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**OPERABLE UNIT 3 - FACILITIES DECONTAMINATION & DISMANTLEMENT
PROJECT - FACT SHEET - APRIL 1996**

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DOE-FN PUBLIC
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FACT SHEET

Operable Unit 3

Facilities Decontamination & Dismantlement Project

April 1996

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 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.

Operable Units

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

In October 1995, the Fernald Environmental Restoration Management Corporation (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.

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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.

Several D&D projects are underway. Plant 4 D&D field work activities are about 61 percent complete; the building is scheduled to complete demolition in fiscal year 1996.

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 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.

DOE submitted the *Draft Plant 1 Complex Phase I Implementation Plan* to EPA in November 1995, and it was approved in February 1996.

In October 1995, the DOE Morgantown Energy Technology Center D&D Focus Area selected Fernald's proposal for a large-scale D&D 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 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. After reviewing 38 candidate "Group A" technologies, in April 1996, DOE approved the following three technologies for the Plant 1 Demonstration Project: a vacuum technology, which will be used to remove material wool located in transite-sided buildings, and a sponge cleaning technology and a steam cleaning technology which will be used to clean contaminated equipment. The demonstrations will be executed this summer. DOE is currently considering "Group B" technologies for the project.

Final Remedial Action

RI/FS Activities

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

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.

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Several treatability studies have been performed to evaluate certain treatment technologies in support of the RI/FS effort. The reports of these studies have been compiled and placed in the Administrative Record, the repository for documents related to response actions.

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. 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 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 original submittal date. The combined RI/FS Report and Proposed Plan were approved by EPA in March 1996. The 30-day public comment period for review of the Operable Unit 3 Proposed Plan is being conducted from April 3 through May 2, 1996, with a public meeting to receive comments on the Proposed Plan being held on April 23. The draft *Record of Decision For Final Remedial Action* is expected to be submitted to U.S. EPA before July 25.

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.

As a result of using removal actions to address immediate threats and dividing the Operable Unit 3 remedy process into two phases, the decision process has been accelerated by more than three years.

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 was achieved. Fernald resumed waste shipments to NTS in December. Approximately 105,000 cubic feet of waste were shipped to NTS as of March 31, 1996. The fiscal year 1996 goal is to ship 309,000 cubic feet of waste to NTS.

Solidification of approximately 6,000 gallons of thorium nitrate acid in to 55-gallon drums was completed, eliminating a significant environmental and health hazard to workers and the community. Planning for the final disposition of the 371 drums of solidified thorium nitrate cement is underway.

Fernald has shipped 700,000 pounds of normal uranium materials to AlliedSignal's facility in Metropolis, Ill. A contract to ship an additional 470,000 pounds of normal uranium was signed March 1.

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The normal uranium shipments, expected to be completed by the end of fiscal year 1996, will mark the removal of essentially all of the normal uranium portion of the Fernald site's total nuclear material inventory.

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 duct work. Safe Shutdown activities in the Plant 9/Thorium Complex have been completed. Plant 5 Safe Shutdown activities have begun. Safe Shutdown activities, including utility disconnections and holdup material removal, in the Pilot Plant are ongoing. Advance planning is underway for Safe Shutdown of Plant 2/3.

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. An engineering study is being conducted to determine if scrap copper wire with asbestos-containing insulation can be effectively decontaminated for free release. The study is being conducted by Manufacturing Sciences Corp. of Oak Ridge, Tenn., under a contract awarded in September 1995. Final results of the study are expected in late summer 1996.

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. Upon approval 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 Fernald's ongoing asbestos abatement activities to manage asbestos in-place and to mitigate the potential for asbestos fiber release. Asbestos abatement has been fully completed in seven buildings and is ongoing in several others. 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. Two HWMUs are pending Ohio EPA approval; closure certifications have been sent to Ohio EPA on three HWMUs; and complete closure certification has been obtained on eight HWMUs.

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: John Trygier, DOE Fernald Area Office Operable Unit 3 team leader, 513-648-3154.