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

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FACTSHEET**



Fernald Project

Remedial Investigation/ Feasibility Study

PROGRESS REPORT

FEBRUARY 1993

Operable Unit 2 OTHER WASTE UNITS

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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 has requested U.S. EPA approval of modifications to the Amended Consent Agreement for the completion of Operable Unit 2 RI/FS activities. The request was made February 2, 1993, following U.S. EPA's disapproval of the Remedial Investigation (RI) Report because of the need for additional field sampling and laboratory analysis to characterize the nature and extent of contamination.

In its review comments to DOE in December 1992, the U.S. EPA concluded that data contained in the RI report for Operable Unit 2 do not adequately support the risk assessment and other activities necessary for the Record of Decision (ROD), the document which determines the final remediation requirements for Operable Unit 2. U.S. EPA and Ohio EPA comments reflect a general concern regarding the adequacy of the available data to support the decision process. The U.S. EPA concluded that available data does not appropriately describe the nature or extent of contamination associated with the Operable Unit 2 waste units and may be insufficient to support the evaluation of remedial alternatives.

The potential need for additional field investigation was discovered during post-Remedial Investigation sampling and analysis. During the summer of 1992, three trenches were dug in the Solid Waste Landfill and radioactive and volatile organic contaminants were detected at levels considerably higher than expected, based on previous sampling. In addition, analysis of perched groundwater samples taken from a monitoring well last summer in the South Field area found uranium concentrations at levels higher than those encountered during previous sampling activities.

The DOE has proposed that additional field sampling and analysis be performed to ensure that the data available provides a high confidence level for the evaluation and recommendation of remedial alternatives.

In a letter to U.S. EPA and Ohio EPA, the DOE proposed that Operable Unit 2 waste units be managed in two groups. Group 1 would consist of the above-grade flyash component of the Active Flyash Pile and the Lime Sludge Ponds. Group 2 would consist of the below-grade component of the Active Flyash Pile, Inactive Flyash Pile, South Field area, and Solid Waste Landfill.

The DOE has proposed that the current Record of Decision date of December 10, 1993, be extended to March 1, 1995, for the below-grade component of the Active Flyash Pile, Inactive Flyash Pile, South Field area, and Solid Waste Landfill. The current December 1993 Record of Decision date in the Amended Consent Agreement would be retained as an Interim Record of Decision for the proposed Group 1 portions, since they require significantly less additional field data than do the waste units in the proposed Group 2.

In parallel, DOE has proposed that the submittal of primary Operable Unit 2 documents to U.S. EPA, including the Revised RI Report, Feasibility Study Report and Proposed Plan, be extended accordingly.

In a letter to the DOE dated February 9, 1993, the U.S. EPA disapproved the schedule extension request. The U.S. EPA stated that the additional work suggested could not be evaluated without more information pertaining to the proposal. DOE and U.S. EPA were to meet February 17, 1993, to discuss the proposed Operable Unit 2 work scope and schedule.

DOE's letter to the U.S. EPA and Ohio EPA requesting the schedule extension, and U.S. EPA's response letter to DOE, are available for public review at the Fernald site's Administrative Record located in the Public Environmental Information Center.

Reports: Treatability studies to establish whether identified waste treatment technologies are effective have been completed for Operable Unit 2. Data included in the study will 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 was completed at the IT Environmental Technology Development Center in April 1992. The final stage of treatability involved leachate analysis and permeability testing of select 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.

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.