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**PROPOSED PLAN FOR REMEDIAL ACTION OPERABLE UNIT 1 - THE  
WASTE PIT AREA**

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FACTSHEET



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## **Proposed Plan for Remedial Action Operable Unit 1 - The Waste Pit Area**

*This fact sheet provides a brief discussion of the U.S. Department of Energy's (DOE) proposal for the management of contaminated materials in the area designated as Operable Unit 1 at the Fernald Environmental Management Project. This fact sheet also describes how the public can participate in the selection of, or modification to, the final cleanup remedy and explains how to obtain additional information.*

*Operable Unit 1, the Waste Pit Area, is a well-defined 37.7-acre area located in the northwest portion of the Fernald site. Operable Unit 1 consists of the following site facilities and their associated environmental media:*

- *Waste Pits 1 through 6 and their contents*
- *Burn Pit and its contents*
- *Clearwell and its contents*
- *Miscellaneous structures and facilities such as berms, liners, concrete pads, underground piping, utilities, and fencing*

*Since the beginning of uranium production operations in 1951, on-site facilities have been used for the storage of low-level radioactive wastes generated by chemical and metallurgical processes. Specifically, much of these wastes have been deposited in one of the six waste pits or the Clearwell, or burned in the Burn Pit. The majority of the wastes disposed in the pits includes general sump sludge, neutralized raffinate, and magnesium fluoride.*

*In all, there are more than 600,000 cubic yards of contaminated material associated with the waste pits.*

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**Q:** Why do we need to clean up Operable Unit 1?

**A:** A baseline risk assessment concluded that the wastes of Operable Unit 1 present an unacceptable long-term risk to human health and the environment.

While there is a potential for increased risk associated with direct contact exposures, a principal potential threat is associated with exposure to groundwater contaminated by the waste pits. Large volumes of contaminated pit materials are in very close proximity to the geologic formation of the Great Miami Aquifer. This aquifer is the sole source of drinking water in the area and has been recognized as such by the U.S. Environmental Protection Agency. In addition, significant portions of the waste pits' contents are wet (some are saturated), which means that there is a large pool of contaminated leachate that could migrate into the aquifer.

While radiological contaminants are the principal sources of risk, there are also potentially unacceptable risks associated with volatile and semi-volatile organic chemicals and heavy metals. Elevated concentrations of these contaminants are found in each of the waste pits. In general, however, the waste is not hazardous as classified by the U.S. Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) program.

**Q:** What is DOE's proposal to clean up the waste pit area?

**A:** DOE's proposal is to excavate the wastes, treat them, and dispose of them off-site. Specifically, the wastes would be excavated, treated by drying and then shipped by rail to a permitted commercial disposal facility. At present, the only permitted commercial disposal facility that could handle the volume of wastes in Operable Unit 1 is a facility located near Clive, Utah.

After excavation, the waste pits will be filled with clean soil and a protective layer -- some kind of cap -- will be placed over the area.

**Q:** What if some of the wastes can't be disposed at the permitted commercial disposal facility?

**A:** If, and only if, after sampling, it is discovered that isolated pockets of waste do not meet the waste acceptance criteria of the waste disposal facility, some waste may be disposed of at the Nevada Test Site as long as it meets the Nevada Test Site waste acceptance criteria. It is believed that no more than 10 percent of the total waste volume in Operable Unit 1 would be disposed of at Nevada Test Site under this contingency plan.

**Q:** What is the estimated cost of this cleanup proposal?

**A:** The estimated cost of this cleanup proposal is about \$513 million. The U.S. Department of Energy estimates that it will take about 8 years to complete this project.

**Q:** What other cleanup remedies were considered for Operable Unit 1?

**A:** The remedial action objectives focus on eliminating or reducing to acceptable levels human and ecological exposure to the contaminated media of Operable Unit 1. In light of these objectives, a wide range of potential remedial technologies and process options were identified; these were then screened against the criteria of effectiveness, implementability, and cost. On the basis of this screening, five remedial alternatives were considered in the detailed analysis. These five alternatives included:

**1. No Action**

Under this alternative, no further action would be taken at Operable Unit 1. The No-Action Alternative was retained to provide a baseline for comparison of alternatives.

**2. Excavation, Treatment, and On-Property Disposal**

• **Vitrification**

Under this alternative, wastes would be turned into a glass-like matrix and placed in an engineered disposal cell at the Fernald site

- **Cement Solidification**  
Under this alternative, the waste would be cement solidified and placed in an engineered disposal cell at the Fernald site

**3. Excavation, Treatment Consisting of Thermal Drying, and Off Site Disposal**

- **Offsite Disposal at the Nevada Test Site**  
Under this alternative, the waste would be excavated, treated by drying to meet waste acceptance criteria, and forwarded to the Nevada Test Site for disposal
- **Offsite Disposal at a Permitted Commercial Disposal Facility**  
Under this alternative, the waste also would be excavated and treated by drying to meet waste acceptance criteria, then shipped by rail to a permitted commercial disposal facility

**Q:** How was the preferred remedial alternative developed?

**A:** The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires that potential remedial alternatives be evaluated against specified criteria, most notably protection of human health and the environment and compliance with applicable or relevant and appropriate requirements.

The preferred alternative was judged to be more effective over the long-term in protecting human health. This is primarily due to the fact that the sole source Great Miami Aquifer is beneath the site and there is a large residential population in the immediate vicinity of the Fernald Environmental Management Project.

**Q:** How can I participate in the decision-making process for Operable Unit 1?

**A:** DOE encourages public participation in the selection of the preferred alternative for the cleanup of Operable Unit 1. When the Proposed Plan for Operable Unit 1 is available for public review and comment, it will be distributed to Nevada stakeholders through DOE officials in the Nevada office. The public comment period is anticipated to begin August 10, 1994.

Stakeholder comments on the proposed cleanup remedy and other alternatives will be evaluated and documented as part of the subsequent Record of Decision. Based on public comments or new information, DOE may modify the preferred alternative or select another.

Following the public comment period, and after accounting for public comments on the preferred alternative, DOE and the U.S. Environmental Protection Agency will sign a Record of Decision for Operable Unit 1. The Record of Decision will describe the selected remedial action and include responses to comments received during the public comment period. After the document is signed, a design plan for performing the remedial action will be prepared.

**Q:** Are there any other plans to ship Operable Unit 1 wastes to the Nevada Test Site?

**A:** DOE has proposed a pilot study to excavate the waste materials from Waste Pit 6. Waste Pit 6 is the smallest of the pits; it contains an estimated 9,600 cubic yards of waste. (Less than 2 percent of the overall volume.)

Funding has been approved for preliminary work to begin this fall, and waste could be excavated beginning in the first half of fiscal year 1996.

Once the materials have been excavated from Waste Pit 6, they will be treated by thermal drying and shipped to either the Nevada Test Site or a permitted commercial waste disposal facility for disposal.

It is currently estimated that the majority of these wastes could be disposed of at a permitted commercial waste disposal facility, with the remainder going to the Nevada Test Site.

**Q:** How do I get more information?

**A:** To obtain more information, or to get answers to questions, contact Dave Lojek, DOE's manager of Operable Unit 1, at (513) 648-3127.

Or you can get more information about Operable Unit 1 in the Public Environmental Information Center (PEIC), 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030. You can call the PEIC at (513) 738-0164.

