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**FERNALD PROJECT CLEANUP REPORT
OCTOBER 1992**

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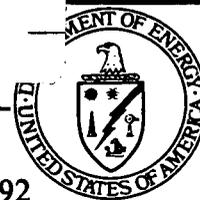
FACTSHEET

FERNALD PROJECT

G-600-1006.41

CLEANUP REPORT

OCTOBER 1992



Fluor Daniel team selected as Fernald ERMC³⁹¹⁸

The Fernald Environmental Restoration Management Corporation (FERMCO) was selected in August 1992 as the Environmental Restoration Management Contractor (ERMC) at Fernald.

FERMCO, a wholly-owned subsidiary of Fluor Daniel, Inc., of Irvine, Ca., is joined in its efforts at Fernald by Jacobs Engineering Group Inc., Halliburton NUS Environmental Corporation, and Nuclear Fuel Services.

"We are delighted to have been selected as the DOE's first Environmental Restoration Management Contractor here at Fernald. Together with the DOE,

the U.S. and Ohio Environmental Protection Agencies, organized labor, contractors, and the public, we will make this first ERMC the unqualified success that all of us want," said Nicholas Kaufman, FERMCO president.

FERMCO began a three-month transition period on September 1, 1992, with Westinghouse Environmental Management Co. of Ohio, the management and operations contractor at Fernald since 1986. FERMCO will assume full contractual responsibility for Fernald on December 1, 1992. FERMCO will perform under a five-year cost-plus-award-fee contract that may be extended up to three

additional years.

"We will use the time until then (December 1) to listen and learn in order to refine the concepts and approaches presented in our proposal to the DOE and develop an optimized organization to carry out our responsibilities," Kaufman said.

"We will build on the progress already achieved and the lessons already learned, and define and pursue the best path forward to accomplish the safest, least-cost cleanup of Fernald consistent with all regulations and commitments," Kaufman said.

Cleanup progress continues

The DOE has initiated and completed several key cleanup projects at Fernald since the last community meeting was held on July 21, 1992. Cleanup activities continue according to schedules in the 1991 Amended Consent Agreement between the DOE and the U.S. Environmental Protection Agency.

Recent accomplishments

include the shipment of more than 740,000 cubic feet of low-level radioactive waste off site for disposal in Fiscal Year 1992, construction of additional drummed waste storage facilities on the Plant 1 Pad extension, and removal of contaminated soils adjacent to the out-of-service incinerator located at the sewage treatment plant.

Progress continues on the Remedial Investigation/Feasibility Study (RI/FS) to determine the nature and extent of contamination on and around the Fernald site. The RI/FS work includes development of cleanup alternatives for five separate Operable Units, which are areas

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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 site. 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 Monday, November 9, 1992, at the Plantation, 9660 Dry Fork Road, Harrison, Ohio,

45030. Fernald site 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 will 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 issue of *Fernald Project*

Cleanup Report offers a brief description of activities which have occurred as part of the RI/FS since the last community meeting was held on July 21, 1992. 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 site.

Cleanup progress

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grouped according to their similarities in terms of environmental concern or likely cleanup alternatives.

The RI/FS involves extensive sampling and analysis of soil, water, and other media to detect and measure levels of chemical and/or radiological contamination present in the Operable Unit areas. Once the nature and extent of the contamination have been determined, 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 final remediation alternative for each of the Operable Units. The DOE will implement final cleanup actions as directed by the U.S. EPA in the Records of Decision.

Following is a general description of the five Operable Units and the Comprehensive Sitewide Operable Unit, and the timetables set forth in the 1991 Amended Consent Agreement for the DOE to submit Proposed Draft Records of Decision to the U.S. EPA for approval. In issuing a Record of Decision, the U.S. EPA announces the preferred alternative to accomplish final remediation and reasons for its selection:

Operable Unit 1 (Waste Pit Area) includes Waste Pits 1-6, the Burn Pit, the Clearwell, berms, liners, and soil within the Operable Unit 1 boundary. 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, solid waste landfill, berms, liners, and soil within the Operable Unit 2 boundary. 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 production area and production-associated facilities and equipment (includes all above- and below-grade improvements), including, but not limited to, all structures, equipment, utilities, drums, tanks, solid waste, waste, product, thorium, effluent lines, K-65 transfer line, wastewater treatment facilities, fire training facilities, scrap metal piles, feedstock, and coal pile. 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; Silo 4, which is empty; and berms, decant tank system, and soil within the Operable Unit 4 boundary. 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 not included in the definition of Operable Units 1-4, sediments, vegetation and wildlife. 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 sitewide basis as required by CERCLA, the National Contingency Plan and applicable U.S. EPA policy and guidance.

The 1991 Amended Consent Agreement also establishes a framework for an annual review of the need for additional Removal

Actions, which can be initiated at any time during the course of the RI/FS. Removal Actions are near-term actions designed to reduce risk and work in tandem with Remedial Actions, which are final remedies. A total of 27 Removal Actions are presently identified under the terms of the 1991 Amended Consent Agreement. The Removal Actions are:

- 1) Contaminated Water Beneath FEMP Buildings
- 2) Waste Pit Area Runoff Control (completed)
- 3) South Groundwater Contamination Plume
- 4) Silos 1 and 2 (completed)
- 5) K-65 Decant Sump Tank (completed)
- 6) Waste Pit 6 Residues (completed)
- 7) Plant 1 Pad Continuing Release
- 8) Inactive Flyash Pile Control (completed)
- 9) Removal of Waste Inventories
- 10) Active Flyash Pile Controls (completed)
- 11) Pit 5 Experimental Treatment Facility (completed)
- 12) Safe Shutdown
- 13) Plant 1 Ore Silos
- 14) Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator
- 15) Scrap Metal Piles
- 16) Collect Uncontrolled Production Area Runoff (Northeast)
- 17) Improved Storage of Soil and Debris
- 18) Control Exposed Material in Pit 5
- 19) Plant 7 Dismantling
- 20) Stabilization of Uranyl Nitrate Inventories
- 21) Expedited Silo 3 Dust Collector (completed)
- 22) Waste Pit Area Containment Improvement
- 23) Inactive Flyash Pile (completed)
- 24) Pilot Plant Sump
- 25) Nitric Acid Tank Car and Area
- 26) Asbestos Removals (Asbestos Program)
- 27) Management of Contaminated Structures at the FEMP

Operable Unit 1 - Waste Pit Area

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RI/FS Activities

Waste Characterization and

Treatability: Chemical and radiological analyses of samples taken from materials in Waste Pits 1-4 and the Burn Pit are complete. Samples taken from Pits 5 and 6 and the Clearwell were previously analyzed. This information is required to complete the Operable Unit 1 Remedial Investigation Report and treatability studies. Completion of these analyses represents the conclusion of the field investigations portion of the RI/FS for Operable Unit 1.

Samples of additional waste materials from Pits 5, 6, and the Clearwell were obtained in February 1992 to support ongoing treatability studies. Several 55-gallon drums of sludge from each waste unit were collected. Samples not transported to off-site laboratories for treatability studies have been archived at Fernald to support future remedial design activities.

All waste material samples were analyzed at U.S. EPA-approved laboratories to determine the concentration of radiological and chemical constituents in Operable Unit 1. Validation of the laboratory data received from the analysis of the Operable Unit 1 field investigation has been completed.

Data validation is a process in which a team of chemists, radiochemists, statisticians, quality assurance and other technical personnel, systematically review all aspects of data collection and laboratory analyses against an established set of criteria. Data validation is used to judge the quality of the field and analytical data for use in the RI/FS decision making process.

Samples of materials in the pits are being used for testing of waste treatment technologies (called treatability studies) currently under consideration, including cementation (stabilizing the waste

with cement) and vitrification (transforming the waste into glass). Data collected from treatability studies are used in the RI/FS and remedial design processes to evaluate the performance, cost, and practicality of treatment technologies.

The U.S. EPA's Guidance for Conducting Treatability Studies under CERCLA outlines a three-tiered approach to conducting treatability studies which includes: 1) Remedy Screening; 2) Remedy Selection, and 3) Remedy Design.

The IT Environmental Technology Development Center in Oak Ridge, Tenn., is in the process of conducting the Remedy Screening and Remedy Selection portions of the CERCLA treatability studies. Remedy Screening studies at the Development Center are using composite samples from each waste pit, while Remedy Selection studies are using strata samples from each waste pit.

Composite samples (samples blended from discrete samples to represent the average properties of the waste units) are being used during the initial Remedy Screening phase of the treatability program to provide a timely decision on whether a technology can be applied at Fernald. Following this decision, Remedy Selection studies proceed using strata samples (samples collected from discrete locations within the waste unit) to provide valuable process information, including the relative ability of the technology to treat the range of waste types and forms in a particular pit.

Cement Stabilization: Studies continue at the IT Environmental Technology Development Center in Oak Ridge, examining the feasibility of stabilizing Fernald pit waste with cement. These studies involve mixing quantities of waste pit materials with differing amounts

of cement and cement additives. Remedy Screening studies have been completed and the waste has been determined to be suitable for cementation.

The Remedy Selection portion of stabilization treatability studies for cement is now in progress at the Development Center and is expected to be completed in July 1993.

As part of these studies, each of the solidified waste forms from the stabilization treatability studies is subjected to a series of physical and chemical tests, including leaching the waste in acid, to determine which cement mix design exhibits the best properties for retaining the physical form and stabilizing the waste materials.

Vitrification studies: Vitrification studies also have been initiated at the IT Environmental Technology Development Center. The Remedy Screening portions of vitrification studies were completed in June 1992, and the waste has been determined to be suitable for vitrification. Representative samples from each of the waste units are being mixed with a range of materials, including flyash, and placed into high-temperature furnaces with the intent of forming glass. The study is intended to establish the best mix design which supports vitrification.

While vitrification typically represents an expensive technology to implement, it provides many benefits such as improved immobilization of hazardous contaminants within a glass matrix and a significant reduction in waste volume.

The Remedy Selection portion of stabilization treatability studies for vitrification is now in progress and is expected to be completed in June 1993.

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Operable Unit 1

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Radon Sampling Program:

Consistent with the terms of the U.S. EPA's 1991 National Emission Standards for Hazardous Air Pollutants (NESHAP) Federal Facility Agreement, a sampling program was initiated in the waste pit area to measure the level of radon being released from the waste pits. The program involved a one-time measurement of radon release using Large Area Activated Charcoal Collectors (LAACC). Approximately 100 LAACCs were placed on Waste Pits 1, 2 and 3. The LAACCs were left on the pits for 24 hours, removed and then sent to an off-site laboratory for analysis. Analytical results show radon levels on all three waste pits are well below the emission limit of 20 picocuries per square meter per

second, the federal standard established by the U.S. EPA's NESHAP. The average levels calculated for Pits 1, 2 and 3 are 9.1, 6.4, and 2.6 picocuries per square meter per second, respectively. These measurements are deemed representative of the long-term average radon emissions that can be expected from the three waste pits.

Measurements will be conducted to verify that radon emissions from Pit 4 are insignificant due to the synthetic and clay cover. Radon monitoring for Pit 4 is scheduled to take place in November 1992. No measurements will be required on Pit 5, because all exposed material in Pit 5 will be distributed to below the water level as part of Removal Action No. 18 (Control Exposed Material in Pit 5). This work is proceeding on schedule. Pit 6 was not identified as a potential radon source, due to the insignificant

radium-226 levels in Pit 6 waste and the water cover. No measurements will be required on the Clearwell due to its water cover.

Reports: The compilation of Operable Unit 1 Remedial Investigation and Feasibility Study reports is proceeding consistent with the schedules set forth in the 1991 Amended Consent Agreement. Validated analytical data has been received and development of the Baseline Risk Assessment is in progress. This risk assessment characterizes existing and potential threats to human health and the environment from Operable Unit 1 waste facilities. Information from the risk assessment will be incorporated into the Remedial Investigation (RI) report for Operable Unit 1, which is due to U.S. EPA in October 1993.

Removal Actions

Waste Pit Area Runoff Control

(Removal Action No. 2): This completed Removal Action provided a system for the collection and treatment of potentially-contaminated stormwater runoff from the waste pit area to prevent it from reaching Paddy's Run Creek.

This Removal Action provides 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 Fernald site's existing wastewater treatment system prior to discharge to the Great Miami River.

Completion of this project and the continued operation of the existing Stormwater Retention Basin will result in the capturing of a significant amount of additional stormwater runoff from the Fernald site, thus minimizing the potential for release of contaminants to the environment.

Control Exposed Material in Pit 5

(Removal Action No. 18): The objective of this Removal Action is to eliminate the possibility of airborne contamination resulting from exposed materials in the pit. The Removal Action will involve the repositioning of the exposed waste materials within the pit to provide for a continuous water cover over the residues. Dredging was selected as the method of repositioning the material within Pit 5. Conditional approval of the work plan was granted by U.S. EPA, and U.S. EPA comments were incorporated into the work plan. Field work was initiated September 28, 1992. This project is on schedule for completion by December 21, 1992. The DOE will be accepting public comments on this Removal Action during the month of November 1992. The work plan is available for review in the Public Environmental Information Center.

Waste Pit Area Containment

Improvement (Removal Action No. 22): This Removal Action is designed to minimize the potential for wind or water erosion of contaminated materials from access roads and exposed surfaces in the Operable Unit 1 area. The work plan was submitted to the U.S. EPA August 31, 1992, for review. The work plan was disapproved by the U.S. EPA on October 5, 1992, pending incorporation of U.S. EPA comments. DOE responses to comments are due back to the U.S. EPA by November 5, 1992. This Removal Action will include revegetation (seeding) of the pit area for erosion control, and regrading of some existing stormwater ditches in the pit area to promote positive drainage. Based on an agreement between the DOE, U.S. and Ohio EPAs, the

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Operable Unit 1

Removal Actions

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DOE initiated revegetation of the exposed areas on October 20,

1992. The DOE will be accepting public comments on this Removal Action during the month of

November 1992. The work plan is available for review in the Public Environmental Information Center.

Other Activities

Minimum Additive Waste

Stabilization: The DOE continues to conduct a Minimum Additive Waste Stabilization (MAWS) program at Fernald in conjunction with Argonne National Labs, GTS Duratek, Lockheed Environmental Systems, and The Catholic University of America. The MAWS program is an innovative approach to combining vitrification, water treatment, and soil washing processes to potentially save millions of dollars in remediation costs through achieving waste minimization. The purpose of the program is to demonstrate that the MAWS program as applied to vitrification may be an economical treatment alternative for the large volumes of low-level radioactive and mixed wastes present at Fernald. It would probably need to be combined with other technologies.

wastes are blended with contaminated soils in correct proportions, tests have shown that a good, stable glass at reduced volume is achievable.

While vitrification has an initial higher capital cost than cementation (stabilizing waste with cement), in the long run a cost savings might be realized because cementation adds to the total volume of waste that must be disposed of properly. Vitrification results in significant reductions in net volumes of waste and the MAWS concept eliminates or minimizes costly additives that otherwise would be required.

Presently, The Catholic University of America, in cooperation with the DOE, is conducting laboratory-scale vitrification studies on samples taken from Operable Unit 1 waste materials. The MAWS bench-scale demonstration will process 0.3 to 1 metric ton of glass per day, and provide scale-up parameters for a pilot unit designed to process 20 metric tons per day. Eventually, full-scale facilities could be constructed to process glass at a rate of approximately 300 metric tons per day.

Construction activities are in progress to house MAWS equipment in Plant 9 at Fernald. Installation of MAWS equipment is

scheduled for completion in April 1993. This equipment includes a soil washing unit, a melter with an off-gas system, and a water treatment system. After the equipment is installed, test runs of the process will be initiated. Then, following approval of the safety/health and work plans, bench-scale work will be initiated to process glass from Pit 5 waste blended with contaminated soils.

This process will yield three effluent streams: 1) clean water; 2) clean soil, and 3) glass. The glass will be made into the form of gems which look like squashed marbles. This shape was chosen because gems can be made quickly and are easily handled in bulk amounts.

GTS Duratek and The Catholic University of America are presently installing a 100 kilograms/per day glass melter on the campus of The Catholic University of America as part of the MAWS program. This melter is expected to be operational in November 1992. Data regarding the safety, efficiency, and operation of the 100 kilograms/per day glass melter will be used to support the design criteria and approval documentation necessary for startup of the 300 kilograms/per day glass melter in the spring of 1993.

Fernald Project Cleanup Report 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.

Address all inquiries regarding the *Fernald Project Cleanup Report* to :

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Operable Unit 2 - Other Waste Units

RI/FS Activities

Sampling: Samples from all of the Operable Unit 2 waste facilities have been analyzed for a full range of radiological and chemical constituents. Laboratory data from the analyses of these samples has been validated for use in the RI/FS process. All field investigations associated with Operable Unit 2 have been completed. Data results are now being used to support the Operable Unit 2 RI/FS, waste treatment studies and ongoing modeling efforts. These samples were collected to supplement existing characterization data available for these facilities.

Validated analytical data has been incorporated into the Remedial Investigation Report. Included in the Remedial Investigation Report is a Baseline Risk Assessment which evaluates the potential risks to public health and the environment associated with the existing conditions within Operable Unit 2 facilities. This information will be used to help establish remedial action objectives and cleanup levels for Operable Unit 2 waste facilities.

Recent analyses of soil samples taken from the former Firing Range area located in the southwestern portion of the Fernald site identified elevated levels of lead contamination in soils. The Firing Range is an isolated area formerly used by site armed security personnel for weapons qualifications. Air sampling has been conducted at the Firing Range to determine if lead-contaminated soils have the potential to become airborne and pose a risk to human health and the environment. Analytical results

of air samples determined that airborne emissions are below U.S. EPA's health-based regulatory limits. This data has been included in the RI/FS for Operable Unit 2.

Reports: Treatability studies to establish whether identified waste treatment technologies are effective when applied to FEMP waste material are complete for Operable Unit 2. Data included in the study will be used to support Operable Unit 2 treatment technology selection and remedy implementation. A Treatability Study Report for Operable Unit 2 was submitted to the U.S. EPA in July 1992.

Operable Unit 2 treatability investigations were focused on the application of cement-based solidification to Operable Unit 2 waste material. A three-stage treatability study was completed at the IT Environmental Technology Development Center in April 1992. The final stage of treatability involved leachate analysis and permeability testing of select waste-cement mix designs.

The Draft Remedial Investigation Report for Operable Unit 2 was submitted to the U.S. EPA on October 19, 1992. The purpose of the Remedial Investigation Report is to provide a summary of available field and analytical data on Operable Unit 2, and to complete a Baseline Risk Assessment to evaluate the risks to human health and the environment posed by Operable Unit 2 waste facilities. The Draft Remedial Investigation Report is available at the Public Environmental Information Center, located in the

JAMTEK building at 10845 Hamilton-Cleves Highway.

The compilation of other Operable Unit 2 RI/FS reports, including the Feasibility Study Report and Proposed Plan, are proceeding consistent with the schedules set forth in the 1991 Amended Consent Agreement. Based on Consent Agreement schedules, Operable Unit 2 is the leading Operable Unit with a Proposed Plan tentatively scheduled to be issued in March 1993. The Operable Unit 2 Feasibility Study will serve a dual role as a sitewide Environmental Impact Statement (EIS). The Operable Unit 2 Feasibility Study/EIS and Proposed Plan will be issued jointly by the DOE for public review when they become available in late 1992 or early 1993.

Remedial Design: Conceptual design engineering was initiated for Operable Unit 2 for purposes of establishing preliminary design parameters and cost estimates. Conceptual engineering is proceeding based upon adapting representative remedial action alternatives for each of the Operable Unit 2 waste facilities as identified in available RI/FS documents. Conceptual design of engineered waste coverings is in progress for the Active Flyash Pile, Solid Waste Landfill, and Lime Sludge Pond. Conceptual engineering is proceeding in parallel with the RI/FS to properly position Operable Unit 2 waste facilities for the prompt implementation of remedial action following issuance of the Record of Decision for Operable Unit 2.

Removal Actions

Inactive Flyash Pile (Removal Action No. 23): This Removal Action focused on isolated areas of radiological surface contamination in the Inactive Flyash Pile/Other

South Field Disposal Areas. The Removal Action was completed when a small amount of contaminated debris (soil and transite) was removed from the

Inactive Flyash Pile and placed in appropriate containers for storage pending final disposition.

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Operable Unit 2

Removal Actions

Continued from page 6

Subsequent radiological monitoring of the Inactive Flyash Pile determined that no additional action is required until the Record of Decision is issued for final remediation of Operable Unit 2 waste facilities.

Active Flyash Pile Controls (Removal Action No. 10): The

objective of this Removal Action was to mitigate potential wind and water erosion at the Active Flyash Pile. This Removal Action was completed with the installation of a silt fence around the base of the pile to mitigate stormwater runoff, and the placement of wind barriers to mitigate wind erosion. Minor grading and compaction were conducted and a chemical spray

was also applied to the surface of the Active Flyash Pile to further mitigate the possibility of wind erosion and provide surface stabilization. A large portion of the pile is now inactive and will not receive new ash deposits. The potential use of flyash as an additive to soil for use in backfill, structural fill, and slope stability applications, is being investigated.

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Operable Unit 3 - Production Area

RI/FS Activities

RI/FS Work Plan Addendum: The scope of Operable Unit 3 was modified by the Amended Consent Agreement to include all former process buildings, structures and equipment, and inventoried materials.

The RI/FS Work Plan Addendum for Operable Unit 3 was submitted to the U.S. EPA and the Ohio EPA on May 29, 1992, for review. U.S. EPA comments on the four-volume document were received in late July 1992.

The Work Plan Addendum includes an evaluation of available

site characterization data and process knowledge, and identifies the need for additional data to evaluate risks and remedial alternatives. The Addendum also includes discussions on the various RI/FS tasks required, and schedules for conducting those activities.

The Work Plan Addendum also includes a recommended approach to be used in data collection, a proposed sampling and analysis plan, preliminary remedial action objectives, and remedial action alternatives. Planning for the

implementation of the Work Plan is in progress. Approximately 24 months of field characterization work is anticipated for Operable Unit 3.

A revised approach document, designed to simplify the RI/FS and Work Plan for Operable Unit 3 based on U.S. EPA comments, was submitted to the U.S. EPA on September 14, 1992. The Operable Unit 3 RI/FS Work Plan Addendum is presently under revision. The revised Work Plan Addendum is on schedule for submittal to U.S. EPA by December 31, 1992.

Removal Actions

Plant 1 Pad Continuing Release (Removal Action No. 7): The purpose of this Removal Action is to protect surface soils and regional groundwater from continuing releases of hazardous materials resulting from waste management activities on the eight-acre Plant 1 storage pad. This Removal Action is being conducted in three phases.

Phase I, the implementation of run-on and run-off control measures and the installation of underground utilities, is complete.

Phase II work involves the installation of a new covered concrete storage pad (80,000 square feet) which is being built adjacent to the existing Plant 1 storage pad. Installation of the

Phase II concrete pad is complete, and construction of two covered storage structures is 80 percent complete.

Remaining drums of low-level radioactive waste in outdoor storage on the Plant 1 Pad will be moved into the two new covered storage structures. These structures will be equipped with containment facilities for spill control, drainage, and stormwater runoff/run-on control. Phase II work is on schedule for completion by December 21, 1992.

Phase III involves activities to upgrade the existing Plant 1 storage pad, including the installation of a polyethylene liner and epoxy coating over the pad surface to minimize contaminant

migration to the environment. Phase III is on schedule for completion by February 21, 1995.

Removal of Waste Inventories (Removal Action No. 9): This Removal Action involves the characterization, overpacking, and disposition of low-level radioactive waste materials. The removal of waste inventories is ongoing at the Fernald site.

The Fernald site received approval from the DOE-Nevada Operations Office to dispose of five general waste streams at the Nevada Test Site (NTS), including: process area scrap wastes (scrap metal and wood); construction and

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Operable Unit 3

Removal Actions

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Removal Action waste (demolition debris); residues and thorium waste (refinery feed and oxides); and baled trash. The approval includes all backlog and currently-generated wastes at the FEMP, which can be shipped to NTS for disposal contingent upon meeting all NTS Waste Acceptance Criteria.

Safe shipment of 1,621 drums of low-level thorium waste (oxides) to NTS was completed in September 1992. The DOE Fernald Field Office is presently seeking approval from the Nevada Operations Office to ship additional low-level thorium waste to NTS.

DOE met its goal of shipping 100,000 drums equivalents of low-level radioactive waste to NTS in Fiscal Year 1992 which ended September 30, 1992.

The current low-level radioactive waste shipping goal for Fiscal Year 1993 is 67,000 DEs. This includes currently-generated waste from construction and restoration activities, and characterized backlog waste.

Stabilization of Uranyl Nitrate Inventories (Removal Action No. 20):

The processing of uranyl nitrate inventories was initiated in September 1992. As of early October 1992, 10,000 gallons had been processed. After the initial 20,000 gallon batch has been processed, the system will be shut down temporarily to allow for an evaluation of systems operability. Processing of uranyl nitrate inventories is expected to be completed in early 1993.

Uranyl nitrate is an intermediate product in the former uranium recovery process at the Fernald Site. There are approximately 230,000 gallons of acidic uranyl nitrate stored in 21 tanks in or near the Plant 2/3 Refinery.

A 1991 inspection of the tanks revealed that small leaks had developed in the piping system

associated with the tanks. This Removal Action is designed to process the uranyl nitrate to a stable form. The uranyl nitrate inventory will be neutralized and converted to a solid form which can be drummed and properly stored in warehouses pending final disposition.

Safe Shutdown (Removal Action No. 12): This Removal Action was initiated to ensure the safe and permanent shutdown of production facilities including the removal of uranium and other process/raw materials from equipment and lines in the former production area. Disposition of uranium products and recoverable residues is an integral part of Safe Shutdown activities.

Preliminary assessments of the scope of actions required to achieve a safe shutdown configuration of buildings and equipment have been completed for Plants 1, 2/3, 4, 8, and 9. Assessments for Plants 5, 6, and the Pilot Plant are nearing completion.

An annual update of Fernald site procedures to ensure that appropriate documentation of Safe Shutdown activities is entered into the Administrative Record was approved by the U.S. EPA on October 1, 1992.

Since the production mission ended in July 1989, 8.9 million pounds of uranium products have been transferred from the FEMP under the Safe Shutdown program through September 30, 1992.

Plant 1 Ore Silos (Removal Action No. 13): This Removal Action will involve the dismantling of the Plant 1 Ore Silos and their support structures. Deteriorated valves caused the silos to leak material onto a concrete pad in February 1992. The material, known as cold raffinate, is the waste residue from the processing of uranium ore after

uranium is removed. Remaining material in the silos will be removed, containerized and placed in safe storage pending final disposition. All 14 silos and support structures will be dismantled and demolished under this Removal Action.

The contract to perform the work was awarded through competitive bidding in September 1992. Field activities were initiated October 18, 1992. This Removal Action is on schedule for completion by December 18, 1993.

Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator (Removal Action No. 14):

The scope of this Removal Action will include the isolation or removal and disposition of contaminated soils with elevated levels of uranium in the vicinity of an out-of-service solid waste incinerator at the sewage treatment plant. The project is designed to mitigate the potential for contaminant migration. Activities will include characterization, removal, containerization, storage and disposal of materials.

The first phase of the Removal Action (characterization) discovered a larger area of contamination than previous sampling had indicated. Due to the larger area of contamination, soil excavation plans were re-evaluated and a revised work plan to address the larger area of contamination was submitted to the U.S. EPA for review.

Excavation of contaminated soils began September 9, 1992. Areas excavated were marked in the field and storage containers to accept the contaminated soils were put in place. Excavation of contaminated soils and post-excavation sampling activities were completed October 16, 1992. A total of 187 white metal boxes were used to accept contaminated soils.

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Operable Unit 3

Removal Actions

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Scrap Metal Piles (Removal Action No. 15): This Removal Action will address the stabilization and disposition of low-level radioactive waste scrap metal currently stockpiled outdoors at the Fernald site. The project is designed to eliminate the potential threat of material releases to the environment due to wind or rain from 1,300 tons of scrap copper and about 3,000 tons of recoverable scrap metals.

Containerization of the scrap copper pile is on schedule for completion by November 31, 1992. A vendor is expected to be selected through competitive bidding this fall to process the scrap copper pile. The contract will emphasize recycling or other beneficial reuse.

Scientific Ecology Group, Inc. (SEG), of Oak Ridge, Tenn., was awarded a contract for the final disposition of 2,210 tons of ferrous scrap metal. Most of the 2,210 tons will be reused. Field activities and containerization of the scrap metal piles is expected to begin in November 1992, pending U.S. EPA approval of SEG's project plan.

Non-recoverable scrap metal at the Fernald site is presently being packaged into appropriate containers and shipped off site for disposal under Removal Action No. 9 (Removal of Waste Inventories).

The DOE will be accepting public comments on this Removal Action during the month of November 1992. The work plan is available for review in the Public Environmental Information Center.

Improved Storage of Soil and Debris (Removal Action No. 17): This Removal Action provides for the improved storage and management of contaminated soil and debris generated as a result of performing cleanup at Fernald. Activities under this Removal Action will include characterization, interim storage,

and management of contaminated soils and debris until their final remediation under Operable Unit 3.

The U.S. EPA disapproved the original work plan on July 29, 1992. U.S. EPA comments were incorporated into a revised work plan which was submitted to U.S. EPA on August 28, 1992, for review. U.S. EPA granted conditional approval of the revised work plan on September 30, 1992.

Detailed design of above-ground structures and facilities has been initiated to support this Removal Action. Tension Support Structures, similar to those currently being used to provide indoor storage for drummed waste on the Fernald site's Plant 1 Pad, will be used to provide improved storage of soil and debris and mitigate the potential spread of contamination.

The DOE will be accepting public comments on this Removal Action during the month of November 1992. The work plan is available for review in the Public Environmental Information Center.

Plant 7 Dismantling (Removal Action No. 19): The work plan for this Removal Action is due to the U.S. EPA by April 20, 1993. The characterization plan is currently in progress. Plant 7 was originally built to convert uranium hexafluoride (UF₆) to uranium tetrafluoride (UF₄). Plant 7 has been idle since the mid-1950s. All process equipment was removed from Plant 7 in the late 1950s. Plant 7 is presently being used for storage of empty cans and drums. Activities under this Removal Action will involve decontamination and dismantling of the building.

Pilot Plant Sump (Removal Action No. 24): This Removal Action was initiated to address contaminated liquids and sludges remaining in an out-of-service sump at the Fernald site's Pilot Plant. The below-grade

sump is a stainless steel cylinder approximately two feet in diameter and 10 feet deep. The sump was installed to remove liquids from the floor drains of the Pilot Plant during the renovation of the Pilot Plant in 1969. Analyses of the sludges and liquids from the sump show high concentrations of metals (lead, copper, chromium, and nickel), as well as thorium and volatile organic compounds.

An initial pump-out of accumulated liquid (185 gallons) occurred on July 24, 1992. A second pump-out (175 gallons) took place on September 2, 1992. Pumping will continue on a monthly basis until the removal of the sump is initiated. Under this Removal Action, the stainless steel sump will be removed and its associated piping will be disconnected. The drain piping integrity will be checked and the drain system plugged. Adjacent soils will be cleaned up as required.

The work plan for this Removal Action was submitted to the U.S. EPA on July 24, 1992. An integrated work plan, which addresses both U.S. EPA comments and Ohio EPA's concerns regarding the management of hazardous wastes, is being prepared for submittal to both EPAs in late October 1992 for review.

The DOE will be accepting public comments on this Removal Action during the month of November 1992. The work plan is available for review in the Public Environmental Information Center.

Nitric Acid Tank Car and Area (Removal Action No. 25): This Removal Action was initiated to remove the residual contents of a Nitric Acid Railroad Tank Car, decontaminate and dispose of the tank car itself, and address potentially contaminated

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Operable Unit 3 Removal Actions

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surrounding soils related to the tank car. The high-grade stainless steel tank car stored nitric acid from 1952 until 1989 for use in the former production process at Fernald. The tank car has a capacity of 100,000 pounds and now contains approximately 100 gallons of dilute nitric acid. The work plan for this Removal Action is on schedule for submittal to the U.S. EPA by October 30, 1992. The DOE will be accepting public comments on this Removal Action during the month of November 1992. The work plan is available for review in the Public Environmental Information Center.

Asbestos Removals (Asbestos Program) (Removal Action No. 26):

This Removal Action documents ongoing asbestos abatement activities at the Fernald site to mitigate the potential for contaminant release and migration. Abatement activities within the existing Asbestos Program include repairs, encasement, encapsulation or removal of asbestos-bearing materials which exist in many buildings on the Fernald site. A proposed work procedures document was submitted to the U.S. EPA on May 19, 1992, for review and approval. A revised work procedures document incorporating U.S. EPA comments was submitted to U.S. EPA on August 10, 1992. U.S. EPA approved the revised work procedures document in September 1992. Field activities in support of asbestos identification and abatement are in progress.

Management of Contaminated Structures at the FEMP (Removal Action No. 27): This Removal Action was initiated to provide a mechanism to perform accelerated cleanup actions to mitigate any potential threat to human health and the environment associated with select contaminated structures at Fernald. Characterization data are being gathered and required work activities are being formulated in support of the Removal Action. An Engineering Evaluation/Cost Analysis (EE/CA) is being prepared to identify the preferred Removal Action alternative for managing identified contaminated structures at Fernald pending implementation of final remedial actions under Operable Unit 3. The EE/CA is on schedule for submittal to the U.S. EPA by December 15, 1992.

Operable Unit 4 - Silos 1-4

RI/FS Activities

Site Characterization: All site characterization activities associated with the Operable Unit 4 RI/FS have been completed. Data from the analyses of collected samples has been received and validated. The data has been compiled for use in the Remedial Investigation and Feasibility Study reports. Field activities included the completion of borings in the berms surrounding the silos, the soils beneath the silos, and the contents of the concrete structures.

Reports: The Remedial Investigation (RI) Report for Operable Unit 4, including all validated analytical data from sampling activities, is presently being reviewed by DOE and contractor personnel at Fernald. The RI Report is on schedule for submittal to U.S. EPA by April 19, 1993. The RI Report will provide

details about the nature and extent of contamination in Operable Unit 4 and establish remedial action objectives. The report also will include a Baseline Risk Assessment for Operable Unit 4. This Baseline Risk Assessment evaluates the pathways of exposure and the extent of exposure for existing conditions prior to any remedial activities in Operable Unit 4.

The compilation of the Feasibility Study (FS) Report is in progress. In support of the FS development, two treatability study programs have been initiated. A Treatability Work Plan has been approved by the U.S. EPA for the evaluation of solidification and chemical extraction technology for Operable Unit 4 wastes. This Treatability Work Plan describes a five-stage process for evaluating the applicability of these

technologies. The solidification study being conducted under this work plan involves the evaluation of different cement and additives, focused on producing the optimal mix design which retards contaminant migration and provides acceptable physical properties such as weight and strength.

The chemical extraction portion of the study is focused specifically on the potential for removing certain radionuclides and heavy metals from the K-65 residues through acid/solvent digestion and extraction techniques. The purpose of this portion of the study is to examine the feasibility of removing certain contaminants of concern to levels which would reduce the volume of material to be stabilized and disposed of as low-level

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Operable Unit 4

RI/FS Activities

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radioactive waste. These studies are being conducted at the IT Environmental Technology Development Center.

Another Operable Unit 4 Treatability Study Work Plan examining vitrification has been approved by the U.S. EPA. This plan specifically examines the technical feasibility of removing the waste materials from the silos and transforming them to glass in a high-temperature furnace. Samples of materials in the silos have been

transferred to the DOE Pacific Northwest Laboratory in Richland, Washington, to perform the tests. Preliminary results from this study have been received, and evaluation of this data is in progress. The leachability of the glass produced is currently being analyzed.

These 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.

Remedial Design: Conceptual design engineering has been initiated for Operable Unit 4 for purposes of establishing preliminary design parameters and cost estimates. Conceptual engineering is proceeding based upon adapting representative remedial action alternatives for Silos 1, 2, and 3, as identified in available RI/FS documents. Conceptual engineering is proceeding in parallel with the RI/FS to allow for the prompt implementation of remedial action following issuance of the Record of Decision for Operable Unit 4.

Removal Actions

Silos 1 and 2 (Removal Action No. 4): This Removal Action was completed with the installation of bentonite clay over radium-bearing radioactive waste material in the K-65 silos.

Covering the silo contents with a layer of bentonite clay accomplished two key objectives. It substantially reduces the accumulation of radon in the silo headspace—between the surface of

the residues and the dome—thereby reducing radon emissions to the environment. Secondly, it provides protection from potential releases to the environment in the event of a silo dome collapse.

The effectiveness of this Removal Action is determined by comparing the concentration of radon in the silo headspace before and after the placement of bentonite and examining other

available monitoring data. Such a comparison indicates the bentonite has resulted in approximately a 99 percent reduction of radon accumulation in the silo headspace.

The DOE is proceeding with a statistical evaluation of available data to demonstrate the effectiveness of the bentonite. This data will be provided to the U.S. EPA as it becomes available.

Operable Unit 5 - Environmental Media

RI/FS Activities

Operable Unit 5 Work Plan

Addendum: An addendum to the RI/FS Work Plan was submitted to the U.S. EPA outlining additional investigations necessary to support Operable Unit 5. The addendum has been revised to incorporate U.S. EPA comments. The revised addendum was submitted to the U.S. EPA in October 1992 for review.

The addendum proposes limited investigations to resolve some remaining issues regarding the nature and extent of chemical and radiological constituents in the subsurface soils and groundwater at the Fernald site. The investigations include sampling of soils and perched groundwater in

the former production area adjacent to the Plant 1 Pad, fire training area, electrical substation, and several underground pipelines. Field crews have been mobilized to initiate limited activities pending receipt of U.S. EPA and Ohio EPA concurrence with the revised plan. Current project schedules identify completion of field activities for Operable Unit 5 in early 1993.

Reports: The U.S. EPA approved the revised Operable Unit 5 Treatability Study Work Plan in September 1992. The treatability work plan is designed to examine physical and chemical separation of uranium from soils. Significant cost and schedule improvements

could be realized in the implementation of final remedial actions if an implementable soil washing treatment technology can be identified. A pilot unit will be installed in Plant 8 at Fernald to demonstrate the feasibility of soil washing as a remedial technology for cleaning Fernald site soils. The pilot unit is on schedule to be operational by January 1993. Data generated from the study will be used to support the completion of the Operable Unit 5 Feasibility Study and subsequent remedy selection. The preparation of other Operable Unit 5 RI/FS reports is proceeding consistent with the schedules set forth in the 1991 Amended Consent Agreement.

Removal Actions

Contaminated Water Beneath

FEMP Buildings (Removal Action

No. 1): This Removal Action was initiated to minimize the potential for uranium-contaminated groundwater to infiltrate the underlying aquifer from perched water zones located beneath some former production buildings. "Perched" water is isolated 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 Fernald. Perched water zones of concern due to the discovery of significant concentrations of contaminants have been identified in the former production area beneath Plants 6, 2/3, 8, and 9. To minimize the potential for the movement of contaminated water in these zones to the underlying aquifer, a series of wells were installed to extract the groundwater for treatment prior to discharge.

Pumping operations are in progress at all locations. A treatment system at Plant 8 continues to remove any volatile organic compounds from the extracted water. The treatment

system uses activated carbon filters to remove the organic compounds. The water is then processed through the Fernald site's existing treatment system for the removal of uranium and eventually discharged to the Great Miami River. As of October 1, 1992, more than 249,000 gallons of extracted perched groundwater has been processed through the treatment system. Approximately 5,000 gallons are being treated each week. Treatment of perched groundwater will continue in this manner until the Advanced Waste Water Treatment system is operational in 1994.

South Groundwater Contamination Plume (Removal Action No. 3):

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 Fernald site. This Removal Action is broken into five parts.

Part 1 includes installation of an alternate water source to an industry affected by the contamination plume. Part 1 construction began in May 1992.

This portion of the project involves the installation of production wells outside the plume area and a water supply system to the affected industry. This portion of Part 1 of the Removal Action, originally scheduled for completion by July 14, 1992, is now scheduled to be operational by December 7, 1992. The DOE requested and the U.S. EPA approved this schedule extension for Part 1 due to the DOE's easement acquisition difficulties. Several property owners had denied access and/or refused offers to purchase easements required for Part 1 construction. The DOE recently gained access to those properties through condemnation proceedings.

Another affected industry, which uses a minimal amount of groundwater for non-drinking purposes, will be provided with an alternate water supply by being tied into the proposed public water system.

Part 2 involves the installation of a groundwater recovery well system to extract and pump

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Operable Unit 5

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Removal Actions

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groundwater from the South Plume through a force main back to the Fernald site for monitoring and subsequent discharge to the Great Miami River. As a result of information obtained 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 discharged both organics and inorganics which have now found their way to the Great Miami Buried Valley Aquifer. The PRRS plume extends 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 the PRRS plume to the Great Miami River. As a result of these conditions, the Part 2 well field was relocated to an area north of the Paddy's Run Road Site plume.

Use of the Fernald site's current effluent outfall pipeline to the Great Miami River will be discontinued due to its age and limited capacity to handle future flow. A new effluent outfall pipeline is being installed under Part 2 of this Removal Action. The new outfall pipeline will parallel the existing outfall pipeline to the Great Miami River.

Part 2 work also includes increasing the pump-out capacity at the Stormwater Retention Basin to reduce the potential for future overflow of the basin.

The construction contracts for the force main, the new outfall pipeline, and for providing increased pump-out capacity at the Stormwater Retention Basin, have

been awarded. Construction on this portion of the project was initiated in July 1992.

Construction of the new outfall pipeline was put on hold in September 1992 when contaminated soils and concrete construction rubble were discovered near the discharge pipeline to the river. The rubble had been placed on the riverbank years ago to prevent erosion of the riverbank near the discharge pipeline. The U.S. EPA has approved a revision to the Part 2 construction procedure to allow for construction of the new pipeline to continue while cleanup of contaminated materials is also in progress. A cofferdam (watertight enclosure) is planned for construction around the contamination area. Soils and rubble within the cofferdam will be removed and returned to the Fernald site for monitoring and evaluation to determine appropriate disposition. In addition, monitoring will be performed to determine the extent of any remaining contamination in the vicinity of the discharge pipeline adjacent to the cofferdam. Construction of the force main and outfall pipeline from the Part 2 well field to the Great Miami River is now progressing.

Construction of the Part 2 well field and the associated test well are on hold pending property acquisition through condemnation. As a result of property acquisition difficulties, the DOE requested and the U.S. EPA approved a schedule extension for completion of the groundwater recovery well system. The groundwater recovery well system, originally scheduled to be operational by January 29, 1993, is now scheduled to be operational by August 28, 1993.

Construction of a Dissolved Oxygen System is now in progress under Part 2. It was determined that the groundwater to be

extracted under Part 2 of this Removal Action has a low dissolved oxygen content. The Fernald site's National Pollutant Discharge Elimination System (NPDES) permit requires Fernald site wastewater to be discharged at a minimum of five parts of dissolved oxygen per million parts of water (ppm). Groundwater extracted under Part 2 will be aerated prior to discharge to the Great Miami River in order to comply with the Fernald site's current NPDES permit.

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 amount of uranium discharged to the Great Miami River. The design of the IAWWT system was 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 site wastewater streams to achieve the desired reduction of uranium discharges to the river.

Two trailer-mounted IAWWT facilities and associated support systems comprise the IAWWT unit located near the Stormwater Retention Basin, and a second IAWWT unit is located at the Fernald site's existing Bionitrification Effluent Treatment building. The IAWWT system, which includes the unit at the Stormwater Retention Basin and at the Bionitrification Effluent Treatment building, became operational on July 30, 1992.

The IAWWT unit at the Bionitrification building was taken off line in August 1992 due to

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Operable Unit 5

Removal Actions

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operational difficulties encountered. Repairs are now being made to that unit. The IAWWT system will be returned to operational status before the pumping of contaminated groundwater is initiated under Part 2 in August 1993; therefore, the negotiated reduction of uranium discharges to the Great Miami River will not be affected by current IAWWT operational difficulties.

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 Fernald site's existing 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 Fernald in the groundwater south (downgradient) of the recovery wells to be installed under Part 2.

The Part 5 investigation includes Hydropunch® sampling, sampling of existing monitoring wells, and groundwater modeling activities. Hydropunching is an efficient method for extracting groundwater samples without the expense of installing wells.

The initial phase of Hydropunching is complete. Remaining portions of the Part 5 work plan are on hold pending property acquisition through condemnation.

Because the U.S. EPA has issued a proposed limit of 20 parts per billion (ppb) for uranium in drinking water, the Part 5 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 DOE Fernald Field Office to limit access to this water until additional response actions for this area can be implemented.

Collect Uncontrolled Production Area Runoff - Northeast (Removal Action No. 16): The scope of this Removal Action is to collect stormwater runoff from perimeter areas of the 136-acre production area which are not presently draining into the Stormwater Retention Basin. The work plan for this Removal Action was submitted to U.S. EPA on March 2, 1992. The DOE received U.S. EPA comments on April 7, 1992. Those comments were addressed and a revised work plan was submitted to the U.S. EPA on May 21, 1992. Construction is expected to begin shortly, pending completion of pre-excavation sampling efforts. Construction is scheduled for completion by August 1993.

Additional RI/FS Activities

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Engineered Waste Management

Facility Study: As part of the RI/FS, an investigation is in progress examining the geotechnical and geochemical properties of the soils on the Fernald site. The purpose of this investigation is to determine the technical feasibility of siting an above-ground facility at Fernald to accommodate waste materials derived from remedial activities. The investigation involves the installation of a number of monitoring wells and the completion of a series of subsurface borings along the northern and eastern portions of the Fernald site. The required borings and wells have been completed, and collected samples are currently being analyzed. This study, scheduled for completion in March 1993, will support the evaluation of alternatives in the Feasibility Study reports for each of the Operable Units.

Sitewide Characterization Report:

The DOE issued the Sitewide Characterization Report to the U.S.

and Ohio EPAs in August 1992 for review. Comments from the U.S. and Ohio EPAs are currently being reviewed. A revised report incorporating responses to comments from the regulators is tentatively scheduled to be issued in late November 1992.

The Sitewide Characterization Report presents a summary of site characterization data available through December 1, 1991. Data collected after December 1, 1992, will be incorporated into the individual operable unit reports. The Sitewide Characterization Report provides a preliminary sitewide risk assessment based on the available data. This risk assessment evaluates the risks associated with existing site conditions in the absence of any remedial or removal actions completed after December 1, 1991. The report also presents preliminary remediation goals and "leading remedial alternatives" for each of the five operable units.

Preliminary remediation goals represent initial target cleanup

levels for waste and environmental media (soil, groundwater, etc.) for use in the evaluation of cleanup alternatives in each of the operable unit Feasibility Study (FS) reports. Cleanup goals are finalized in the Records of Decision.

The "leading remedial alternatives" presented in the report were selected from the array of available remedial activities in the RI/FS document for purposes of supporting the individual operable unit FS reports. The identified "leading alternatives" should not be inferred as representing a pre-selection of a cleanup alternative. The "leading alternatives" will be employed in the operable unit FS risk assessments to examine the viability of the preferred remedial alternative in the FS report to attain sitewide cleanup goals.

A community roundtable discussion on the Sitewide Characterization Report was held on October 26, 1992.

FERNALD PROJECT

CLEANUP REPORT

U.S. Department of Energy
Fernald Field Office
P.O. Box 398705
Cincinnati, OH 45239-8705

Administrative Record RI/FS Additions

The following documents are among those which have been added to the Administrative Record since the last community meeting

took place on July 21, 1992. The Fernald site'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.

- Sitewide Characterization Report
- Summary of Sampling Results of Public Water Supplies Within a 10-Mile Radius (of the Fernald site)
- Transcript of Proceedings, U.S. Department of Energy Fernald Environmental Management Project, Community Meeting, July 21, 1992
- Removal of Contaminated Rubble Near the FEMP Discharge Pipeline to the Great Miami River
- Treatability Study Report for Operable Unit 2
- Minimum Additive Waste Stabilization (MAWS) Plant 9
- Ohio EPA comments on the Pilot Plant Sump Removal Action Work Plan
- Final Operable Unit 5 Soil Washing Treatability Study Work Plan
- Remedial Investigation/Feasibility Study (RI/FS) Risk Assessment Work Plan Addendum
- Revised Removal Action 13 - Plant 1 Ore Silos Work Plan
- Documentation Supporting Fernald Environmental Management Project Removal of Waste Inventories (Low Level Radioactive Waste and Thorium Management