



Nuclear

Client

United States Department of Energy (DOE)

Location

Miamisburg, Ohio, USA

Innovations to Increase Efficiency at Miamisburg Closure Project:

- Bundled 73 potential release sites into 20 D&D work packages, improving efficiencies and reducing costs
- Integrated utility services with building demolition and Miamisburg Mound Community Improvement Corporation (MMCIC) needs.
- Identified \$ 3,532,027 in savings in first year of contract related to facilities and utilities services at the Mound site.



Miamisburg Closure

Project Description

On July 31, 2006, CH2M HILL successfully completed all work scope under its performance-based contract to accelerate the safe closure of nuclear facilities at the former Mound Plant in Miamisburg Ohio.



The DOE Mound Plant was established in late 1946 as a facility to support atomic weapons research and energy programs. It is located on 306 acres in the southwest portion of the City of Miamisburg, Ohio. The site was placed on the National Priorities List (NPL) in 1989 due to past waste disposal practices and releases to the environment.

To achieve cleanup and closure of Mound, CH2M HILL demolished facilities, packaged and shipped radioactive and hazardous waste, and performed environmental remediation. The land and some facilities will be transferred to the local community for economic development. To achieve cleanup and closure of the Mound site, CH2M HILL:

- Demolished 64 facilities and transferred 9 facilities to the Miamisburg Mound Community Improvement Corporation (MMCIC) for industrial reuse.
- Removed all aboveground utility structures and components.
- Investigated, cleaned, closed, and documented all known potential release sites.
- Stored, characterized, processed, packaged, and shipped waste and nuclear materials in accordance with the DOE, EPA, and State of Ohio EPA-approved Mound 2000 Approach. Wastes included transuranic, low-level radioactive, hazardous, and low-level radioactive mixed with hazardous wastes.

The project was finished within four months of the original Target Date after removing over twice the original volume of contaminated soils. Unlike other DOE sites that handle nuclear material and hazardous chemicals, Mound's location is close enough to the City of Miamisburg that it is visible from downtown, schools, parks, and golf courses. Effective communication with the surrounding community was crucial to accelerated cleanup and closure. CH2M HILL fostered communication through formation of a public information committee with representation from the DOE-OH Field Office, OH EPA, the MMCIC, the City of Miamisburg, and site personnel. The unique nature of the site configuration and the reuse approach required close coordination with site utility systems, MMCIC public tenants, and ongoing site operations in order to support timely D&D of facilities at Mound. In addition, the close proximity of the public required active dust suppression and emissions control during D&D.

CH2M HILL developed a work plan that focused on early risk reduction. Primary attention was on the critical path work elements relative to demolition, potential release site (PRS) removal actions, utilities removal, facility transition, and land transfer, while meeting funding limitations within



the framework of a proven integrated safety management (ISM) culture. We established a safety culture that promoted line management safety responsibility and continued to place a high emphasis on safety performance even in an accelerated closure environment.

Site Operations, Maintenance, and Utilities

CH2M HILL provided all facility operations and infrastructure support to the 306-acre site, including 75 facilities, site roads, and utilities. Our infrastructure and administrative cost reduction expertise enabled acceleration of project baselines while successfully maintaining an ongoing facility mission. We identified \$3.5 million in savings related to facilities' and utilities' services in our first year. We planned and reconfigured the utilities systems to support the orderly D&D of Mound facilities while maintaining the infrastructure necessary to support onsite commercial tenants of the MMCIC.

Waste Management and Disposition

CH2M HILL shipped more than 10.1 million cubic feet of Low-level Waste (LLW) and Mixed Low-level Waste (MLLW) excavated during facility D&D and environmental restoration—without any violations. All 300 cubic meters of transuranic (TRU) waste was characterized, packaged, certified, and shipped. All legacy LLW and MLLW was characterized, packaged, and shipped for treatment and disposal. We received exemptions from DOT and worked with impacted states and stakeholders to allow shipping of TRU waste in OHOX railcars from Mound to the Savannah River Site. We also managed the packaging, shipping, treatment, and disposition of all hazardous, industrial, and sanitary waste.

Facility Disposition

Our accomplishments include the D&D of 64 industrial, radiological, and nuclear facilities and the excavation of 10.1 million cubic feet of contaminated soils from the remediation of 79 potential release sites. Disposition also included the decontamination and transfer of T-Building, a former DOE Category 2 nuclear facility, to the MMCIC. We used MARSSIM to characterize and release all buildings and potential release sites.