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**ADDENDUM TO THE RI/FS COMMUNITY RELATIONS PLAN FOR
REMOVAL ACTION NO. 18 - CONTROL EXPOSED MATERIAL IN
WASTE PIT 5**

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TO THE
RI/FS COMMUNITY RELATIONS PLAN
FOR REMOVAL ACTION No. 18
CONTROL EXPOSED MATERIAL IN WASTE PIT 5

Fernald Environmental Management Project
Fernald, Ohio

U.S. Department of Energy
Fernald Field Office

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LIST OF ACRONYMS

CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act [of 1980] (also known as Superfund)
CRP:	Community Relations Plan
DOE:	U.S. Department of Energy
EPA:	U.S. Environmental Protection Agency
EE/CA:	engineering evaluation/cost analysis
FEMP:	Fernald Environmental Management Project (formerly the Feed Materials Production Center)
FFCA:	Federal Facility Compliance Agreement
NCP:	National Oil and Hazardous Substances Pollution Contingency Plan [of 1990]
RI/FS:	remedial investigation and feasibility study
SARA:	Superfund Amendments and Reauthorization Act [of 1986]

Introduction

This document is prepared as an addendum to the Fernald Environmental Management Project (FEMP) Remedial Investigation and Feasibility Study (RI/FS) Community Relations Plan (CRP), dated August 1992. This addendum addresses Removal Action No. 18, Control Exposed Material in Waste Pit 5.

This removal action is being conducted pursuant to the laws, regulations and agreements listed below, and will comply with the provisions of each:

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), also known as Superfund, that provides for the investigation and cleanup of uncontrolled hazardous waste sites
- The Superfund Amendments and Reauthorization Act of 1986 (SARA) that renewed and updated CERCLA
- The National Oil and Hazardous Substances Pollution Contingency Plan of 1990 (NCP) that spells out how CERCLA and SARA will be implemented
- The Federal Facility Compliance Agreement of 1986 (FFCA) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) that provides for the investigation and cleanup of environmental impacts from past and present activities at the FEMP
- The Consent Agreement of 1990 that amended the FFCA and fostered consistency among the operable unit concept and the current commitments of the RI/FS program without modifying the underlying objectives
- The Amended Consent Agreement of 1991 that establishes definitions and schedules for completion of RI/FS documents for the five operable units and identifies additional specific removal actions at the FEMP

The 1990 Consent Agreement specified four removal actions and provided for the identification of three more; these seven are now referred to as the Phase One Removal Actions. The Amended Consent Agreement for the FEMP, signed on September 20 and effective on December 19, 1991, specified 11 additional removal actions, referred to as Phase Two Removal Actions.

On January 14, 1992 six more removal actions, known as Phase Three Removal Actions, were approved by EPA and three emergency removal actions were initiated. In all, the three phases total 27 separate, sequentially numbered removal actions. DOE may identify additional removal actions each year by January 15, if needed.

Objectives

The objective of removal actions under CERCLA and the NCP is to "...take appropriate action to abate, stabilize, mitigate, or eliminate the release or threat of release..." of hazardous materials or waste in a manner that reduces or eliminates the threat to public health, welfare, or the environment. Removal actions are emergency or short-term responses to immediate threats. They differ from remedial actions in that they are generally more limited in scope and cost.

Removal actions can be divided into three general categories: emergency, time critical, and non-time-critical. They are as follows:

- Emergency removal actions call for an immediate response. An Administrative Record file must be established and affected citizens must be notified.
- Time-critical removal actions have a planning period of less than six months. If on-site removal actions are expected to extend beyond 120 days, then an addendum to the CRP is required based on interviews with community residents and/or public interest groups to identify their concerns and determine ways in which residents would like to become involved.
- Non-time-critical removal actions usually have a planning period of at least six months and dictate the same community relations activities as discussed above. An added requirement is the preparation of an engineering evaluation/cost analysis (EE/CA). In this case, the addendum to the CRP must be completed before the EE/CA approval memorandum is signed.

The specific objective of Removal Action No. 18, Control Exposed Material in Waste Pit 5, a time-critical removal action, is to protect human health and the environment by eliminating the potential threat of release of contaminants from the Control Exposed Material in Waste Pit 5. Waste Pit 5 also could potentially release airborne particulate radioactive material; once this removal action is complete, all of the material will be covered with water, thereby reducing the threat of a release of airborne particulate radioactive materials.

Waste Pit 5 is a potential contributor to risk from radon emissions. Waste Pit 5 has the highest level of Radium-226 of any of the six waste pits. By completing this removal action, the threat of Radon-222 being released from Waste Pit 5 will be mitigated.

Seven initial alternatives for controlling exposed material in Waste Pit 5 were assessed. After the preliminary screening, the following four alternatives were chosen for additional evaluation:

- 1) Increase water level with pit modifications
- 2) Distribute material below the water line utilizing a crane
- 3) Distribute material below the water line utilizing a small pond dredge
- 4) Place a flexible membrane over the pit

The alternative selected is to distribute the material below the water line using a small pond dredge.

In the first alternative, Increase Water Level with Pit Modifications, the entire waste surface would be covered with water without moving any waste. For this alternative, it is estimated that the water level would need to be raised and maintained at an approximate elevation of 589.74 feet. To maintain the water level at this elevation, modifications to the berm height and the existing effluent tower would be necessary. Although this alternative would effectively reduce the mobility of the waste material and would not create any airborne emissions during implementation, it was not selected because the height of the dike by earthwork would involve significant volumes of earth – more than 11,000 cubic yards – and may not be consistent with the final action. Also, this alternative would involve a major construction effort.

In the second alternative, Distribute Material Utilizing a Crane, a crane with a clamshell would be used to move the exposed material from the east to the west end of Waste Pit 5. The crane would pick up the waste and deposit it in the west end of the pit. The crane would sit in the road just south of the pit, and would have to be repositioned once or twice to allow all of the material to be distributed to the west end of the pit. The entire waste surface would then be covered with about one foot of water, which would be inspected daily and replenished as needed. However, this alternative was not selected because the possibility of potential releases and the spread of contamination during removal action activities was high and great care would have been needed to protect the environment. Workers would have been needed near the waste material, making the occupational hazards of this alternative high.

In the third alternative, Distribute Material Utilizing a Small Pond Dredge, a small pond dredge would be used to move the exposed material from the east end to the west end of Waste Pit 5. The water level will be raised to its pre-existing elevation of 558.74 feet, and the waste would be dredged and pumped as a slurry to the west end of the pit. The entire waste surface then would be covered with an average

one foot of water. The water level would be inspected daily and replenished as necessary. Dry material will not be disturbed during the moving process, which would eliminate potential airborne releases. This removal action also is consistent with the final remedial action because it does not affect the volume or treatment method of the waste material. Using the small pond dredge keeps exposure to personnel to a minimum because the dredging operation will be conducted from a remote location. Also, the small pond dredge is a moderate cost item and incorporates proven technology and equipment.

In the fourth alternative, Flexible Membrane, the water level would be maintained at elevation 588.74 feet and all the remaining exposed material would be covered with a flexible membrane liner. Existing drainage facilities that control the water level would continue to be used. The liner would need to be a strong, tear-resistant material with good weather-resistant properties and be unaffected by the ultraviolet rays in sunlight. The liner installation would require a skilled labor force and special provisions would be necessary to accommodate its installation in one piece across the pit; equipment and personnel are not permitted to be on the exposed waste material. Three sides of the liner would be anchored, while the fourth side would be fashioned in such a way as to allow it to be pulled over the pit. The liner would need to be weighted to keep it from blowing free in the wind. Although a liner would control potential airborne emissions, installation and maintenance would be difficult. A slight amount of additional waste would be generated in the form of the liner and the weights.

Background

Waste Pit 5 was built in 1968 and was used as a surface impoundment to hold slurry waste streams from the refinery and recovery plant, including neutralized raffinate settled solids, slag leach slurry, sump slurry and lime sludge. Between 1983 and 1987, Waste Pit 5 received waste from the general sump, filtrate from the recovery plant and non-radioactive slurries. Waste Pit 5 also contains an estimated 111,700 pound of uranium and 37,450 pounds of thorium.

The pit is about 30 feet deep, covers about 161,100 square feet and contains about 98,000 cubic yards of waste material. Waste Pit 5 historically contained surface water ranging in depth from three feet in the west end to zero feet in the east end. The surface elevation of the water varied depending on precipitation and evaporation rates. Waste in the eastern third of the pit was not covered by water, and the exposed material was subject to dispersal from wind erosion. At present, potable water is being added to the pit to return the water surface to the historical elevation of 588.74 feet.

Waste Pit 5 is lined with a 60-mill-thick Royal Seal ethylene propylene diene monomer (EPDM) elastomeric membrane. The pit was taken out of service in February 1987 and remains uncovered.

Overview of Community Concerns

In preparing this addendum, transcripts of community meetings held on: January 31, 1989; May 15, 1989; October 24, 1989; February 20, 1990; May 22, 1990; September 25, 1990; December 11, 1990; March 19, 1991; July 16, 1991; and October 29, 1991; February 25, 1992; July 21, 1992, and November 9, 1992 were reviewed. Also reviewed were transcripts from the RI/FS Environmental Impact Statement scoping meetings held on June 12 and 13, 1990.

A 45-day public comment period for the Control Exposed Material in Waste Pit 5 Removal Action was held from November 4 - December 18, 1992. The announcement ran in three local newspapers. There were no oral or written comments submitted.

Highlights of Community Relations Activities

Community concerns regarding the Control Exposed Material in Waste Pit 5 Removal Action suggest an active FEMP community relations effort with the following objective:

- Maintain an active effort to keep interested community members informed throughout the implementation of the Control Exposed Material in Waste Pit 5 Removal Action.

The following specific activities have been identified to support the community relations objective for this removal action:

1. Prepare one or more fact sheets or updates for the purpose of providing information about the removal action and answering key concerns about the Control Exposed Material in Waste Pit 5 at the FEMP and distribute them at the quarterly public meetings.
2. Devote some portion of future community meetings to this issue; update the RI/FS exhibit to include new information as it becomes available. (Community meetings are held at regular intervals on dates selected by DOE.)
3. Include coverage about the Control Exposed Material in Waste Pit 5 Removal Action in the Fernald Project Cleanup Report as needed during the removal action.
4. Offer a roundtable presentation on the Control Exposed Material in Waste Pit 5.

5. Provide a 24-hour phone line at the FEMP so concerned citizens can contact a FEMP representative during a time of alarm. The number is 513-738-6295, which is FEMP Security.
6. Make appropriate additions to the Administrative Record and publicize their availability at the Public Environmental Information Center, JAMTEK Building, 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030.

Timetable

The preparation of materials for all community relations activities will be tied to the removal action schedules. For a complete list of schedule dates and activities, please see the Control Exposed Material in Waste Pit 5 Work Plan, which is in the Administrative Record, located at the Public Environmental Information Center. The activities will be scheduled to provide the maximum flexibility and information to the public. The work plan for this removal action has been approved by EPA. Discussions and updates on the status of the removal action will be given at future public meetings.

REFERENCES

1. U.S. Department of Energy, "Fernald Environmental Management Project Control Exposed Material in Waste Pit 5 Removal Action Number 18 Work Plan," July 1992.

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