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**ADDENDUM TO THE RI/FS COMMUNITY RELATIONS PLAN FOR
REMOVAL ACTION NO. 22 - WASTE PIT AREA CONTAINMENT
IMPROVEMENT**

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TO THE
RI/FS COMMUNITY RELATIONS PLAN
FOR REMOVAL ACTION No. 22
WASTE PIT AREA CONTAINMENT IMPROVEMENT

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. 22, Waste Pit Area Containment Improvement.

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. 22, Waste Pit Area Containment Improvement, a time-critical removal action, is to protect human health and the environment by eliminating the potential threat of release of contaminants from the Waste Pit Area. The removal action will improve the containment of specified contaminated soil areas, correct the Waste Pit 4 south berm, protect the Burn Pit from wind erosion and improve the vegetation cover on the waste pits.

An evaluation of inhalation exposure from suspended airborne contaminants and direct radiation exposure from surface contamination was conducted. From site inspections and aerial photographs, exposed soil surfaces were found on the roads and shoulders, graded areas, water drainage paths and on the waste pits. A total of eight areas of concern were identified:

- Immediate area between Waste Pits 4 and 6
- Area south and east of Waste Pit 2
- Section east of the waste pit area
- The cover on Waste Pit 3
- Waste Pit 4 South Berm erosion
- Burn Pit wind erosion
- Vegetation cover on the waste pits
- Weston Road area

Surface contamination involving radionuclides has been detected along the roads in the drainage ditches within the waste pit area. Elevated radioactive contamination levels were detected along the road in the drainage ditches between Waste Pits 3 and 5, between Waste Pits 4 and 6, and south of Waste Pits 4 and 6. Elevated radioactive contamination levels also were detected on the road between Waste Pits 4 and 6. In order to mitigate the potential for a release of contamination, these drainage ditches will have to be upgraded and the road between Waste Pits 4 and 6 will have to be improved. The road between Waste Pits 4 and 6 already has been covered with a one-ply layer of a special mat to allow access to Waste Pit 5.

The toe of the slope of the Waste Pit 4 south berm area has eroded. The primary cause of the erosion is a drainage ditch located at the toe. Some moderate erosion gullies and rills are evident on the berm slope. The main focus of the repairs to the berm will concentrate on erosion controls of the ditch at the toe of the dike and across its total width.

Excessive traffic and wind erosion have caused areas of the Burn Pit to become exposed. Vehicle traffic on the Burn Pit now is being controlled by administrative access points. The only traffic allowed on the Burn Pit now is to provide access to the monitoring wells in the area. The exposed material could potentially migrate through fugitive dust emissions or surface water runoff. The cover on the Burn Pit needs to be improved to protect the Burn Pit from further erosion.

There are several areas of stressed vegetation on the surface of Waste Pits 1, 2 and 3. It is estimated that the exposed area is less than 10 percent of the total surface area of Waste Pits 1, 2 and 3. These areas of stressed vegetation are exposing potentially contaminated soil which might become airborne or migrate

through surface water runoff. The vegetative cover needs to be improved in various areas of Waste Pits 1, 2 and 3.

To improve containment of specified contaminated soil areas, selected drainage ditches will be improved and a layer of special mats will be placed on the road between Waste Pits 4 and 6. The Waste Pit 4 south berm erosion will be corrected by constructing a foundation of broken stones, or riprap. A soil and vegetative cover will be put over the Burn Pit and Waste Pits 1, 2 and 3 to protect against erosion in the Burn Pit and to improve the vegetation cover on the waste pits.

Background

The Waste Pit Area covers approximately 23 acres of the FEMP site and consists of Waste Pits 1 through 6, the Clearwell and the Burn Pit. When the FEMP was in operation, low-level radioactive waste generated by the various chemical and metallurgical processes were deposited in one of the 6 waste pits or burned in the Burn Pit.

Waste Pit 1 was backfilled and covered with clean soil in 1959. It was built in 1952 in existing native clay and then lined with an additional four feet of clay. The maximum depth of the pit is 17 feet. It has an 80,000 square foot surface area with an estimated 40,000 cubic yards of buried waste. The pit contains neutralized waste filter cake, fly ash, scrap graphite, brick scraps, sump liquor/cake, depleted slag and an estimated 115,000 pounds of uranium.

In 1964, Waste Pit 2 was backfilled and covered with clean soil. Pit 2 was built in 1957 in native clay with a 17-foot maximum depth. It has a 48,215 square foot surface area with an estimated 13,000 cubic yards of buried waste. This pit contains neutralized waste filter cake, scrap graphite, brick scrap, concrete, construction rubble, sump liquor/cake, depleted slag, an estimated 2,700,000 pounds of uranium and approximately 900 pounds of thorium.

Waste Pit 3 was taken out of service, backfilled and covered with clean soil in 1977. It was built in 1959 in an existing clay layer and was lined with an additional foot of clay. The maximum depth of the pit is 27 feet. It has a 238,500 square foot surface area with an estimated 227,000 cubic yards of buried waste. This pit contains lime-neutralized raffinate, raffinate concentrate, slag leach residues, filter cake and fly ash. There are an estimated 290,000 pounds of uranium and approximately 900 pounds of thorium.

Waste Pit 4 was covered with clean soil in 1986. A special cap was placed over Waste Pit 4 in 1988 and the pit was closed under an interim plan. This is a clay-lined pit and was built in 1960. It has a maximum depth of 24 feet and an 85,685 square foot surface area with an estimated 53,000 cubic yards of buried waste. This pit contains process residues, raffinates, slurries, filter cake, lime sludge, 23,500 pounds of

barium chloride, scrap graphite, noncombustible trash, asbestos and construction rubble. There are an estimated 1,400,000 pounds of uranium and 140,000 pounds of thorium.

Waste Pit 5 was taken out of service in 1987 and then covered with water. It was built in 1968 and is lined with a 60-mil-thick Royal-Seal ethylene rubber elastomeric membrane. The pit contains an estimated 102,500 cubic yards of settled waste material consisting of neutralized raffinate, slag leach slurry, sump slurry, lime sludge and some construction debris. There are an estimated 110,000 pounds of uranium and 38,000 pounds of thorium in the pit.

Waste Pit 6 was taken out of service in 1985 and covered with water. It is a 32,400 square foot, 24 foot deep pond lined with a 60-mil-thick Royal-Seal ethylene rubber elastomeric membrane. Built in 1979, the pit contains an estimate 9000 cubic yards of waste material consisting green salt, filter cake, depleted slag and process residues. There are an estimated 950,000 pounds of uranium.

The Burn Pit currently is overgrown with grass and part of it is overlain by the Waste Pit 4 berm and liner. There is a dirt access road on the Burn Pit which is now only used to access the monitoring wells in the area.

The Burn Pit was excavated in 1957 as a clay borrow pit. Its exact depth and size are not precisely known, but it is believed to be about 20 feet deep. The pit was used to dispose of and burn laboratory chemicals and such low-level contaminated materials such as wooden pallets. The residual waste quantities are not known.

From 1952 until 1987, the Clearwell was used as a final settling basin for process water that passed through Waste Pits 3 and 5 prior to being discharged to the Great Miami River. The Clearwell now receives surface water runoff from Waste Pits 1, 2 and 3 and excess storm water from Waste Pit 5.

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 Waste Pit Area Containment Improvement 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 Waste Pit Area Containment Improvement 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 Waste Pit Area Containment Improvement 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 Waste Pit Area Containment Improvement 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 Waste Pit Area Containment Improvement Removal Action in the Fernald Project Cleanup Report as needed during the removal action.
4. Offer a roundtable presentation on the Waste Pit Area Containment Improvement.
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 Waste Pit Area Containment Improvement Work Plan, which is in the Administrative Record, located at the Public

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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.

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REFERENCES

1. U.S. Department of Energy, "Fernald Environmental Management Project Waste Pit Area Containment Improvement Removal Action Number 22 Work Plan," August 1992.