

FERNALD FACT SHEET ~ SILO 3



From 1952 to 1989, the Fernald site produced 500 million pounds of pure uranium metal products for the nation's Cold War defense program. When the site ceased operations in 1989 because of declines in demand for Fernald's products and increasing environmental concerns, 31 million net pounds of nuclear product, 2.5 billion pounds of waste and 2.5 million cubic yards of contaminated soil and debris remained on site. Since then, Fernald workers have been dedicated to the remediation of the 1,050-acre site.

In 1986, Fernald began a 10-year environmental site investigation to determine contamination levels and develop cleanup plans. The investigation resulted in Records of Decision, or final cleanup plans, for five operable units. Operable Unit 4, located in the northwest quadrant of the site, includes four concrete waste silos. Two of the silos, known as the K-65 Silos, hold 8,900 cubic yards of low-level radium-bearing waste. The Fernald process that refined pitchblende ore from the Belgian Congo generated this waste. The third silo holds 5,100 cubic yards of cold metal oxides, a byproduct of the site's uranium processing operations, and the fourth silo is empty.

In 1994, the Department of Energy (DOE), Fluor Fernald, regulators and stakeholders agreed on a cleanup plan for Silos 1, 2 and 3. The plan involved removing the waste from the silos; using a process called vitrification to melt it into glass, thereby minimizing transportation risks; shipping the waste to the Nevada Test Site for disposal and demolishing the silos. To test the vitrification process, Fernald constructed an on-site Vitrification Pilot Plant. In 1997, while processing surrogate material through the plant, workers encountered problems in the glass manufacturing process. Concerns about the feasibility and increasing costs of vitrification prompted DOE and regulators to reevaluate the cleanup plan. The reevaluation process, called a Record of Decision (ROD) Amendment, involved screening potential stabilization technologies and selecting a new cleanup plan.

PHOTO: Silo 3 contains 5,100 cubic yards of cold metal oxides (7325-D0846).

SILOS PROJECT