5974 R-027-1002.1

ADDENDUM TO THE RI/FS COMMUNITY RELATIONS PLAN FOR REMOVAL ACTION NO. 16 - COLLECT UNCONTROLLED PRODUCTION AREA STORMWATER RUNOFF

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TO THE

RI/FS COMMUNITY RELATIONS PLAN

FOR REMOVAL ACTION No. 16

COLLECT UNCONTROLLED PRODUCTION AREA STORMWATER RUNOFF

Fernald Environmental Management Project
Fernald, Ohio

U.S. Department of Energy
Fernald Field Office

August 1992

TABLE OF CONTENTS

SECTION	PAGE
List of Acronyms	ii
Introduction	1
Objectives	2
Background	3
Overview of Community Concerns	6
Highlights of Community Relations Activities	6
Timetable	7
References	8

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
RSE:	removal site evaluation
SARA:	Superfund Amendments and Reauthorization Act [of 1986]
SSLS:	storm sewer lift station
SWRB:	Storm Water Retention Basin
TCLP:	toxicity characteristic leaching procedure

Introduction

This document was prepared as an addendum to the Fernald Environmental Management Project (FEMP) Remedial Investigation and Feasibility Study (RI/FS) Community Relations Plan (CRP), dated August 1990. This addendum addresses Removal Action No. 16, Collect Uncontrolled Production Area Stormwater Runoff.

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 legislation 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 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 objective of Removal Action No. 16, Collect Uncontrolled Production Area Stormwater Runoff, a time-critical removal action, is to protect human health and the environment by collecting the uncontrolled production area stormwater runoff which currently flows directly to Paddys Run. This would eliminate the possibility of the migration of uranium-contaminated runoff to the groundwater via infiltration along the streambed.

A removal site evaluation (RSE) was performed and indicated that runoff could have an adverse impact on human health and the environment, and that a time-critical removal action was appropriate for the production area stormwater runoff. A RSE is an evaluation of present conditions at an area of the site suspected of posing an immediate threat to human health or the environment. It is performed to determine whether a removal action is needed and whether it is time-critical or non-time critical. Usually, the determination is based on the complexity of the problem or the severity of the threat. If the evaluation determines that a removal action is appropriate, a work plan for the removal action is prepared and is submitted to the U.S. EPA and the Ohio EPA. For a non-time critical removal action, an EE/CA, which similar to the RSE but is a more detailed evaluation of the alternatives, is done.

Background

The FEMP production area includes those facilities previously used to produce high-purity uranium metals using various chemical and metallurgical processes. Past activities also included thorium processing and recycling of fuel materials. The production area is confined within a 136-acre fenced area located approximately in the center of the 1050-acre site.

The majority of the stormwater from the 136-acre production area is collected in the existing storm sewer system and discharged into the storm water retention basin (SWRB) for appropriate handling. Several perimeter subdrainage areas of the production area, collectively about eight acres, currently do not drain to the existing storm sewer system but flow uncontrolled away from the production area. This uncontrolled stormwater runoff contains various concentrations of dissolved uranium and other contaminants.

The uncontrolled stormwater runoff from the production area flows to Paddys Run by means of drainage ditches and culverts. Upon entering Paddys Run, the potential exists for these contaminants to migrate to the Great Miami Aquifer via infiltration. This aquifer is within the buried valley aquifer of the Great Miami River Basin, which was designated a sole-source aquifer by the EPA under Section 1424(e) of the Safe Drinking Water Act. This designation implies that the aquifer is the sole or principal source of drinking water for this area. Contamination of Paddys Run and/or the underlying aquifer may pose potential exposure risks to public health and the environment. A removal action, which addresses contamination in the aquifer, entitled "South Groundwater Contamination Plume," is currently underway.

Human exposure to the contaminants in the stormwater runoff may occur as a result of the release of contaminants into Paddys Run. The contaminants then may be discharged from Paddys Run to the Great Miami River or the underlying sand and gravel aquifer. Paddys Run is not used as a drinking water supply. Some potential exposure pathways include: ingestion of contaminated sediment from the stream

by children who often play in the creek; ingestion of contaminated groundwater from the aquifer underlying Paddys Run; ingestion of crops irrigated by contaminated water; ingestion of beef from cattle exposed to uranium through water and grazing and ingestion of milk from cows exposed to uranium through water and grazing.

Currently, the storm sewer system from the production area flows to Manhole 34. A 14-inch dam in the 60-inch-diameter storm sewer downstream of Manhole 34 diverts normal flow into the wetwell of the storm sewer lift station (SSLS). The lift station pumps the normal dry weather flow in the storm sewer system to the Great Miami River via Manhole 175.

During periods of heavy precipitation, the flow collected in the storm sewer will overflow the 14-inch high dam in the 60-inch storm sewer and flow to the SWRB, which is designed to retain a 10-year/24-hour rainfall event (approximately 10.2 million gallons). The most recent occurrence of this magnitude was in May 1990 when two days of heavy rain caused the SWRB to overflow. It is important to note that this type of overflow does not violate any environmental laws.

In the event of a release, the discharge from the SWRB can be diverted to the general sump or to the biodenitrification surge lagoon for further treatment, if necessary. A recently designed project will modify Manhole 34 to allow all storm sewer water to flow to the SWRB instead of being pumped to the Great Miami River. In the event of a spill, Manhole 34 will still have the ability to be diverted to the general sump. The pumping capacity of the SWRB is also being upgraded to address the additional SSLS water.

The DOE is installing a 300-gallons-per minute trailer-mounted interim advanced wastewater treatment system that will treat SWRB/SSLS effluent before discharge to the Great Miami River. This interim unit will remain in operation until the advanced wastewater treatment system comes on line, which will provide permanent treatment for a combined retention basin/lift station flow of 700-gallons per minute.

The underlying groundwater has been contaminated with inorganic and organic chemical compounds. To date, the following actions have been taken to mitigate this problem:

- A SWRB was constructed and placed in operation in October 1986 to retain runoff from the FEMP production area. Construction of an additional chamber to the SWRB was completed in December 1988. It was designed to retain the runoff from a 10-year/24-hour rainfall event, greatly reducing the volume of contaminated stormwater from the FEMP production area discharged to Paddys Run.

- Another project was completed in 1988 to control the stormwater runoff from the Plant 1 storage pad area (Surface Water Control of Plant 1 Storage Pad). Before this, stormwater runoff from several portions of the Plant 1 storage pad and adjacent areas flowed to Paddys Run via drainage ditches. The implementation of this project redirected the stormwater flows from these areas of the Plant 1 storage pad to the site storm sewer system.

- Removal Action No. 2, Waste Pit Area Runoff Control, completed in July 1992, addressed the contaminated runoff that flows from the waste pit perimeter areas to Paddys Run. In the past, DOE disposed of wastes in a series of pits located west of the production area. Most of the surface area stormwater runoff from the pits is collected in a Clearwell and treated before being pumped to the Great Miami River.

- A project called Storm Sewer Improvements - Plantwide addresses stormwater runoff from the production area. One part of this project involves expanding the existing storm sewer system so runoff from all portions of the production area is collected and channeled to the SWRB. This part of the project will be completed under Removal Action No. 16, Collect Uncontrolled Production Area Stormwater Runoff. The other part of Storm Sewer Improvements-Plantwide will provide for the rehabilitation and/or repair of several sections of the existing storm sewer system.

This removal action is a component of Operable Unit 5 under the on-going RI/FS. Construction involved in Removal Action No. 16, Collect Uncontrolled Production Area Stormwater Runoff, will include concrete drainage trenches, curbs and utilization of existing topographic features to collect the production area perimeter stormwater runoff. Stormwater collected will be redirected to the existing storm sewer system. This removal action will not impact any wetlands as currently delineated on FEMP property. Excavation activities involve the removal of enough soil to physically install concrete trench drains with steel grates. Trench drains will be installed in certain areas to intercept stormwater runoff before it leaves the FEMP production area. Storm sewer sections will be installed to connect the new trench drains to the existing storm sewer system. In other areas, curbing will be placed to redirect the runoff to the existing storm sewer system. After construction and the start-up testing period is complete, the system will be operated and maintained by Fluor Daniel Environmental Restoration Management Corporation.

The implementation of Removal Action No. 16 will require the movement of soil and other material likely to result in fugitive dust emissions. Fugitive dust emissions will be controlled by dampening the area where excavations take place. Accumulated soils will be covered to eliminate the potential for fugitive dust emissions.

Soil excavated during the installation of trench drains, curbs, storm sewer lines and concrete structures will be used as backfill to the maximum extent possible. Excess material will be handled in accordance with current site standard operating procedures.

All activities associated with Removal Action No. 16, including installation of the curbing and trench drains around the perimeter of the production area and containment of all identified contaminated soils resulting from excavation and construction activities, will be completed on or before August 30, 1993. The final report for the Collect Uncontrolled Production Area Stormwater Runoff Removal Action is scheduled to be complete in June 1994.

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, and February 25, 1992 were reviewed. Also reviewed were transcripts from the RI/FS Environmental Impact Statement scoping meetings held on June 12 and 13, 1990. Comments from the Waste Pit Area Runoff Control Engineering Evaluation/Cost Analysis workshop held on June 6, 1990, also were reviewed. At the May 22, 1990 community meeting, questions were raised regarding the May 1990 overflowing of the SWRB (mentioned above) and the fact that DOE did not write a press release on the incident. This incident was the most recent overflow incident of the SWRB.

A 45-day public comment period for the Collect Uncontrolled Production Area Stormwater Runoff Removal Action was held from May 27 - July 11, 1992. The announcement ran in three local newspapers. There were no oral or written comments submitted.

Highlights of Community Relations Activities

Community concerns regarding Removal Action No. 16 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 Collect Uncontrolled Production Area Stormwater Runoff 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 production area stormwater runoff 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 Removal Action No. 16 in the Fernald Project Cleanup Report as needed during the removal action.

4. Offer a roundtable presentation on the production area runoff.

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, located in the 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 Collect Uncontrolled Production Area Stormwater Runoff Work Plan, which is in the Administrative Record, located at the PEIC. The activities will be scheduled to provide the maximum flexibility and information to the public. The work plan for this removal action has been conditionally approved by EPA and the Ohio Environmental Protection Agency pending the incorporation of comments.

Discussions and updates on the status of the removal action will be given at future public meetings and published in future issues of the Fernald Project Cleanup Report.

REFERENCES

1. U.S. Department of Energy, "Fernald Environmental Management Project, Collect Uncontrolled Production Area Stormwater Runoff Removal Action Work Plan," February 1992