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**PROGRESS REPORT OPERABLE UNIT 2 OTHER
WASTE UNITS JUNE 1993**

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Remedial Investigation/ Fernald Project Feasibility Study

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PROGRESS REPORT

JUNE 1993

Operable Unit 2 OTHER WASTE UNITS

Rod Warner
DOE Manager,
Operable Unit 2
648-3156

Introduction

The Remedial Investigation/Feasibility Study (RI/FS) is the blueprint for cleanup at the U.S. Department of Energy's Fernald Environmental Management Project. The nature and extent of contamination at the Fernald 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 2 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 2 includes the sanitary landfill, lime sludge ponds, inactive flyash disposal area, active flyash pile and the southfield area. These areas were used to dispose of flyash, spent lime, sanitary waste and construction rubble from past operations at the Fernald site. Operable Unit 2 contains large volumes of waste materials with relatively low concentrations of radioactive and chemical contaminants. While uranium is the primary contaminant, investigations

are in progress to confirm that elevated concentrations of other hazardous constituents are not present within Operable Unit 2 facilities.

RI/FS Activities

Sampling: DOE and U.S. EPA reached agreement on a series of actions resulting from the Fernald site's inability to meet schedule milestones for key documents leading up to the Record of Decision (ROD) for Operable Unit 2.

The Remedial Investigation (RI) report submitted last fall was disapproved by the U.S. EPA, which cited deficiencies in the environmental data used to define the extent of contamination and support risk assessment and other requirements of the RI report.

DOE requested and U.S. EPA denied an extension of the remainder of the Operable Unit 2 schedule to accommodate the need for additional field sampling and analysis to address the deficiencies cited by the EPA. The matter was resolved by the informal dispute resolution process under the terms of the 1991 Amended Consent Agreement.

Under the settlement, the December 10, 1993 ROD date for Operable Unit 2 has been extended until January 5, 1995. ROD dates for Operable Unit 1 (waste pit area), Operable Unit 3 (former production area), and Operable Unit 5 (environmental media) will be accelerated by 30 days each. DOE also agreed to spend at least \$2 million in performing a supplemental environmental project to reduce uranium discharges to the Great Miami River, and pay a \$50,000 penalty assessed by the U.S. EPA.

Additional field samples from Operable Unit 2 waste facilities have been collected for analysis to ensure that the data available provides a high confidence level for final cleanup recommendations. Validated laboratory results are expected to be available beginning in August 1993.

Reports: Treatability studies to establish whether identified waste treatment technologies are effective have been completed for Operable Unit 2. Data included in the study may be used to support Operable Unit 2 treatment technology selection and remedy implementation. A Treatability Study Report for Operable Unit 2 has been approved with comments by the U.S. EPA. Those comments are presently being addressed.

Operable Unit 2 treatability investigations were focused on the application of cement-based solidification to Operable Unit 2 waste material. A three-stage treatability study has been completed at the International Technologies' Environmental Technology Development Center. The final stage of treatability involved leachate analysis and permeability testing of selected waste-cement mix designs.

Remedial Design: Conceptual design engineering was initiated for Operable Unit 2 for purposes of establishing preliminary design parameters and cost estimates. Conceptual engineering is proceeding based upon adapting representative remedial action alternatives for each of the Operable Unit 2 waste facilities as identified in available RI/FS documents. Conceptual design for the containment alternatives is complete for the Active Flyash Pile, Solid Waste Landfill, and Lime Sludge Ponds. Conceptual engineering is proceeding in parallel with the RI/FS to properly position Operable Unit 2 waste facilities for the prompt implementation of remedial action following issuance of the Record of Decision for Operable Unit 2.

Removal Action

Inactive Flyash Pile Erosion Control: The purpose of this interim activity was to stabilize the east bank of Paddy's Run adjacent to the Inactive Flyash Pile. This project was completed May 6, 1993, when a weighted rock berm was constructed to prevent further soil erosion. The need for possible additional action is being evaluated. Continuation of soil erosion could have eventually undermined the Inactive Flyash Pile's western slope and, over time, resulted in discharge of flyash and potentially contaminated waste and fill into Paddy's Run.

Cleanup Alternatives

Several cleanup options have been evaluated for Operable Unit 2. One method would entail placing a cover over the wastes to cap them in place and prevent stormwater runoff from carrying contaminants to groundwater and surface waterways.

Under a second alternative, contaminated water located beneath the waste units would be isolated, removed, and treated before being discharged to the Great Miami River. Then a cover would be placed over the waste units as a final step.

Other options include removing the waste, treating it, and either disposing of it in an engineered structure at the Fernald site or transporting it to an approved off-site waste disposal facility.

More information about Operable Unit 2 is available in the Public Environmental Information Center (PEIC), where Fernald Project 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.