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**OPERABLE UNIT 1 - WASTE PITS REMEDIAL ACTION PROJECT -
DEEMBER 1995 FACT SHEET**

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FACT SHEET

Operable Unit 1

Waste Pits Remedial Action Project

December 1995

Introduction

Operable Unit 1 is one of five well-defined areas undergoing remediation at the U.S. Department of Energy's (DOE) Fernald Environmental Management Project. The operable units were defined, based on their locations or the potential for similar technologies to be used in the ultimate cleanup.

Operable Unit 1 located in the northwest quadrant of the Fernald site (west of the former production area). Operable Unit 1 covers approximately 37 acres.

Operable Unit 1 consists of Waste Pits 1, 2, 3, 4, 5, and 6; the Burn Pit (used for the disposal and burning of waste); the Clearwell (a settling basin for surface water runoff); miscellaneous structures and facilities such as berms, liners, concrete pads, underground piping, utilities, railroad tracks, fencing; and soil within the Operable Unit 1 boundary. Paddy's Run, an intermittent tributary of the Great Miami River, runs along the west side of Fernald property between Operable Unit 1 and the site boundary.

Built between 1952 and 1979, the six waste pits were used for storing wastes generated during various chemical and metallurgical processes during Fernald uranium production operations.

Remedial Design

The remedial design consists of technical analyses and implementing engineering procedures in the development of design documents. *The Remedial Design Work Plan for Remedial Actions at Operable Unit 1* (RDWP) was developed to identify deliverables and present the schedule for their submittal to U.S. EPA (in coordination with the Ohio EPA). On July 7, 1995, the final Operable Unit 1 remedial design work plan was transmitted to U.S. EPA and Ohio EPA.

On March 1, 1995, U.S. EPA signed the ROD for remedial actions at Operable Unit 1.

The selected remedy presented in the Operable Unit 1 ROD is excavation of the waste pit contents, waste processing and treatment by thermal drying (as necessary to remove free water), and off-site disposal at a permitted commercial disposal facility at the Nevada Test Site (NTS).

On Oct. 24, 1995, the Operable Unit 1 preliminary design packages I and II, the first remedial design deliverables, were submitted to U.S. EPA and Ohio EPA. Comments are expected from the agencies by Dec. 26.

Simultaneous with the document submittals to the regulatory agencies, these remedial design packages were made available at the Public Environmental Information Center. A comment-response package will be developed to address U.S. EPA's and Ohio EPA's comments. Necessary changes will be made in the pre-final design packages.

The Operable Unit 1 waste pits range in size from that of a baseball diamond to a football field and vary in depth from 13 to 30 feet. More than 700,000 cubic yards of contaminated materials are estimated to be associated with the cleanup of the waste pits.

At the preliminary design stage, the pattern and direction for the design process were formulated; however, many details must still be developed.

Operable Unit 1 Remediation

Key components of the Operable Unit 1 remediation process include:

- Excavation, and transfer of waste to the process area, performed with conventional material-handling equipment;
- Preparation and processing of materials from the waste pits to produce a feed material amenable to that which would come from a dryer;
- Thermal drying, in which different types of feed (i.e., solid or slurry) are accepted;
- Off-gas treatment by a system designed to remove, to acceptable levels, contaminants which might be present in emissions from the drying process prior to discharge to the atmosphere;
- Blending to optimize waste for attaining compliance with the disposal facility waste acceptance criteria; loadout facilities designed with provisions for dust suppression to minimize any potential spread of contamination;
- Rail shipment, the planned transportation mode, to a permitted commercial disposal facility;

-- disposal at the permitted commercial disposal facility. (This facility has not yet been selected. Until the selection, the remedial design will reflect the use of the Envirocare disposal site, located in Clive, Utah, as the representative permitted commercial disposal facility.

Dewatering, Excavation, Evaluation Program (DEEP)

The Dewatering, Excavation, Evaluation Program (DEEP) was a short-term field program aimed at determining the best technique to excavate the waste pit material. The field work involved digging trenches in Waste Pits 1, 2, and 3 to test various types of excavation methods. Several different techniques are available for excavating the Operable Unit 1 wastes. The DEEP tests helped identify the most efficient method.

Phase I of DEEP, which involved taking samples via borings to obtain data on the engineering properties of the wastes in the pits and soils in the area, was completed in November 1994.

Phase II of the field work for DEEP was completed in March 1995. Field work consisted of wet excavation activities in Waste Pits 1, 2, and 3. Although they are covered with soil, these waste pits contain saturated wastes. Because wet excavation presents special challenges, the field program provided information on the best method to remove water from the excavation area and helped identify the best methods and equipment for excavation. During the DEEP field work, seven excavations were performed in Waste Pits 1, 2, and 3.

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Results of DEEP confirm conventional excavation of the waste pits is feasible and can be done safely. Many lessons learned occurred throughout the duration of DEEP. These "lessons" will be incorporated into the operating plans for actual excavation of the Operable Unit 1 waste pits.

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 1, contact: Dave Lojek, DOE Fernald Area Office Operable Unit 1 branch chief, 513-648-3127.