

# Operable Unit 1

## Waste Pits Remedial Action Project

March 1997

### Operable Unit 1

Operable Unit 1 is one of five areas being remediated at DOE's Fernald Environmental Management Project (FEMP). Each operable unit was defined based on its location or the potential for similar technologies to be used in the ultimate cleanup.

Based on investigations and studies performed to determine the nature and extent of contamination in Operable Unit 1, alternatives for Operable Unit 1 remediation were developed and analyzed to determine the most appropriate remedy. On March 1, 1995, the U.S. Environmental Protection Agency (U.S. EPA) signed the *Record of Decision for Remedial Actions at Operable Unit 1*.

### Key Components of the Selected Remedy

- Excavation of the waste from the pits and residual contaminated soils from beneath the pits;
- Preparation and processing of materials from the waste pits ( sorting, crushing, shredding, etc.);
- Thermal drying (as necessary to meet the waste acceptance criteria of the On-Site Disposal Facility);
- 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;
- Off-site rail shipment, the planned transportation mode, to a permitted commercial disposal facility;
- Disposal at a permitted commercial facility. (Because this facility has not yet been selected, the remedial design/remedial action process will reflect Envirocare, in Clive, Utah, as the representative permitted commercial disposal facility.);

- As a contingency, shipment of any waste that fails to meet the waste acceptance criteria of the permitted commercial disposal facility for disposal at the Nevada Test Site; and
- Decontamination and dismantlement of the treatment facility, upon completion of the waste pit remediation activities, with dispositioning of the resultant materials in accordance with the Operable Unit 3 record of decision.

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Located in the northwest quadrant of the FEMP (west of the former Production Area), Operable Unit 1 covers 37 acres and is composed of the following:

- 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.

Paddys Run, an intermittent tributary of the Great Miami River, runs along the west side of FEMP property between Operable Unit 1 and the site boundary.



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 feet to 30 feet. More than 700,000 cubic yards of contaminated materials are estimated to be associated with the cleanup of the waste pits (6385-125).

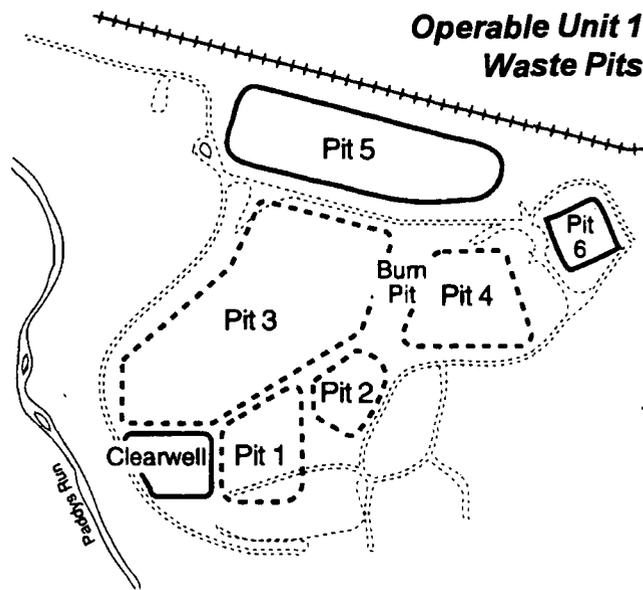
## Operable Unit 1 Remedial Design

Upon selection of the remedy, the remedial design phase of the project was initiated. During the remedial design, technical requirements and direction were developed and assessed to ensure that the remedial action is implemented in a manner that meets the requirements of the record of decision. The results of this process were documented in various planning and design documents which were developed and submitted to the U.S. EPA and the Ohio EPA for review and approval.

These deliverables included the remedial design work plan, which identified the design deliverables and the schedule for their submittal to U.S. EPA and Ohio EPA. The remedial design work plan was approved by the U.S. EPA on June 21, 1995. The next design deliverable was the preliminary design, which was approved by U.S. EPA on March 13, 1996. The final scheduled design deliverable was the pre-final design, which was approved by U.S. EPA on June 30, 1996.

Submitted with the pre-final design package was an addendum to the Operable Unit 1 remedial design work plan. The purpose of the remedial design work plan addendum is to present the design plan changes resulting from DOE's decision to pursue the Alternative Remedial Action Subcontracting Approach (ARASA) for the remediation of the Operable Unit 1 waste pits.

In general terms, the *Addendum to the Remedial Design Work Plan* indicates the pre-final design would be furthered in one of three ways. First, portions of the approved design would be folded into the statement of work for the ARASA subcontractor. Second, activities proposed in the *Site Improvement Plan* are currently being performed. Third, transportation and disposal continue to be formulated and implemented.

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**Alternative Remedial Action  
Subcontracting Approach (ARASA)**

In an effort to reduce cleanup costs associated with the remediation of Operable Unit 1, as well as for other reasons, DOE has approved the implementation of ARASA. Under this approach, the subcontractor ultimately will be responsible for excavating the waste pits and surrounding contaminated soils; processing the waste materials, as necessary, to meet the waste acceptance criteria of the disposal facility; and loading the processed waste into railcars (including the installation of a liner and lid) for shipment to a permitted commercial disposal facility.

Fluor Daniel Fernald and DOE-FEMP will be responsible for oversight of the ARASA subcontractor's activities, including acceptance of the subcontractor's "certified-for-shipment" railcars. In addition, Fluor Daniel Fernald will be responsible for transportation (both on- and off-site) and disposal activities.

Various remedial design and remedial action planning documents will be prepared by the ARASA subcontractor for review by Fluor Daniel Fernald, DOE, and the regulators. The public will be notified as these documents become available for inspection. In addition, stakeholders will be informed about the Operable Unit 1 cleanup process and activities.

The Request for Proposals for ARASA was issued Jan. 31, 1997, to potential offerors. A pre-proposal conference was held Feb. 19 and Feb. 20, 1997, for the potential offerors, during which representatives from Fluor Daniel Fernald reviewed the solicitation with the offerors and answered questions the offerors had with respect to the project.

Topics covered in the pre-proposal conference included stakeholder involvement, safety, labor relations discussions, training, environmental compliance, and various other requirements of the project. Proposals were received from the prospective offerors in early April. The ARASA subcontract is anticipated to be awarded in September 1997.

**Operable Unit 1 On- and Off-Site  
Improvement Activities**

Site improvement/preparation activities needed to support remediation facilities (including ARASA) and activities, were initiated April 1, 1996. Initiation of these activities demonstrated the beginning of substantial continuous, on-site remedial action (in accordance with CERCLA) within 15 months of signing the Operable Unit 1 record of decision (by June 1, 1996).

The on-site improvements include various activities which directly support the installation and operation of the remediation facility such as: construction of a rail loadout area (with a rail scale); drainage pipe modifications; construction of a retaining wall; installation of erosion control; site clearing and grading for construction of the waste processing facility; and activities required to construct the stormwater management system that will support Operable Unit 1 remediation. These activities are planned for completion in September 1997.

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On-site improvements also include construction of an on-site rail system to support the off-site shipment of wastes to the permitted commercial disposal facility. These improvements generally include modifications to existing rail lines in and around the ARASA subcontractor's work area; construction of a railyard to the north of the former production area for the storage of incoming empty and outgoing full railcars; and other improvements in support of this rail system such as lighting and fencing; and the upgrade of the on-site trestle over Paddys Run. A contract for rail work was awarded Oct. 8, 1996, to Annex Railroad Builders, and work is planned for completion in September 1997.

Infrastructure development activities have also progressed off site in support of the eventual shipment of waste materials to the permitted commercial disposal facility. Specifically, design activities were completed in June 1996 for bridge 270, the Okeana trestle, identified by CSXT as needing upgrades to safely support the proposed additional train traffic, which would be new to this branch line, because of the shipment of the Operable Unit 1 wastes. A contract for construction of the upgrades was awarded Feb. 14, 1997. Construction is expected to be completed by late 1997.

**Operable Unit 1 Remedial Action Work Plan**  
Approved by the U.S. EPA and Ohio EPA on Feb. 6, 1997, the *Remedial Action Work Plan for Remedial Actions at Operable Unit 1*, provides the framework for implementing remedial activities authorized under the Operable Unit 1 record of decision, the remedial design work plan and its addendum. Presented in the remedial action work plan is the overall Operable Unit 1 remedial action strategy, including a discussion of the integration of the ARASA subcontractor and DOE activities, as well as the schedule required to implement these activities.

The remedial action work plan summarizes the purpose and scope of the project, describes primary requirements and considerations for implementation of remedial action, sets forth an overall implementation strategy for the Operable Unit 1 remedial action, and provides a framework document from which the remedial action deliverables will be prepared.

The remedial action work plan proposed establishment of the following enforceable milestones for the Operable Unit 1 remedial action, which were subsequently approved by U.S. EPA and Ohio EPA with their approval of the document:

- initiation of substantial continuous on-site remedial action by June 3, 1996, i.e., within 15 months of signing of the Operable Unit 1 record of decision (This milestone has already been met, with work initiating on April 1, 1996.);
- submittal of the Operable Unit 1 transportation and disposal plan by April 30, 1998;
- initiation of operations (loading of waste which meets the waste acceptance criteria of the permitted commercial disposal facility into railcars) by March 1, 1999; and
- completion of operations (including above-grade decontamination and dismantlement of the waste pit remediation facilities) by May 31, 2005.

In addition, the remedial action work plan stipulates the ARASA subcontractor's "submittal register" will be provided to U.S. EPA and Ohio EPA within 60 days of the award of the ARASA subcontract and identifies dates for the ARASA subcontractor's remedial design and remedial action deliverables, which will form the basis for the establishment of additional enforceable milestones.

### **For More Information**

**For specific questions regarding Operable Unit 1, contact Dave Lojek, DOE FEMP Operable Unit 1 branch chief, 513-648-3127; or send an e-mail message to [Dave\\_Lojek@fernald.gov](mailto:Dave_Lojek@fernald.gov).**

**For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to [Rene\\_Eichhold@fernald.gov](mailto:Rene_Eichhold@fernald.gov).**

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