production. From 1959 to 1969, the focus shifted to the production of commercial-grade, low-enriched uranium. Because of the declining demand for enriched uranium, the enrichment process was placed on standby in 1985 and shut down permanently in 1987. Currently, an effort is underway to industrialize ETPP by leasing facilities to private companies.

Construction of the **Paducah** and **Portsmouth Gaseous Diffusion Plants** began in the early 1950s to expand the federal government's gaseous diffusion program already in place at Oak Ridge, Tennessee. The facilities were built to increase the production of enriched uranium for defense and non-defense needs.

The **Weldon Spring Site** was part of a site used by the U.S. Army as an ordnance works in the 1940s. In the 1950s and 1960s, the Atomic Energy Commission used the site to process uranium ore in the Weldon Spring Chemical Plant. The plant was subsequently deactivated and no activities were carried out at the Weldon Spring Site until remediation began in 1985.

E.6.1 End State

The overall end state of the sites managed by the Oak Ridge Operations Office is assumed to be composed of some combination of controlled access, restricted and unrestricted industrial, and open space/recreational. An effort is currently underway to strengthen the end use recommendations through a process of stakeholder involvement. The Site-Specific Advisory Board has formed the End Use Working Group to develop end use assumptions that can be used to guide cleanup activities on the Oak Ridge Reservation. Actual end uses will be identified in the appropriate watershed or subproject Records of Decision.

At the Paducah and Portsmouth Gaseous Diffusion Plants and the Weldon Spring Site, discussions with the regulators and stakeholders will continue. The Paducah Gaseous Diffusion Plant continues to inform its Site-Specific Advisory Board concerning the prioritization and sequencing of work, and the Portsmouth Gaseous Diffusion Plant continues meeting with the U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency.

Exhibit E-30 provides a summary of the anticipated site end states for Oak Ridge Operations Office.

Exhibit E-30
Summary of Oak Ridge Operations Office End States

Site Name	End State Description
Oak Ridge Reservation (ORR)	<p>The Oak Ridge Reservation is comprised of the Oak Ridge National Lab (ORNL), the East Tennessee Technology Park (ETTP; formerly called K-25), and the Oak Ridge Y-12 Plant. Legacy waste stored at the ORR site will be disposed by 2006 for all transuranic waste, 2006 for all mixed low-level waste, and 2013 for all low-level waste. At ORNL, buried waste in both the Melton and Bethel Valleys will remain isolated in place with engineered and institutional controls implemented to prevent migration. Most contaminated media will be remediated in-situ, but hot spots and mercury contaminated soils will be excavated. Contaminated sediments in White Oak Creek, White Oak Lake, and White Oak Creek Embayment will be stabilized. Inactive buildings will be decontaminated and dismantled to grade except for the ORNL Graphite Reactor, which will be preserved as a national landmark. The Y-12 Plant will support restricted industrial, controlled access, and open space/recreational end uses. Burial grounds and other sources will be capped with contamination in place. Groundwater will be contained and use will be restricted. Some areas will be under controlled access for secure storage of nuclear materials and waste. The Environmental Management Waste Management Disposal Facility (EMWMDF) will be constructed on site for disposal of CERCLA waste. The ETTP end use is expected to be open space/recreational, controlled access, and industrial with restrictions. The site is expected to be an industrial park occupied by private business. Contaminated areas within the reindustrialized area will be contained or consolidated. Selected facilities will be decontaminated and reused. Burial grounds will be capped and hydrologically isolated and/or excavated with waste disposed of at the EMWMDF or other appropriate disposal facility.</p>
Paducah Gaseous Diffusion Plant	<p>The gaseous diffusion process will remain operational, and the remaining property will be restricted industrial, open space/recreational, and controlled access. Several landfills or burial grounds will be closed with contamination remaining in place in the industrial area. Facilities will be cleaned for release or reuse, with deed restrictions or use limitations for areas with residual contamination. The off-site groundwater plumes will require long-term pump and treat operations to reduce migration and prevent discharges to surface water.</p>

Exhibit E-30 (Continued)

Site Name	End State Description
Portsmouth Gaseous Diffusion Plant	The gaseous diffusion process will remain operational, and the remaining property will be restricted industrial, open space/recreational, and controlled access. Major sources of on-site contamination will be contained and/or remediated. Reindustrialization of existing DOE facilities is a possibility with deed restrictions or land use limitations on areas with contamination remaining in place. Several landfills or burial grounds will be closed with contamination remaining in place. Active groundwater treatment facilities will be shut down in 2050. Passive groundwater monitoring and treatment will continue until 2055.
Weldon Spring Site	155 acres of the Chemical Plant site will be released to the appropriate agency for unrestricted use, the 9-acre quarry will be released for recreational use, and the 62-acre on-site disposal cell will remain under controlled access.

E.6.2 Cost and Completion Dates

Oak Ridge Operations Office has divided its environmental management work into 28 discrete projects. A Project Baseline Summary (PBS) exists for each project and contains detailed programmatic information, including cost, schedule, scope, end state, and interim milestones. A summary of the Oak Ridge cost and schedule information is illustrated in Exhibit E-31. For additional information about these projects, see the Project Baseline Summaries.

The estimated EM life-cycle cost of Oak Ridge Operations Office site cleanups is \$13.1 billion (constant 1998 dollars). The overall site planned completion dates are as follows:

Site	Date
Center for Energy and Environmental Research ...	1998
Oak Ridge Reservation	2013
Paducah Gaseous Diffusion Plant	2010
Portsmouth Gaseous Diffusion Plant	2005
Weldon Spring Site	2002