

7426

G-000-1006.113

**OPERABLE UNIT 3 - FACILITIES DECONTAMINATION &
DISMANTLEMENT PROJECT - DECEMBER 1995, FACT SHEET**

12/00/95

**DOE-FN/FERMCO PUBLIC
4
FACT SHEET**

Operable Unit 3

Facilities Decontamination & Dismantlement Project

December 1995

Introduction

When Fernald was producing high-purity uranium metal for U.S. defense programs and processing thorium to support other DOE programs, large quantities of radioactive materials and some hazardous chemicals were used in various facilities.

Operable Unit 3 includes the 200 former uranium processing facilities and equipment within the 136-acre former production area at the Fernald site, as well as other site man-made facilities. Operable Unit 3's cleanup mission is to remove legacy nuclear materials currently stored in Fernald's buildings, clean out the buildings and equipment, and decontaminate and dismantle (D&D) these facilities.

Removal of the buildings is a vital component of Fernald's 10-year accelerated cleanup schedule because the soil under buildings is needed for construction of the on-site disposal facility.

Building removal is planned to coincide with soil excavation in adjacent areas of the site to minimize the staging duration of materials prior to disposal.

This progress report provides an update on Operable Unit 3 cleanup efforts, including: interim remedial action, final remedial action/remedial investigation and feasibility study (RI/FS) activities, remedial design and remedial action (RD/RA) plans and activities, and completed and ongoing removal actions.

Operable Units

As part of the RI/FS, the Fernald site was divided into five sections, known as operable units, based on their location or the potential for similar technologies to be used in the ultimate cleanup.

In October 1995, FERMCO, DOE's cleanup contractor at Fernald, changed the organization of how the operable units are divided among technical teams to permit more efficient performance of remedial design and remedial action activities. All regulatory agreements and documentation requirements for the operable units remain in effect.

A Facilities D&D Project team within FERMCO will address above-grade D&D activities, while at- and below-grade D&D will be managed by the Soils Remediation Project team.

Interim Remedial Action

Record of Decision

Due to concerns of potential human health and environmental risks from deteriorating buildings and structures in the former production area, Fernald pursued an interim remedial cleanup action in 1993-94 to accelerate D&D by several years and save taxpayers millions of dollars.

Following extensive public involvement, the U.S. Environmental Protection Agency (EPA) approved the fast-track cleanup plan and signed the *Operable Unit 3 Record of Decision for Interim Remedial Action and Responsiveness Summary* in July 1994.

The interim remedial action also provides for temporary on-site storage of bulk rubble and debris from dismantlement activities, as well as final off-site disposition of a limited portion of the debris. A determination of the final disposition of rubble and debris from the interim remedial action will be included in Operable Unit 3's final record of decision (ROD), scheduled for completion in 1996.

Remedial Design/Remedial Action

The next step in the RI/FS process was to develop a RD/RA work plan to outline the design and implementation of Operable Unit 3's interim remedial action. In February 1995, U.S. EPA approved the *Operable Unit 3 Remedial Design/Remedial Action Work Plan for Interim Remedial Action* and the first design implementation plan for dismantling Plant 4. In June 1995, EPA approved the *Operable Unit 3 Prioritization and Sequencing Report*, which presented the framework used to determine the priority and sequence of remediating Fernald structures.

Several D&D projects are underway. Plant 4 D&D field work activities are about 50 percent complete; the building is scheduled to complete demolition in fiscal year 1996.

DOE submitted the *Draft Plant 1 Complex Phase I Implementation Plan* to EPA in November 1995. Approval of this plan is anticipated by January 1996. Other near-term D&D projects include the Plant 1 Complex, Phase I, the Thorium/Plant 9 Complex, and the Boiler Plant/Water Plant Complex.

In October 1995, the DOE Morgantown Energy Technology Center D&D Focus Area selected Fernald's proposal for a large-scale decontamination and decommissioning demonstration project as one of four proposals to receive funding for technology demonstrations.

Under the proposal, DOE, FERMCO and contractors will partner with DOE's Office of Science and Technology to demonstrate innovative technologies for removing seven structures associated with the Plant 1 Complex. This activity will be coordinated with the existing D&D contract to provide a realistic test for innovative technologies alongside technologies currently in use.

Final Remedial Action

Although Operable Unit 3 is already accomplishing final cleanup under the interim remedial action, it is also the last of the five Fernald operable units to complete the RI/FS phase and completely transition to the RD/RA phase.

RI/FS Activities

Field investigation activities for characterization of Operable Unit 3 structures are complete. Analytical results from collected samples have been used to characterize contamination of Operable Unit 3 structures and to support development of remedial action alternatives for disposition of Operable Unit 3 demolition debris.

Results of the Operable Unit 3 field investigation program are summarized in the *Draft Operable Unit 3 Remedial Investigation/Feasibility Study* (a combined report). Because of Operable Unit 3's interim ROD, the feasibility study portion of the combined RI/FS report is focused on evaluation of options for treatment and final disposition of wastes generated by Operable Unit 3 D&D.

DOE submitted the draft RI/FS report, with the draft *Proposed Plan for the Operable Unit 3 Final Remedial Action*, to EPA in September 1995, 11 months before the submittal date.

Operable Unit 3 *Facilities Decontamination & Dismantlement Project*

Early completion of the Operable Unit 3 field characterization project, the reduced scope of the RI risk assessments, and the opportunity to combine RI and FS activities, have contributed to a streamlined document submittal process. DOE received EPA's comments on the draft RI/FS report and proposed plan in November and is currently preparing a comment response document. The response and revised documents will be resubmitted to EPA in December 1995.

Potentially applicable innovative technologies are being tested to support decontamination, dismantling, and treatment requirements of remedial actions. Technology alternatives are being tested for applicability, effectiveness, cost, waste minimization, secondary waste generation, and other key evaluation criteria. The results of testing technology alternatives are being summarized in individual test reports. These reports will be compiled into a complete document and placed in the Administrative Record, a repository for cleanup documents.

Ongoing Removal Action Activities

During the RI/FS, certain conditions which required early action to address releases or potential releases of hazardous substances to the environment were identified. These actions are called removal actions. Of the 30 removal actions identified at Fernald, all but a few have been completed.

Removal of Waste Inventories (9): This removal action involves the characterization, overpacking, and disposition of low-level radioactive waste materials.

Fernald's waste shipping program began in 1985. The DOE Nevada Field Office approved disposal of Fernald's general waste streams at the Nevada Test Site (NTS).

The waste streams include: process area scrap wastes (scrap metal and wood); construction and removal action wastes (demolition debris); uranium production residues; baled trash; processed metal waste; and thorium wastes.

After completing its fiscal year 1995 (October 1994 to September 1995) waste shipping goal early, Fernald temporarily suspended fiscal year 1996 waste shipments to NTS in September 1995, until final resolution of Fernald's fiscal year 1996 budget is achieved. Fernald may resume waste shipments to NTS in December.

During fiscal year 1995, Fernald shipped 594,000 cubic feet of low-level radioactive waste to NTS, 2,500 cubic feet of solid mixed waste, and 9,000 gallons of liquid mixed waste to EPA-approved disposal facilities. An additional 590,351 pounds of surplus uranium product materials were dispositioned to other users for non-defense related uses, thereby avoiding burial of these resources.

Solidification of approximately 6,000 gallons of thorium nitrate acid in 55-gallon drums was recently completed, eliminating a significant environmental and health hazard to workers and the community. The 371 drums of the solidified thorium nitrate cement will be shipped to NTS.

Fernald is also in the process of shipping 700,000 pounds of normal uranium materials stored onsite to AlliedSignal's facility in Metropolis, Ill. The shipments will reduce the normal uranium portion of the site's total nuclear material inventory by 59 percent.

Safe Shutdown (12): This removal action was initiated to ensure the safe, permanent shutdown of former production area facilities, as well as the removal of uranium and other process/raw materials and waste materials from equipment, lines and ductwork.

Concurrent with safe shutdown activities, redistribution of utilities for the Plant 9/Thorium Complex are underway. Plant 5 Safe shutdown activities are planned to begin January 1996, now that relocation of 2,500 drums of enriched restricted material to a tension support structure on the Plant 1 Pad has been accomplished. Safe shutdown activities in the Pilot Plant are forecasted for completion by June 1996.

Scrap Metal Piles (15): The field work for this removal action was completed in 1994, although several activities remain regarding potential beneficial reuse of the scrap copper. The field work involved containerization of 1,400 tons of scrap copper and about 2,270 tons of recoverable ferrous and nonferrous scrap metal stockpiled at the Fernald site to eliminate potential environmental threats. A closeout report is being prepared on the scrap copper and will be forwarded to DOE in December for subsequent transmittal to EPA.

Improved Storage of Soil and Debris (17): This removal action addresses contaminated soil and debris resulting from continued construction and maintenance projects, removal actions, and remedial actions at the site. Fernald is revising the removal action work plan to develop an interim site-wide soil and debris management program. This program will facilitate integrated implementation of Fernald's RODs, as well as individual remedial action plans, prior to disposition of remedial-action-generated waste at the on-site disposal facility or to an approved off-site treatment/disposal facility.

Recently approved by EPA, the revised removal action work plan will be effective until the on-site disposal facility is operational and the appropriate remedial action plans are implemented.

Asbestos Removals (26): This removal action documents the Fernald's ongoing asbestos abatement activities to manage asbestos in-place and to mitigate the potential for asbestos fiber release. To date, asbestos abatement has been completed in seven buildings. FERMCO has encapsulated broken transite on various buildings and wet-wrapped pipeline open ends to mitigate immediate hazards.

Hazardous Waste Management Units (HWMU) Closures

Under Ohio EPA regulation, Fernald has completed field work for closure of 13 HWMUs. The most significant closure was the HF Tank Car HWMU. Completed in July 1995, the closure involved neutralizing more than 6,000 gallons of hydrofluoric acid stored in a rail car and portable tank. The rail car, portable tank and a second empty car have been decontaminated for workers' safety during handling and to render them nonhazardous under Resource Conservation and Recovery Act (RCRA) regulations.

For More Information

Contact the Public Environmental Information Center (PEIC), located at 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030 (phone: 513-738-0164).

For specific questions regarding Operable Unit 3, contact: Don Pfister, DOE Fernald Area Office Operable Unit 3 acting manager, 513-648-3170.