

2328

**PROGRESS REPORT OPERABLE UNIT 3
FORMER PRODUCTION AREA JULY 1991**

07/01/91

**2
PROGRESS REPORT**



Fernald Site

Remedial Investigation/ Feasibility Study 2328

PROGRESS REPORT

JULY 1991

Operable Unit 3 FORMER PRODUCTION AREA

Introduction

The Remedial Investigation/Feasibility Study (RI/FS) is the blueprint for cleanup at the U.S. Department of Energy's Fernald Site. The nature and extent of contamination at the site and surrounding areas is being thoroughly investigated so that appropriate remedial actions can be formulated and implemented.

The Fernald Site has been divided into five sections, known as Operable Units, for environmental investigation and cleanup. The Operable Units were defined based on their location or the potential for similar technologies to be used in the ultimate cleanup.

During the course of the RI/FS effort, certain conditions are occasionally identified which call for more immediate action. These actions are called "Removal Actions" and are initiated when there is a need to accelerate cleanup activities to address releases or potential releases of hazardous substances. Removal Actions are coordinated with the U.S. EPA and the Ohio EPA.

Following is a progress report on Operable Unit 3 including its history, the current status of RI/FS activities, cleanup alternatives under consideration, and work that is being done to alleviate near-term concerns.

Background

Operable Unit 3, the former production area and other suspect areas, is one of the largest and most complex of the Fernald Site Operable Units, largely due to the wide variety of former processing facilities located in this 136-acre study area. When the site mission was production of high-purity uranium metal for U.S. Defense Programs and the processing of quantities of thorium to support other DOE programs, large quantities of radioactive materials and hazardous chemicals were used in the various plants involved in the process. Operable Unit 3 focuses on cleanup of contamination that occurred in the former production area as a result of the 37-year production mission at the Fernald Site. The primary contaminant is uranium, and the main focal points of cleanup are soils, perched groundwater, buildings, equipment and support facilities.

RI/FS Activities

- A task force has been formed to support the development of an addendum to the RI/FS Work Plan to define the work activities necessary to complete the RI/FS for Operable Unit 3. Consistent with the outcome of a dispute under the terms of the Consent Agreement between the DOE and the U.S. EPA, the definition of Operable Unit 3 has been expanded to include all former process buildings, structures and equipment, and inventoried hazardous materials. The task force is comprised of personnel from the DOE, Westinghouse Materials Company of Ohio, Advanced Sciences Inc./IT Corporation, and the Ralph M. Parsons Company. These personnel are examining the newly considered Operable Unit 3 facilities, existing sampling data, and historical records for the purpose of laying out a logical characterization program to support the completion of the RI/FS process. The date for submittal of the Work Plan Addendum is a subject of the ongoing negotiations between the DOE, U.S. EPA and Ohio EPA.
- Development of the Remedial Investigation and Feasibility Study reports is on hold pending completion and U.S. EPA approval of the Work Plan Addendum.

Cleanup Alternatives

Several cleanup alternatives have been identified for Operable Unit 3. All of these options include regular maintenance and monitoring. Much of the cleanup work involves disposition of materials, treating and eventual decontaminating and decommissioning, and disposal in approved, engineered facilities either on the property or off site. More definitive descriptions of viable alternatives will be provided in subsequent reports, pending the completion of the Work Plan Addendum.

Removal Actions

The *Perched Groundwater Removal Action* was initiated to minimize the potential for uranium-contaminated groundwater to infiltrate the underlying aquifer from perched water zones located beneath some former production buildings.

"Perched" water settles in underground pockets separated from the underlying aquifer by impermeable layers of clay. Volatile Organic Compounds (VOCs) were identified during initial pumping operations beneath Plant 6 in April 1990. Analysis of extracted water samples showed the presence of VOCs such as trichloroethylene and trichlorethane (typically-found solvents and degreasers used in the former metals fabrication plant). Pumping activities were halted at that time, and the removal action work plan was modified to address the VOC contamination. Pumping of groundwater from the extraction wells in Plant 6 resumed on May 31, 1991. The water is currently being collected in a tank located near Plant 6, pending the final completion and startup of a carbon adsorption water treatment system in Plant 8 scheduled for late July. Following treatment for VOCs in Plant 8, the water will be sent through existing wastewater treatment facilities at the Fernald Site to address the uranium concentrations, and eventually discharged to the Great Miami River.

Perched water has also been identified beneath Plant 2/3 and Plant 9. Four-inch testing wells, additional piping and a collection system will be installed in Plant 2/3 and Plant 9 in support of the *Perched Groundwater Removal Action*. Pumping of perched groundwater from beneath those two plants is expected to begin late this summer. The treatment

system in Plant 8 also will be used to address VOCs, as necessary, in the perched water collected from beneath these plants.

The purpose of the *Plant 1 Pad Continuing Release Removal Action* is to protect surface soils and regional groundwater from continuing releases of hazardous materials resulting from storage activities on the eight-acre Plant 1 storage pad. This removal action includes the installation of three covered storage structures with a combined 103,500 square feet over an addition to be built adjacent to the existing pad, and the installation of a polyethylene liner and epoxy coating over the existing pad surface to minimize contaminant migration to the environment. Also being requested are two, 27,000-square-foot sprung structures to be installed over portions of the existing pad surface. A revised work plan incorporating U.S. EPA comments was submitted to the U.S. EPA in mid-June 1991. Construction work is expected to begin later this year.

More information about Operable Unit 3 is available in the Public Environmental Information Center, where Fernald Site cleanup documents are kept in the Administrative Record. The PEIC is located in the JAMTEK building, 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030. The telephone number is (513) 738-0164.