



Fernald · FACT SHEET

Environmental Management Project

March 2001

Fernald Overview



Site Aerial - November 2000 (7500-1)

Introduction

Winning the Cold War was a national priority when the Atomic Energy Commission, predecessor to the Department of Energy (DOE), broke ground at Fernald in 1951. For nearly 37 years, Fernald produced uranium feed materials to support the National Defense Program. With the end of the Cold War and the subsequent scaling back of military spending, Fernald suspended uranium metal production in 1989 to become the first DOE site to focus exclusively on cleanup. In November 2000, DOE awarded Fluor Fernald a contract to complete cleanup of the site.

Cleanup Mission

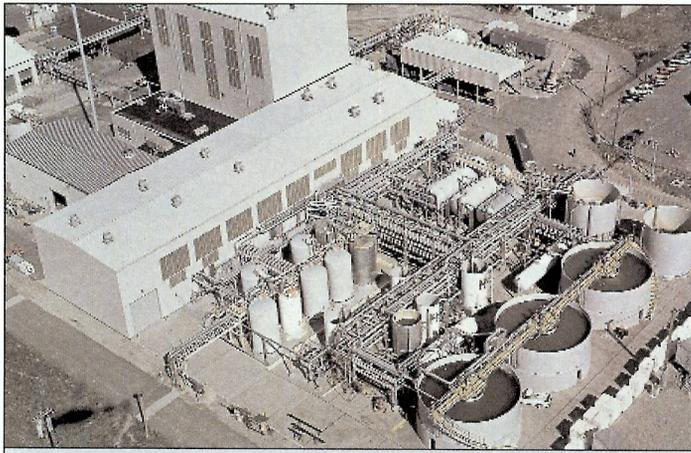
In 1989, the U.S. Environmental Protection Agency (EPA) added Fernald to its National Priorities List of

federal facilities most in need of cleanup. Today, after completing a lengthy study phase to determine the nature and extent of environmental contamination, Fernald is on track to complete final cleanup at an accelerated pace. Recent advances in technology and process improvement have shortened the original schedule substantially, saving taxpayers an estimated \$3 billion.

Major Projects

Fernald's major cleanup projects include:

- Aquifer Restoration/Wastewater Project
- Decontamination and Demolition Project
- Soil and Disposal Facility Project
- Silos Project
- Waste Pits Remedial Action Project
- Nuclear Materials Disposition Project
- Waste Generator Services



Since the Advanced Wastewater Treatment facility began full operations in 1995, approximately 7.5 billion gallons of contaminated water have been treated (7317-214).

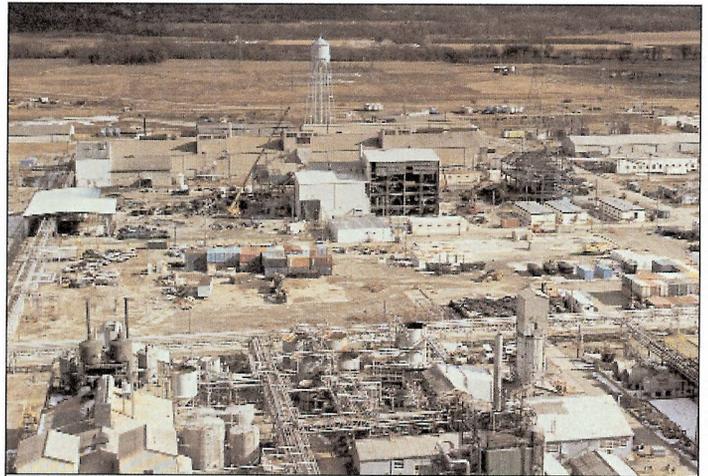
Aquifer Restoration/Wastewater Project

Past uranium processing operations at Fernald contaminated about 220 acres of the underlying aquifer that now need to be cleaned up. Currently, there are 18 active extraction wells pumping approximately 1 billion gallons of groundwater from the aquifer each year. The Advanced Wastewater Treatment (AWWT) facility treats most of the groundwater. The AWWT can treat 2,900 gallons of water per minute. In 1998, employees installed five re-injection wells to speed up the remediation of the aquifer. The AWWT discharges most of the treated groundwater back into the aquifer by using re-injection wells. Groundwater modeling predictions indicate the use of re-injection should shorten the predicted time needed to restore the aquifer by approximately seven years, allowing the aquifer to be remediated approximately 17 years earlier than originally predicted. In addition to groundwater, wastewater and storm water from across the site are also collected and treated at the AWWT. As remediation of the Fernald site moves forward and areas such as the former Production Area and the Waste Storage Area become accessible for groundwater characterization, the scope of the Aquifer Restoration/Wastewater Project will increase accordingly.

Decontamination and Demolition Project

The Decontamination and Demolition Project is responsible for the above ground remediation of the structures located on the Fernald site. In March 1999,

Fernald completed Safe Shutdown of all former production facilities. Completion of this work provides a safer environment for demolition crews and eliminates a potential environmental hazard. Fernald's regulators and stakeholders identified the Safe Shutdown Project as one of the site's highest cleanup priorities. The project was completed two years ahead of schedule and \$7 million under budget. In 2000, crews completed demolition of the former Inspector General/Industrial Relations Building and Security Building. These two buildings were the first to be taken down in the administrative area of the Fernald site, a visible demonstration of the progress workers are making.



By December 2000, Fernald workers had dismantled 90 of more than 250 structures identified for demolition (7534-D15).

Soil and Disposal Facility Project

The Soil and Disposal Facility Project (SDFP) is responsible for the construction and operation of the On-Site Disposal Facility (OSDF) and the excavation of all impacted soil and at- or below-grade debris across the site. The SDFP will also ensure all remaining soil meets established cleanup levels and will conduct the restoration of the 1,050-acre site as outlined in the *Natural Resource Restoration Plan*.

Current plans call for excavating approximately 1.8 million cubic yards of contaminated soil and debris. Excavated soil and debris that meet the waste acceptance criteria (WAC) for the OSDF will be placed there. The small amount that does not meet the WAC will be sent off site for disposal. To meet the challenge of characterizing the soil to determine the level of contamination, excavating and dispositioning the impacted soil, and certifying that



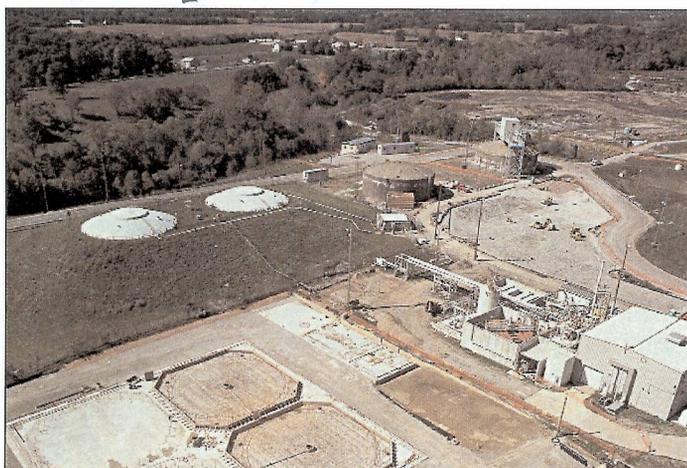
The SDFP achieved two major cleanup milestones in 2000 with the completion of remediation of the Southern Waste Units and attainment of 100 percent capacity in Cell 1 of the On-Site Disposal facility (7476-238 and 7476-180).



all 1,050 acres meet cleanup levels, the SDFP divided the site into ten soil remediation areas to manage the sequence of cleanup. During 2001, the SDFP expects to have certified over 50 percent of the site to the established cleanup levels.

Silos Project

The Silos Project, located on the western periphery of the site, includes four silos and nearby structures. Silos 1 and 2 (also called the K-65 Silos) contain low-level radioactive wastes dating back to the 1950s. In 1964, Silos 1 and 2 were reinforced with an earthen berm that was upgraded in 1983. In February 1999, Fluor Fernald awarded a contract for removal of the waste from Silos 1 and 2, transfer of the waste to temporary storage tanks, and design and construction of a radon control system. Construction of this project is now underway. The path forward for ultimate treatment and full-scale remediation of Silos 1 and 2 waste was re-evaluated by stakeholders and regulators in 2000. As a result, the preferred method of treatment is chemical stabilization followed by disposal at the Nevada Test Site (NTS). This remedy is documented in a Record of Decision Amendment



The path forward for treatment and full-scale remediation of Silos 1 and 2 waste was re-evaluated by stakeholders and regulators and approved by the EPA in July 2000 (7476-126).

which was approved by USEPA in July 2000. The preferred treatment method for the cold metal oxides contained in Silo 3 will also be chemical stabilization.

Waste Pits Remedial Action Project

The Waste Pits Remedial Action Project involves the excavation of approximately 1 million tons of radioactive waste stored in six waste pits. The pits range in size from one to five acres and vary in depth from 10 to 40 feet. All pit material will be shipped via rail to Envirocare, a commercial disposal facility located in Clive, Utah. In 1997, Fluor Fernald awarded International Technology (IT) Corp. a contract to excavate, treat as necessary and load the waste into railcars for shipment. The project uses 170 gondola cars, maintains a rail yard with 11 holding tracks consisting of over 17,000 feet of rail and operates three locomotives to move the railcars within the project boundaries. It is the largest rail operation



Fernald will transport approximately 100 unit trains of material from the waste pits to Envirocare through 2004 (6944-D794).

within the DOE complex. **4028**

Nuclear Materials Disposition

Nuclear Materials Disposition is tasked with the removal of all nuclear materials from the Fernald site. Since production ended in 1989, over 80 percent of the 31 million-net-pound inventory of uranium has been removed. Various quantities of uranium have been transferred to other DOE sites for further use, returned to suppliers, sold to commercial vendors for non-military use, shipped to the DOE facility at Portsmouth, Ohio for interim storage, or declared

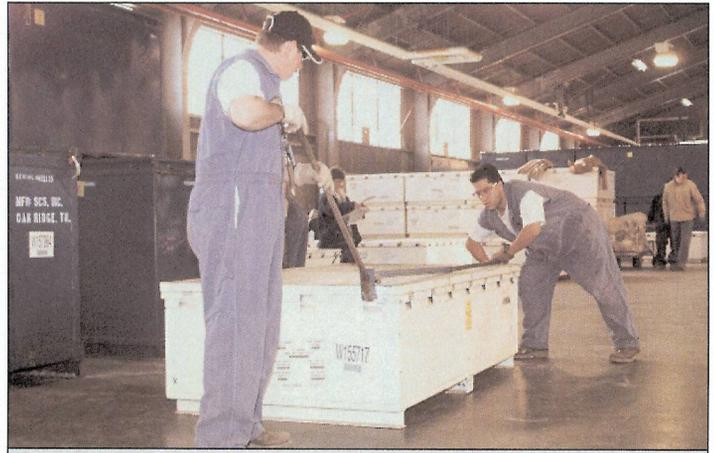


The remaining inventory of nuclear product is on schedule for removal from the site by June 2002 (7269-D13).

waste.

Waste Generator Services

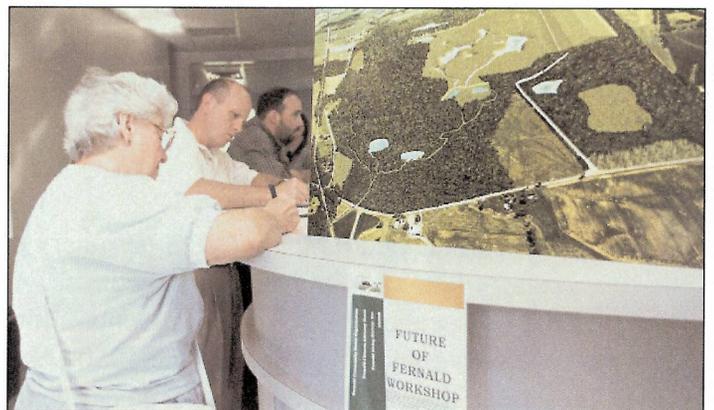
The Waste Generator Services Division is responsible for characterization, sampling and disposal of low-level waste, treatment and disposal of low-level mixed waste, and waste minimization and pollution prevention initiatives. DOE and Fluor Fernald have adopted a site-wide remedial strategy to ship smaller volumes of higher-contaminated waste off site for disposal while placing larger volumes of less-contaminated waste in the On-Site Disposal Facility. This balanced approach also emphasizes the recycling and beneficial reuse of materials wherever feasible.



Waste Generator Services has shipped more than 5.6 million cubic feet of low-level waste to the Nevada Test Site for disposal (7302-D51).

Public Involvement

The long-term success of Fernald cleanup depends on many groups, including site management, team members, labor unions, regulators, subcontractors and concerned citizens. DOE and Fluor Fernald welcome public participation in order to work through cleanup challenges and find better solutions. Fernald holds regular Cleanup Progress Briefings to update citizens on cleanup plans and progress. The briefings provide opportunities for face-to-face interaction between decision-makers and the public.



Community members attend a Future of Fernald Workshop where they will assist in determining how to use the site after cleanup (7391-D5).

For more information . . .

Visit the Public Environmental Information Center at 10995 Hamilton-Cleves Highway (Delta Building);
Attend a Cleanup Progress Briefing (second Tuesday of every month at 6:30 p.m. at the site);
Contact Gary Stegner, DOE-Fernald public affairs officer at 513-648-3153 or at gary.stegner@fernald.gov; or
View the Fernald Web site (<http://www.fernald.gov>).