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FERNALD PROJECT CLEANUP REPORT - OCTOBER 1991

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FACT SHEET

FERNALD PROJECT CLEANUP REPORT

OCTOBER 1991



RI/FS schedules revised for Fernald Project

The U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) have completed negotiations on an amended agreement which establishes a revised schedule for the cleanup of the Fernald Environmental Management Project (FEMP).

This Amended Consent Agreement is the result of negotiations between the two federal agencies over a four-month period. The modified agreement will become effective following the incorporation of comments received by the U.S. EPA during a 30-day public comment period now in progress.

During the initial phases of environmental investigations at the FEMP, it became clear that the complexity of some of the long-term issues required more review and analysis than was originally envisioned. Often the need for additional sampling and other field work was identified by DOE and/or regulatory agencies to ensure that actions taken today provide the

best possible long-term solutions to existing environmental, safety, and health concerns.

The amended agreement establishes timetables which will allow those additional studies to continue. At the same time, some near-term "Removal Actions" will be accelerated to further reduce potential environmental risks and hasten the physical cleanup of the FEMP.

The renegotiated schedules clearly define the scope of work required to complete the Remedial Investigation/Feasibility Study (RI/FS), which has been in progress at the FEMP since 1986. DOE is committed to this new "integrated" approach which allows for the continued pursuit of final restoration under the RI/FS process, as well as accelerated cleanup results through specific Removal Actions along the way. Removal Actions are coordinated with both the U.S. EPA and the Ohio EPA to ensure that they are consistent with the expected long-term corrective actions.

Environmental restoration efforts at the Fernald Environmental Management Project have been divided into five segments, called Operable Units, addressing specific FEMP areas or facilities. Separate reports and decision documents summarizing the results of the RI/FS are being prepared for each operable unit.

The RI/FS involves extensive sampling and analysis of soil, water, and other media to detect and measure levels and extent of contamination present in the Operable Unit areas. Once the nature and extent of the contamination has been defined, analysis of alternatives for removing or immobilizing the contamination is undertaken. A Record of Decision will be issued by the U.S. EPA to specify the selected remedial alternatives for each of the Operable Units.

Following is a general description of the five Operable Units and the timetables set forth in

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The *Fernald Project Cleanup Report* is intended to update the community on activities associated with environmental studies and cleanup efforts at the Fernald Environmental Management Project. The report is designed as a supplement to information provided at regular community meetings and through other communication activities.

The next community meeting is scheduled for October 29, 1991, at the Plantation, 9660 Dry Fork Road,

Harrison, Ohio, 45030. Fernald Environmental Management Project technical personnel will be on hand at 6 p.m. to explain exhibits on various cleanup activities. The general meeting will begin at 7 p.m. and include presentations by the Department of Energy, and statements by the U.S. and Ohio Environmental Protection Agencies, and Fernald Residents for Environment, Safety, and Health (FRESH). A question-and-answer session will follow.

This *Fernald Project Cleanup Report* offers a brief description of activities which have occurred as part of the RI/FS since the last community meeting held on July 16, 1991. Additional information, including more detailed reports, records, and other documents, is available at the Public Environmental Information Center located in the JAMTEK Building, 10845 Hamilton-Cleves Highway, just south of the Fernald Environmental Management Project.

Amended schedules

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the amended agreement for DOE to submit Proposed Draft Records of Decision to the U.S. EPA for approval. After DOE submits the Proposed Draft Records of Decision, the U.S. EPA will review them along with public comments received before issuing the Record of Decision. In issuing a Record of Decision, the U.S. EPA announces the preferred alternative and reasons for its selection to accomplish final remediation:

Operable Unit 1 (Waste Pit Area) includes Waste Pits 1-6, the Burn Pit and the Clearwell. The Proposed Draft Record of Decision is due to U.S. EPA on or before December 6, 1994.

Operable Unit 2 (Other Waste Units) includes the flyash piles, other south field disposal areas, lime sludge ponds, and the solid waste landfill.

The Proposed Draft Record of Decision is due to U.S. EPA on or before December 10, 1993.

Operable Unit 3 (Production Area) includes the 136-acre production area and production related equipment and facilities, wastes and product inventories, scrap metal piles, fire training area,

and the site effluent line to the Great Miami River. The Proposed Draft Record of Decision is due to U.S. EPA on or before May 2, 1997.

Operable Unit 4 (Silos 1-4) includes K-65 silos 1 and 2 which contain radium-bearing radioactive wastes, Silo 3 which contains dried uranium-bearing wastes, and Silo 4 which is empty. The Proposed Draft Record of Decision is due to U.S. EPA on or before June 10, 1994.

Operable Unit 5 (Environmental Media) includes groundwater, surface water, soil, sediments, air, vegetation and wildlife throughout the Fernald Site and surrounding areas. The Proposed Draft Record of Decision is due to U.S. EPA on or before August 2, 1995.

Comprehensive Site-Wide Operable Unit: Following U.S. EPA issuance of Records of Decision for the five Operable Units, an evaluation of remedies selected for Operable Units 1-5, including Remedial Actions and Removal Actions, will be conducted to ensure that they are protective of human health and the environment on a site-wide basis.

In addition to the seven Removal Actions currently in progress or completed at the FEMP, eleven new Removal Actions are to be conducted under the terms of the amended agreement. These eleven

Removal Actions are:

- Removal of waste inventories including low-level radioactive waste and thorium;
- Safe and permanent shutdown of production facilities;
- Implementation of control measures to address the scrap metal piles;
- Collection of uncontrolled stormwater runoff from the northeast portion of the production area;
- Improved storage of soil and debris;
- Implementation of control measures to address the Plant 1 ore silos;
- Implementation of control measures to address contaminated soils adjacent to the sewage treatment plant incinerator;
- Control of exposed materials in Waste Pit 5;
- Implementation of control measures to address potential releases of hazardous substances from the Pit 5 Experimental Treatment facility;
- Implementation of controls at the FEMP Active Flyash Pile, and
- Implementation of controls at the FEMP Inactive Flyash Pile.

The amended agreement also establishes a framework for an annual review of the need for additional Removal Actions.

<p><i>Fernald Project Cleanup Report</i> is prepared by Westinghouse Environmental Management Company of Ohio periodically for the U.S. Department of Energy, to inform the community about cleanup progress at the Fernald Environmental Management Project.</p>	<p>Address all inquiries regarding the <i>Fernald Project Cleanup Report</i> to :</p> <p>Teresa Kwiatkowski U.S. DOE Public Information Officer U.S. Department of Energy Fernald Office P.O. Box 398705 Cincinnati, OH 45239-8705</p> <p>Telephone: (513) 738-6004</p> <p>Fernald Office R. E. Tiller, Manager</p>
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Operable Unit 1 - Waste Pit Area

RI/FS Activities

Pit Berm Sampling: Regular monitoring of the soil in the berms around Pit 3, Pit 5, and the Clearwell was initiated in August 1991 to ascertain their strength and consistency and measure any movement or shifting of soils that comprise the berms. Analysis of samples of soils in the berms around Pit 3, Pit 5, and the Clearwell is also in progress to identify possible radiological or chemical contaminants.

Pit 5 Liner Repair: DOE received approval from U.S. EPA and Ohio EPA in October 1991 to proceed with inspection of the liner seams in Pit 5 and make necessary repairs to the liner (an elastomeric membrane). Safety training for this project was recently completed and the actual work began October 7, 1991. This work involves lowering the water level and locally

removing residues as required to expose more of the liner seams to determine the extent of repairs required, then making the actual repairs. Repairs to the elastomeric membrane will be made by placing patches of the material over torn areas and sealing them with adhesives.

Waste Characterization and

Treatability: Additional sampling activities were completed in the waste pit area in September 1991, to provide information needed to complete Operable Unit 1 waste characterization and treatability studies. These activities involved the collection of samples and the installation of a number of shallow wells within several of the waste pits. Data generated from sample analysis will provide information about the chemical form and characteristics of the various

materials in the waste pits, so predictions can be made about the potential for migration of contaminants into the environment. Samples of materials in the pits will be used to conduct tests and develop potential stabilization plans for waste treatment technologies currently under consideration.

Reports: DOE submitted a revised Operable Unit 1 Treatability Study Work Plan, incorporating U.S. EPA and Ohio EPA comments, to U.S. EPA in October 1991. The compilation of other Operable Unit 1 RI/FS reports, including the Remedial Investigation Report and the Feasibility Study Report, are proceeding consistent with the schedules as set forth in the Amended Consent Agreement.

Removal Actions

Waste Pit Area Stormwater Runoff

Control Removal Action: The objective of this Removal Action is to collect and treat potentially contaminated stormwater runoff from the waste pit area to prevent it from reaching Paddy's Run Creek. This Removal Action consists of eight construction phases.

The first construction phase was completed in August 1991, when an existing culvert was upgraded and expanded in diameter to be capable of holding more water. The second construction phase, which involved the installation of a 30-inch storm sewer pipe 750 feet long, was completed in September 1991. The third construction phase, which is nearing completion, involves plugging an existing 48-inch culvert to reverse the flow of

water to the recently-upgraded culvert and the completed 30-inch storm sewer pipe. Necessary equipment and materials are being procured for the remaining work:

Phase 4 will involve construction of a new inlet control structure on the east side of the waste pit area. Phase 5 will provide for a temporary access road northeast of the waste pit area. Phase 6 will involve construction of a new sump station and an underground force main. Phase 7 will encompass the remainder of construction work including trench drains, storm sewers and a control structure on the north side of the waste pit area. Phase 8 will involve construction of a new standpipe overflow. This Removal Action will provide runoff control, as well as a collection

system, designed to collect stormwater runoff from the waste pit area and allow it to pass through the site's Bionitrification Surge Lagoon and the effluent treatment system prior to discharge from the site to the Great Miami River.

Completion of this project and the continued operation of stormwater retention basins will result in the capturing of a significant amount of additional stormwater runoff from the FEMP, thus minimizing contamination of the environment. Project construction is on schedule for completion by July 1992, when the system is expected to be placed into full operation.

Operable Unit 2 - Other Waste Units

RI/FS Activities

Sampling: Samples to support the Operable Unit 2 RI/FS have been obtained from all of the waste facilities. The sampling effort that began in May 1991 was completed in September 1991. These samples were collected to supplement existing characterization data available for these facilities. The samples will be analyzed for radiological and chemical constituents to support waste treatment studies and ongoing modeling efforts.

Reports: DOE submitted a revised Treatability Study Work Plan to the U.S. EPA in August 1991. Treatability studies are typically performed during an RI/FS to establish whether identified waste treatment technologies are effective when applied to FEMP waste material. Comments have been received from the U.S. EPA on the work plan and are currently being addressed and incorporated into the Treatability Study Work Plan. Data generated by the study will be used to support Operable

Unit 2 treatment technology selection and remedy implementation.

The revised Operable Unit 2 Initial Screening of Alternatives (ISA) Document - Task 12 was recently approved by the U.S. EPA. The compilation of other Operable Unit 2 RI/FS reports, including the Remedial Investigation Report and the Feasibility Study Report, are proceeding consistent with the schedules as set forth in the Amended Consent Agreement.

Removal Actions

Inactive Flyash Pile/Southfield Area Removal Action: This Removal Action focuses on low concentrations of radiological surface contamination in the Inactive Flyash Pile/Southfield Area, which is located in a remote area at the Fernald Environmental Management Project. Flyash is a waste residue that results from burning coal in the boiler plant. Results from sample analysis revealed locations with slightly elevated concentrations of uranium in the Inactive Flyash Pile/Southfield Area. Warning signs

were erected in the area in September 1991. Work is proceeding to install barriers (fencing or roping off the area) to restrict access to the Inactive Flyash Pile/Southfield Area. The Work Plan for this Removal Action was submitted to U.S. EPA on August 15, 1991.

Active Flyash Pile Control Removal Action: The objective of this Removal Action is to mitigate potential wind and water erosion at the Active Flyash Pile. As an intermediate step, water is being

applied to the Active Flyash Pile as needed during dry weather to reduce fugitive dust emissions. A report summarizing the results of a technical review of current utility industry practices for disposing of flyash was transmitted to U.S. EPA on September 27, 1991. The review was completed consistent with the terms of the Amended Consent Agreement to examine viable technologies for possible application to the Active Flyash Pile Control Removal Action.

Operable Unit 3 - Production Area

RI/FS Activities

RI/FS Work Plan Addendum:

Recent negotiations between DOE and U.S. EPA resulted in a significant expansion in the definition of Operable Unit 3. An RI/FS Work Plan Addendum is being prepared by a task force comprised of personnel from the DOE Fernald Office, Westinghouse Environmental Management Company of Ohio, and Advanced Sciences Inc./International Technologies. The team will focus on defining the sampling requirements and technical analyses which must be completed to support the Operable Unit 3 RI/FS process. The definition of Operable Unit 3 in the Amended Consent Agreement has expanded

to include all former process buildings, structures and equipment, and inventoried hazardous materials. The original definition for Operable Unit 3 examined primarily the contamination associated with soil, perched groundwater, surface water, and suspect areas in the former production area.

Disposition of buildings and support facilities was originally envisioned to take place after the RI/FS process was complete. The examination of the facilities has been incorporated into the Amended Consent Agreement and this involves decontamination, decommissioning and/or dismantling of those facilities

within the former production area.

The primary focus for Operable Unit 3 is the development of an RI/FS Work Plan Addendum which is scheduled to be submitted to the U.S. EPA on June 2, 1992. The addendum will define the work activities necessary to complete the RI/FS for Operable Unit 3.

Reports: The compilation of Operable Unit 3 RI/FS reports, including the Remedial Investigation Report and the Feasibility Study Report, are proceeding consistent with the schedules as set forth in the Amended Consent Agreement.

Removal Actions

Perched Groundwater Removal

Action: This Removal Action was initiated to minimize the potential for uranium-contaminated groundwater to infiltrate to the underlying aquifer from perched water zones located beneath some former production buildings. As part of RI/FS field investigations, approximately 300 subsurface borings have been drilled within the FEMP former production area.

These borings were installed for the purpose of determining the nature and extent of any subsurface contamination existing beneath facilities in the production area as a result of the former production mission. These borings identified a number of "perched" water zones existing beneath the former production area which exhibited elevated concentrations of uranium and other hazardous substances. "Perched" water is pockets of groundwater which reside within the layers of clay-rich glacial soils that exist above the Great Miami Buried Valley Aquifer in the regional area of the FEMP. Perched water zones of concern

due to the volume of water present and the concentration of contaminants have been identified at three locations beneath the production area: Plant 6, Plants 2/3 and 8, and Plant 9.

To minimize the potential for the movement of contaminants in these zones to the underlying aquifer, a series of wells were installed, or are under construction, to extract the groundwater for treatment prior to discharge. Pumping operations were initiated at Plant 6 in November 1989. Perched water pumping operations were suspended at that location in April 1990 when elevated concentrations of organic constituents were detected in the extracted groundwater. Pumping of perched water beneath Plant 6 resumed in May 1991 after a treatment system was installed at Plant 8 to remove the organic compounds from the water. The new treatment system uses activated charcoal filters to remove the organic compounds. The water is then processed through the FEMP's existing treatment system for the removal of

uranium and eventually discharged to the Great Miami River.

The Plant 9 pumping and collection system was placed into operation in August 1991. Construction activities are in progress to complete the pumping and collection systems at Plant 2/3 and Plant 8 where perched water has also been identified. Pumping of perched groundwater from beneath those two plants is on schedule to begin November 1, 1991.

Plant 1 Pad Continuing Release Removal Action: The purpose of this Removal Action is to protect surface soils and regional groundwater from continuing releases of hazardous materials resulting from storage activities on the eight-acre Plant 1 storage pad. This Removal Action includes the installation of covered storage structures (with a combined 103,500 square feet) over an addition to be built adjacent to the existing pad, and the installation of a polyethylene liner and epoxy

Operable Unit 3

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coating over the existing pad surface to minimize contaminant migration to the environment.

The covered storage structures planned for the Plant 1 Pad will be equipped with containment facilities for spill control, drainage, stormwater runoff and run-on control, and fire suppression. Also being planned are two, 27,000 square-foot covered storage structures over portions of the existing pad surface. A revised work plan incorporating U.S. EPA comments was approved by U.S. EPA on August 19, 1991. Construction is expected to begin in late 1991.

Removal of Waste Inventories

Removal Action: Consistent with the terms of the Amended Consent Agreement, the existing low-level

radioactive waste management program was reconfigured into a Removal Action under CERCLA. To support this reconfiguration, a document summarizing existing FEMP procedures for the characterization, packaging, storage, and shipment of low-level waste was submitted to U.S. EPA and Ohio EPA on August 30, 1991, for review. This document also addressed the management of thorium waste at the FEMP, which is considered in a "ready-to-ship" configuration. A second document addressing all other thorium waste inventories was submitted to U.S. EPA and Ohio EPA on October 1, 1991, for review.

Uranyl Nitrate Processing

Emergency Removal Action: Uranyl nitrate is an intermediate product in the former uranium recovery process at the FEMP. There are currently about 200,000 gallons of uranyl nitrate stored in 15 tanks in

and near the Plant 2/3 Refinery. On September 17, 1991, an inspection of the tanks revealed that small leaks had developed in the piping system associated with the tanks. While the amount of material was well below quantities which require reporting to regulatory agencies and was contained by a secondary containment/sump system, the DOE will undertake an Emergency Removal Action to process the stored uranyl nitrate through the refinery. This Removal Action is designed to prevent the leaks from continuing or worsening, thereby creating a potential threat to the environment.

Refinery systems testing will begin November 4, 1991, in preparation for processing the uranyl nitrate to neutralize the material and convert it to a solid form which can be drummed and properly stored in warehouses.

Operable Unit 4 - Silos 1-4

RI/FS Activities

K-65 Vertical (Berm) Borings: Four vertical borings into the earthen berms surrounding the K-65 silos were completed in June 1991. Samples were collected from these borings for the purpose of determining whether measurable quantities of residual materials or radon gas have leaked or diffused through the walls of the silos into the surrounding berms. Analytical results from the collected samples are expected back from the off-site laboratories by the end of October 1991. This information is required to support the completion of the Remedial Investigation and Feasibility Study reports for Operable Unit 4.

K-65 Low-Angle (Slant) Borings:

All field work associated with the installation of subsurface borings beneath the K-65 silos has been completed. Soil samples from the borings have been acquired,

prepared, and transported off site to an independent laboratory for analysis. Soil analysis is being conducted to determine whether residual materials have migrated from the tanks or the associated underdrain system into the underlying soils or perched groundwater. Perched groundwater was encountered in each of the five borings and samples were taken of the groundwater. Because the quantity of water was significant, three of the borings were stopped short of their target distance. The fourth boring hole was cased and boring was continued to the target distance. The fifth boring was extended an additional 20 feet to cover the area not covered by the three borings that were stopped short of their target distance. Preliminary sample analysis from the on-site laboratory indicates the concentration of contaminants are within the natural background

range.

Full chemical and radiological analysis to confirm preliminary findings is in progress at an off-site laboratory. Analytical results from the collected samples are anticipated to be received from the off-site laboratory by January 13, 1992.

Resampling of K-65 Residues:

Resampling of the contents of the K-65 Silos 1 and 2 was completed successfully in August 1991. Sample analysis results are tentatively scheduled to be available from the off-site laboratory by January 9, 1992. The amount of material retrieved from the full depth of the silos during resampling operations is adequate to perform planned chemical, radiological, and geotechnical analysis. Sample results will be

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Operable Unit 4

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used to determine appropriate treatment methods for K-65 contents. Resampling of the silo contents was necessary because material retrieved during previous sampling operations was inadequate to be representative of the entire contents of the silos.

Reports: Two Treatability Study Work Plans have been submitted to U.S. EPA and Ohio EPA for review. These Treatability Study Work

Plans describe the specific testing that will be performed on samples of K-65 and Silo 3 material, to evaluate whether the identified waste treatment technologies can be applied in a practical manner to the Operable Unit 4 waste materials. Treatability options include: 1) heavy metals separation from the residues by chemical extraction, 2) cementation (stabilization of the waste with concrete), and 3) vitrification (transforming the waste into glass).

The U.S. EPA and Ohio EPA are currently reviewing the submitted Treatability Study Work Plans for

vitrification and cementation. The technologies are being tested to provide valuable information to support the determination of which technology provides the most environmentally-sound, cost effective and implementable method for treating the wastes prior to final disposal. The compilation of other Operable Unit 4 RI/FS reports, including the Remedial Investigation Report and the Feasibility Study Report, are proceeding consistent with the schedules as set forth in the Amended Consent Agreement.

Removal Actions

K-65 Decant Sump Tank Removal

Action: Samples of liquid removed from the K-65 Decant Sump Tank are being analyzed and characterized to determine proper treatment and final disposition. Removal of this water from the underground sump tank reduces the potential for leakage of contaminated water into surrounding soils. Sample analysis of the removed liquid is partially complete, but additional water analysis is still pending. Samples recovered from a layer of sludge located at the base of the interior of the decant sump tank are also being analyzed at an off-site laboratory. Results from sample analysis of the sludge are expected to be available later this fall.

This Removal Action was completed in April 1991, when approximately 8,000 gallons of contaminated water was pumped from the K-65 Decant Sump Tank. The removed water is now stored in above-ground tanks near Plant 2/3 and being characterized for RCRA constituents to determine proper storage and/or disposition. The K-65 Decant Sump Tank was used to store liquid that was drained from the K-65 silos after solid material had settled.

K-65 Silos 1 and 2 Removal Action:

Equipment is being procured and assembled, and field activities are in progress in support of K-65 Silos 1 and 2 Removal Action. Bentonite clay will be applied over the silo

residues to reduce radon levels in the silos, and to provide protection from releases to the environment in the event of silo dome collapse. Surface mapping is under way, a process in which cameras, lasers and other equipment are used to define the exact height of the material in the silos including any peaks, valleys and cracks across the surface of the residues. Once the bentonite has been installed, surface mapping will be repeated to verify that at least 12 inches of bentonite has been applied uniformly over the entire surface. The actual installation of the bentonite is scheduled to begin in early November. Bentonite placement is planned for completion by December 1, 1991.

Operable Unit 5 - Environmental Media

RI/FS Activities

Paddy's Run Seepage Investigation Study: An investigation is in progress to determine how Paddy's Run Creek interfaces with the Great Miami Buried Valley Aquifer at points south of the South Groundwater Contamination Plume. The study is evaluating the impact that leakage of surface water through the bed of Paddy's Run Creek might be having on local groundwater flow. This study involves the installation and sampling of a series of wells along Paddy's Run to determine the extent of any contamination in the aquifer at that location. Additional studies of the flow of the creek itself are planned to help determine what, if any, relationship exists

between any identified contaminants in the aquifer at that location and surface water flow conditions in the creek. This information is important to determine if, and what type, of remedial action may be warranted. This data, to be collected over the next several months, will be included in the final Remedial Investigation and Feasibility Study reports.

Reports: A Soil Washing Treatability Study Work Plan is being prepared for U.S. EPA review. This study is designed to examine viable technologies for washing uranium out of soils. Significant cost and schedule

improvements could be realized in the implementation of final remedial actions if an implementable soil treatment technology can be identified. Data generated from the study will be used to support the completion of the Operable Unit 5 Feasibility Study. The Soil Washing Treatability Study Work Plan is proposed to be submitted in December 1991 to U.S. EPA and Ohio EPA for review. The compilation of other Operable Unit 5 RI/FS reports, including the Remedial Investigation Report and the Feasibility Study Report, are proceeding consistent with the schedules as set forth in the Amended Consent Agreement.

Removal Actions

South Groundwater Contamination Plume Removal Action: The purpose of this Removal Action is to protect public health by limiting access to the use of uranium-contaminated groundwater in an area south of the FEMP. This Removal Action consists of five parts.

Part 1 includes installation of an alternate water source to two industries affected by the contamination plume. The project involves the installation of production wells outside the plume area and a water distribution system to the industries. Field work for testing of the selected well site, to determine adequacy of the quality and quantity of the extracted water, was completed in late September 1991 from samples taken to determine the drinking quality of the extracted water. Drawings and specifications for the project are nearing completion. Construction is scheduled to begin in early 1992, pending the results of sample analysis and the acquisition of required private property.

Part 2 involves the installation of a groundwater recovery well

system to pump groundwater from the South Plume back to the FEMP for monitoring and discharge to the Great Miami River. As a result of information obtained recently from a separate remedial investigation that is being performed at the Paddy's Run Road Site (PRRS), additional concerns have been identified in the South Plume area.

The PRRS consists of several industries that in past years have reportedly released both organics and inorganics into the environment which have now found their way to the Great Miami Buried Valley Aquifer. The PRRS plume has been tentatively determined to extend to very near the location of the proposed Part 2 well field as described in the November 1990 South Plume Engineering Evaluation/Cost Analysis (EE/CA). Operation of a uranium recovery well field at the location originally described in the EE/CA could result in the spreading and/or extraction and discharge of contaminants from this other plume to the Great Miami River.

As a result of these conditions, the Part 2 well field will be

relocated to an area north of the projected location of the plume being investigated by PRRS. Modeling efforts have been performed to determine a location where pumping of the recovery well field will not significantly affect this other plume and will not draw the organic and inorganic (nonradiological) contaminants into the recovery well field. DOE is in the process of revising key documents, including preparing an addendum to the EE/CA, to reflect the relocation of the well field.

In addition, the FEMP's effluent outfall pipeline to the Great Miami River has been evaluated for structural integrity and capacity to accept additional planned discharge. It has been determined that the use of the existing cast-iron effluent line will be discontinued due to its age and significant technical difficulties in conducting a leak-test on the pipeline. A new effluent outfall pipeline will be installed as part of Part 2 of this Removal Action. The new outfall pipeline will parallel the

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Operable Unit 5

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existing outfall pipeline to the Great Miami River. Construction is expected to begin in mid 1992.

Part 3 involves construction of an Interim Advanced Wastewater Treatment (IAWWT) system. The IAWWT system will remove uranium from site wastewater streams and, by doing so, will reduce the current level of uranium discharged to the Great Miami River. The design of the IAWWT system is being modified to incorporate the additional treatment capacity required to address the relocation of the Part 2 well field. The new location is in an area of higher uranium concentration which means that more uranium will have to be removed from wastewater streams to achieve the desired reduction of uranium discharges to the river. Fabrication of the treatment system

is expected to begin in late 1991 and on-site construction in early 1992.

Part 4 of the removal action involves groundwater monitoring and institutional controls to prevent the use of contaminated groundwater. This activity is being implemented through the existing FEMP Groundwater Monitoring Program. The program has been expanded to include more frequent monitoring of private wells located near areas of known contamination.

Part 5 involves additional groundwater investigations in the vicinity of the South Plume. Additional investigations will be performed under Part 5 to identify the location and extent of any remaining contamination attributable to the FEMP remaining in the groundwater south (downgradient) of the proposed recovery wells to be installed under

Part 2. The Part 5 investigation will include hydropunching, sampling soil vapor surveys, the drilling and installation of groundwater monitoring wells, and groundwater modeling activities. Hydropunching is an efficient method for extracting groundwater samples without the expense of installing wells. Soil vapor surveys are used to help determine the presence of volatile organic compounds in subsurface soils and groundwater.

Because the EPA has recently issued a proposed revised limit of 20 parts per billion (ppb) for uranium in drinking water, the investigation will attempt to identify the location of the contamination in the aquifer exceeding the 20 ppb level. The information obtained will be used to allow the FEMP to limit access to this water until additional response actions for this area can be implemented.

FERNALD PROJECT CLEANUP REPORT

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Fernald Office
P.O. Box 398705
Cincinnati, OH 45239-8705

Administrative Record RI/FS Additions

Following is a list of RI/FS documents that have been added to the Administrative Record since the last community meeting took

place on July 16, 1991. The FEMP's Administrative Record is located in the Public Environmental Information Center, JAMTEK

Building, 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030. The telephone number is (513) 738-0164.

- South Groundwater Contamination Plume Removal Action, Part 1; Alternate Water Supply Work Plan
- Quarterly Report - Airborne Uranium Emissions, April 1990 to July 1990
- Quarterly Report - Liquid Radiation Discharges, April 1990 to June 1990
- RI/FS Work Plan Addendum: Operable Unit 4, K-65 and Metal Oxides Silos and Subsoils Sampling and Analysis Plan (with Treatability Plan)
- Inactive Flyash Pile/Southfield Area Removal Action Work Plan
- A Probabilistic Risk Assessment for the K-65 Silos at the FEMP
- Plant 1 Pad Continuing Release Removal Action Work Plan
- Application for Determination of a Modification Under 40 CFR 61 U.S. Department of Energy Analytical Facility Upgrade
- Technical Comparison of Installing a New Effluent Line Versus Rehabilitating the Existing Effluent Line Using Insituform Process
- South Groundwater Contamination Plume Removal Action, Part 2 - Pumping and Discharge System and Part 3 - Interim Advanced Wastewater Treatment System Work Plan
- Treatability Study Work Plan for Operable Unit 1
- Treatability Study Work Plan for Operable Unit 4 - Task 5 Work Plan
- Treatability Study Work Plan for Operable Unit 2