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**CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE
AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL
INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT
FOR OCTOBER 1994**

11/18/94

**DOE-0197-95
DOE-FN EPAS
65
REPORT**



Department of Energy
Fernald Environmental Management Project
P. O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 648-3155

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NOV 18 1994

DOE-0197-95

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT FOR OCTOBER 1994

Enclosure 1 is the consolidated CA/FFCA/FFA and RI/FS Monthly Progress Report which describes the activities accomplished October 1-31, 1994, and planned actions for the period of November, 1994. Also, enclosed are diskettes containing Lotus 1-2-3 (version 2.2) data files of the K-65 hourly data (see Enclosure 2).

If you or your staff should have any questions, please contact me at (513) 648-3107.

Sincerely,

Johnny Rausch

for

Jack R. Craig
Fernald Remedial Action
Project Manager

Enclosures: As Stated

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cc w/enc:

K. A. Chaney, EM-423, QO
D. R. Kozlowski, EM-423, QO
J. Kwasniewski, OEPA-Columbus
P. Harris, OEPA-Dayton
K. L. Alkema, FERMCO
S. Disbro, FERMCO/52-5
AR Coordinator, FERMCO

cc w/o enc:

G. Jablonowski, USEPA-V, AT-18J
M. Proffitt, OEPA-Dayton
J. Michaels, PRC
R. Cohan, GeoTrans
F. Bell, ATSDR
P. F. Clay, FERMCO/52-2
J. W. Thiesing, FERMCO/2
K. Varner, FERMCO/52-2
M. Yates, FERMCO/9

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS 6246
MONTHLY PROGRESS REPORT

Period Ending October 31, 1994

Introduction

The Consent Agreement (CA) As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a), the Federal Facility Compliance Agreement (FFCA), and the Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA) signed September 20, 1991, July 18, 1986, and November 19, 1991, respectively, require that monthly reports be submitted to the U.S. EPA regarding progress made to meet the provisions of those agreements. This report fulfills those requirements by describing actions undertaken at the Fernald Environmental Management Project (FEMP) during the period October 1 through October 31, 1994, and planned actions for the period November 1 through November 30, 1994.

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WORK ASSIGNMENTS AND PROGRESS

Descriptions of work progress are presented in the following sections and/or enclosures to this report:

- CA Section IX - Removal Actions
- CA Section X - Remedial Investigation/Feasibility Study
- Enclosure A - Waste Water Flows and Radionuclide Concentrations under CA Section XXIII.B
- Enclosure B - FFCA: Initial Remedial Measures and Other Open Actions
- Enclosure C - FFA: Control and Abatement of Radon-222 Emissions
- Enclosure D - Effluent Radiation Discharges to the Great Miami River

CA Section IX. Removal Actions

This section provides an update of activities associated with the implementation of Removal Actions (RAs) at the FEMP during October 1994. Information is presented for each of the Removal Actions identified in the Consent Agreement As Amended.

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REMOVAL ACTION SUMMARY

NO.	TITLE	SCOPE	STATUS
Phase I			
1	Contaminated Water Under FEMP Buildings	Pump water from extraction wells underneath Plants 2/3, 6, 8, and 9. Treat extracted water for volatile organic chemicals and uranium removal before discharge.	Plants 6 Operational Plants 2/3, 6, & 8 Temp. Inoperable
2	Waste Pit Area Run-off Control	Collect and treat contaminated storm water run-off from the waste pit area.	Operational: 7/30/92 Operation Ongoing
3	South Groundwater Contamination Plume	Part 1 - Install new alternate water supply and transfer to industrial user.	Operational: 12/7/92 Operation Ongoing
		Part 2 - Pump and discharge groundwater from South Plume.	Operational: 8/27/93 Operation Ongoing
		Part 3 - Install and operate Interim Advanced Waste Water Treatment system to reduce uranium contaminant loading to the Great Miami River.	Operational: 7/30/92 Operation Ongoing
		Part 4 - Conduct groundwater monitoring and institutional controls by sampling private and existing RI/FS wells in the South Plume area and installing homeowner treatment systems.	Ongoing
		Part 5 - Conduct groundwater modeling and geochemical investigating to define the extent of the groundwater plume contaminated with uranium.	Completed: 2/25/94
		OU 2 Dispute Resolution Supplemental Project - Provide for partial treatment of the South Plume discharge to further reduce uranium flow to the Great Miami River.	Operational: 3/31/94 Operation Ongoing
4	Silos 1 & 2	Install bentonite cap to reduce and monitor radon emissions. Provide follow-on monitoring.	Cap Completed: 11/28/91 Monitoring: Ongoing

Shading denotes completed actions

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REMOVAL ACTION SUMMARY

NO.	TITLE	SCOPE	STATUS
5	Decant Sump Tank	Periodically remove liquid from K-65 decant sump tank.	Ongoing
6	Waste Pit 6 Residues	Eliminate potential airborne contamination by resubmerging exposed pit material.	Completed: 12/19/90
7	Plant 1 Pad Continuing Release	Stage I - Implement run-on/off control measures.	Completed: 1/17/92
		Stage II - Install new pad.	Completed: 12/4/92
		Stage III - Upgrade existing Plant 1 Storage Pad	Ongoing
Phase II			
8	Inactive Flyash Pile Control	Install plastic chain-link barrier and post warning signs.	Completed: 12/23/91
9	Removal of Waste Inventories	Disposition of low-level waste off-site.	Ongoing
10	Active Flyash Pile Controls	Phase I - Complete interim surface stabilization.	Completed: 6/29/92
		Phase II - Complete active flyash pile controls.	Maintenance: Ongoing
11	Pit 5 - Experimental Treatment Facility	Remove contents, structure, and filter material. Backfill and cap with clay cover.	Completed: 3/20/92
12	Safe Shutdown	Remove uranium and other material from former processing equipment and ship material and equipment off-site.	Ongoing
13	Plant 1 Ore Silos	Dismantle fourteen ore silos and their support structures.	Ongoing
14	Contaminated Soil Adjacent to Sewage Treatment Plant Incinerator	Isolate or remove and dispose of contaminated soils from the vicinity of the sewage treatment plant.	Ongoing
15	Scrap Metal Piles	Phase I - Disposition LLW ferrous/non-ferrous scrap metal	Ongoing
		Phase II - IIA - Containerization of scrap copper	Completed: 9/29/92
		IIB - Disposition of scrap copper	Ongoing
16	Collect Uncontrolled Production Area Run-off - Northeast	Collect storm water run-off from the northeast perimeter of the former production area in the Storm Water Retention Basin.	Completed: 8/20/93

Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
17	Improved Storage of Soil and Debris	Improve storage of existing and future generated soils and debris.	Ongoing
18	Control Exposed Material in Pit 5	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed: 6/30/93
Phase III			
19	Plant 7 Dismantling	Dismantle and dispose of the Plant 7 structure.	Ongoing
20	Stabilization of UNH Inventories	Neutralize, filter and package UNH inventory.	Ongoing
21	Expedited Silo 3	Mitigate the potential release of hazardous waste material by covering and sealing dust collector hopper, removing dust collector, and capping and covering obvious release pathways.	Completed: 2/24/93
22	Waste Pit Area Containment Improvement	Stabilize south berm of Pit 4; regrade drainage ditches along Pits 3, 4, 5, and 6; and resurface road between Pits 3, 4, 5, and 6.	Completed: 7/30/93
23	Inactive Flyash Pile	Conduct field investigation to identify locations requiring material removal.	Completed: 4/30/92
24	Pilot Plant Sump	Remove liquid and sludge from the sump.	Completed: 10/15/93
25	Nitric Acid Tank Car and Surrounding Area	Remove residual contents from tank car and decontaminate and dispose of tank car.	Completed: 10/11/93
26	Asbestos Removals (Asbestos Program)	Mitigate the potential for contaminant and migration of asbestos fibers.	Ongoing
27	Management of Contaminated Structures at the FEMP	Submit an Engineering Evaluation/Cost Analysis for managing contaminated structures. Identify alternatives for managing contaminated structures.	Final EE/CA Approved 6/16/93
28	Contamination at the Fire Training Facility	Remove, decontaminate, dispose, treat or store contaminated structures, equipment, and soil from the former Fire Training Facility.	Ongoing
29	Erosion Control at Inactive Flyash Pile	Mitigate the threat of erosion induced slope failure and discharge of flyash to Paddy's Run.	Final Report Submitted to DOE 2/94 Maintenance: Ongoing
30	Seepage Control at the South Field and Inactive Flyash Pile	Minimize future groundwater contamination by intercepting contaminated seeps that drain from the South Field and Inactive Flyash Pile and infiltrate to the GMA.	Ongoing

*Shading denotes completed actions

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Removal Actions

RA No. 1, Contaminated Water Under FEMP Buildings

Current Month:

The Plant 8 Volatile Organic Compounds (VOC) Treatment System continues to operate. Plant 6 perched groundwater extraction wells are in operation. Restart of Plants 2/3, 8, and 9 extraction wells has been delayed due to identified deficiencies (systems leaks and instrument adjustments) which require corrective maintenance. Corrective maintenance was not completed as planned in October due to other priority maintenance commitments.

Plant 9 wells did not come back on-line as previously reported. Stored water accumulated from past extraction well operation is the source of Plant 9 perched water recently treated at the Plant 8 VOC Treatment System.

Planned Activities:

- Complete corrective maintenance and reestablish operations of Plants 2/3, 8, and 9 perched groundwater extraction wells.

RA No. 3, South Groundwater Contamination Plume

Part 1 - Alternate Water Supply

Current Month:

Activities to complete the transfer of ownership of the Alternate Water Supply System from DOE to Albright and Wilson Americas (A&W) continue. Progress on the Public Water Supply (PWS), which will supply Delta Steel, continues. Public Water Supply Project A was advertised for bids by Hamilton County Department of Public Works (HCDPW)—the bid opening is scheduled for November 3, 1994. Prospective contractors reviewed DOE/FERMCO procedures for handling any cultural resources discovered during construction at a pre-bid meeting on October 24, 1994.

Delta Steel requested that they be provided bottled water service from the FEMP until the PWS is complete. Information has been obtained regarding Delta Steel's current bottled water consumption.

Contract approval for cultural resource data recovery effort along State Route 128 is taking longer than expected due to the fact this will be a sole source contract. However, approval is anticipated soon with field work to be completed in November.

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Removal Actions

RA No. 3, South Groundwater Contamination Plume (continued)

Planned Activities:

- Continue proceedings to transfer ownership of the Alternate Supply to A&W in accordance with agreement of 1990.
- Continue to support HCDPW on installation of the PWS including service connections.
- Complete cultural resources (data recovery) efforts for area in Project B along State Route 128.
- Complete agreement with Delta Steel to provide bottled water.

Part 2 - Pumping and Discharge System

Current Month:

Pumping of Recovery Wells 2 and 3 continue. Recovery Well 1 remains down due to pump problem, and Recovery Well 4 remains shut down due to pumping reconfiguration. Additionally, on September 1, 1994, Recovery Well 5 shut down and was unable to be restarted. Alliance Drilling removed the pumps from Recovery Wells, 1, 4, and 5 in mid-October. Installation of the new check valves at Recovery Wells 2 through 5 was completed October 14, 1994. Equipment to rebuild electrical panel for Recovery Well 4 has been received.

Progress continues on the effort to replace the existing five recovery well pumps with lower operating range pumps. This will enable all pumps to be operating at optimal discharge rates. A purchase order has been placed for the five replacement pumps and one spare. Delivery is expected on or before November 16, 1994. Pressure transducers to monitor the water levels in the recovery wells have been received. A task order is being prepared to replace the pumps in the five recovery wells and permanently install pressure transducers in each recovery well to monitor groundwater elevations. This work will be accomplished by the new site drilling contractor, Alliance Drilling.

On October 26, 1994 Recovery Wells 1, 4, and 5 were videotaped and the tape indicated that Recovery Well 1 had approximately 7 feet of sand in the bottom of the well, Recovery Well 5 had approximately 16 feet of gravel/sand, and Recovery Well 4 did not indicate the presence of material in the well.

Arsenic concentrations in three south plume observation wells (2128, 2548 and 2625) began to increase on September 26 and continued to increase until October 10, 1994. The arsenic concentrations are now decreasing. Based on previous monitoring results, it is presumed the fluctuation in arsenic concentrations are in response to short-term recovery well maintenance/shutdown operations.

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Removal Actions

RA No. 3, South Groundwater Contamination Plume (continued)

Planned Activities:

- Continue to evaluate modifications implemented to address the arsenic contamination found in the monitoring wells. Weekly sampling will be performed to monitor arsenic entering the recovery wells.
- Repair and install electrical panel in Recovery Well 4.

Part 3 - Interim Advanced Waste Water Treatment (IAWWT)

IAWWT Storm Water Retention Basin (SWRB) Unit

Current Month:

The IAWWT(SWRB) continued with minimal operation downtime due to improved filtration system installed in March as part of the South Plume Interim Treatment (SPIT) System project.

Planned Activities:

- Continue to operate IAWWT(SWRB).

IAWWT Bionitrification Effluent Treatment System (BDN-ETS) Unit

Current Month:

Satisfactory operation of the IAWWT(BDN-ETS) unit continues with minimal operation downtime as a result of the permanent ion exchange vessel repairs.

Planned Activities:

- Continue to operate IAWWT(BDN-ETS) unit.

Part 4 - Groundwater Monitoring and Institutional Controls

Current Month:

Sampling of private homeowner and existing RI/FS wells in the South Plume area continues. The FEMP continues to monitor the effectiveness of the ion exchange water treatment systems at the two residences where these systems are installed.

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RA No. 3, South Groundwater Contamination Plume (continued)

Planned Activities:

- Continue to monitor performance of ion exchange systems through bimonthly sampling and analyses.

Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge)

Step 1

Current Month:

The South Plume Interim Treatment (SPIT) system continues to operate satisfactorily.

Planned Activities:

- Continue full operation of the system (treating 200 gpm of South Plume flow).

Step 2

Current Month:

Work is ongoing to facilitate the use of off-peak capacity in Phase I of the Advanced Waste Water Treatment (AWWT) system for South Plume flow when no storm water treatment is required. The AWWT package, now under construction, contains piping and valving to transfer South Plume flow to the existing SWRB pumping station for subsequent transfer to Phase I.

Planned Activities:

- The off-peak capacity will be available when Phase I of the AWWT system becomes operational in January 1995.

Step 3

Current Month:

Installation of the AWWT Phase II line was completed in September. This line will eventually serve the Phase III AWWT system and will allow South Plume groundwater to be transferred to the AWWT Phase II system to meet the Step 3 commitment.

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RA No. 3, South Groundwater Contamination Plume (continued)

Planned Activities:

- Complete installation of instrumentation and controls in the portion of line going to the Phase II equalization tanks.

Step 4

Current Month:

Extension of the planned operational life of the existing IAWWT(SWRB) unit by converting it from treating storm water to treating South Plume, and increasing capacity from 300 gpm to approximately 400 gpm is scheduled for completion by March 1995.

Planned Activities:

- Conversion of the IAWWT(SWRB) to South Plume groundwater treatment is scheduled to be accomplished between January and March 1995.

RA No. 5, K-65 Decant Sump Tank

Current Month:

Nothing to report.

Planned Activities:

- None

RA No. 7, Plant 1 Pad Continuing Release

Current Month:

In September, the Phase "E" concrete placement and coating was completed. Monitoring wells 11112, 11114, 11115, 11116, 11208, 11209, 1339, and 1343 located on the pad were abandoned and covered to prevent contamination from the pad to soils or groundwater. The contractor is addressing some outstanding punchlist items as part of the construction phase closeout of the Removal Action.

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Removal Actions

RA No. 7, Plant 1 Pad Continuing Release (continued)

Planned Activities:

- Subcontractor to demobilize upon completion of outstanding punchlist items. Estimated completion date of punchlist items is November 30, 1994.
- Initiate development of Final Report.

KEY MILESTONES	STATUS	DUE DATE
Complete Resurfacing of Phase III pad	Completed	September 30, 1994
Issue Final Report to EPA	On Schedule	February 21, 1995

RA No. 9, Removal of Waste Inventories

Current Month:

The volume of waste shipped off-site in October was 5,063 drum equivalents (DEs) for a total DEs shipped to the NTS in FY-95. This volume includes 2,162 drums of residues removed from inventory and shipped to-date.

The FY 1995 volume planned to be shipped to the NTS is 79,000 DEs. The volume of legacy waste included in this number is 48,500 DEs, the remaining volume will be currently generated LLW. The emphasis for LLW shipping in FY 1995 will be to ship the most waste in the smallest number of containers and the shortest time after the date of generation.

Planned Activities:

- During Fiscal Year 1995, shipping activities will include the continuation of legacy, construction, residue, and thorium shipments, along with currently generated waste shipments to the NTS.
- An accelerated shipping schedule has been developed for the year in an effort to eliminate all approved backlog LLW residues from the FEMP inventory.
- The volumes of waste shipments planned in FY-1995 include 35,000 DEs of residues, 9,000 DEs of backlog construction, 10,000 DEs of currently generated scrap waste and 4,500 DEs of thorium. An additional 20,000 DEs of newly generated construction/safe shutdown waste will also be shipped in the coming year.

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RA No. 12, Safe Shutdown

Current Month:

Preparation of implementation plans for Safe Shutdown activities, including Hazardous Waste Management Unit (HWMU) closures, continues with emphasis on the work in Plants 1, 4, and the Pilot Plant.

The verification of the production equipment in all process plants, except for Plants 2 and 3 Refinery, has been completed. The anticipated completion date for the verification of the Refinery equipment is August 1996. The as-built floor plan drawings are being redlined to validate the equipment to current configurations in order for bid packages to be put together for D&D contractors.

The following is the status of capital equipment: of an estimated 1,682 items, 1,267 have been or will be excessed, and 415 have been identified as "In Use/Future Use" items.

To date, 1,266 maintenance work orders to isolate and disconnect all utilities/energy sources from equipment not in use have been prepared. Of these, 682 have been completed. Completion of utility disconnects is a necessary action prior to removal of hold-up material from process equipment in preparation for eventual equipment removal and decontamination and decommissioning.

To date, 241 task orders to remove the hold-up material from equipment have been prepared; of those, 46 have been completed.

The eighth shipment of depleted derbies was made on October 31, 1994, to the customer, Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee. Total shipped to-date is 125 MTU of 440 MTU total.

Planned Activities:

- Continue to issue work orders to disconnect utilities from process equipment and issue task orders to identify and/or remove hold-up materials from process equipment.
- Continue to expedite utility isolations, identify hold-up in process equipment, and remove/drum hold-up materials from the process equipment.
- Continue verification of the equipment in Plants 2 and 3 Refinery.
- Continue to prepare implementation packages and obtain appropriate approvals.
- Continue shipping depleted derbies to MSC in Oak Ridge, Tennessee.

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RA No. 12, Safe Shutdown (continued)

- Continue the removal of Plant 5 and Plant 6 equipment to be used in the OU 4 Pilot Plant vitrification project.
- Continue to pursue other government interest in FEMP process equipment and nuclear materials.

RA No. 13, Plant 1 Ore Silos

Current Month:

The size reduction operation of the concrete silos was completed on October 26, 1994. The decontamination of equipment and the inside of the Size Reduction Building is scheduled to be completed by November 2, 1994. The remaining tile silos and cones were completed on October 15, 1994.

Planned Activities:

- Remove the structural steel that supported the tile silos.
- Close out the construction portion of the Removal Action.

KEY MILESTONES	STATUS	DUE DATE
Complete Removal Action	Open, ahead of schedule.	December 19, 1994

RA No. 14, Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator (STPI)

Current Month:

Received sample analyses from EPI Labs. Upon review, two sample points located south of Zone IV, northeast of the STPI, revealed elevated levels of total uranium in excess of the off-property cleanup level (35 pCi/g). The area south of Zone IV was resampled on October 24, 1994, and revealed only one sample location with a total uranium concentration above 35 pCi/g. The Final Report was revised and transmitted to DOE-FN on October 31, 1994.

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Removal Actions

RA No. 14, Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator (STPI)
(continued)

Planned Activities:

- Excavate surface soil (top 6-inches) encompassing sample point 1 (SP-1) to remove the uranium contamination. The area of excavation is approximately 23 feet by 70 feet. The estimated volume of soil is 30 cubic yards. The excavation will be filled with clean top soil purchased from a commercial vendor. The work will be completed by November 20, 1994.
- Submit draft Final Report to U.S. EPA by December 5, 1994.

RA No. 15, Scrap Metal Piles

Current Month:

Phase I: The draft final report was submitted to the U.S. EPA on October 4, 1994.

The path forward for the remaining 84 oxide boxes that were determined to be RCRA hazardous for lead is stabilization for disposal at NTS as low-level radioactive waste.

Phase II: The project is not currently baselined for FY95.

Planned Activities:

- Phase I: SEG will begin treatment of the 84 remaining oxide boxes in November. Confirmatory sampling of the treated slag and two oxide boxes will begin upon completion of stabilization by SEG.
- Phase II: Determine path forward for project since it is not currently baselined.

KEY MILESTONES	STATUS	DUE DATE
Phase I - On-Site Processing Off-Site Processing	Completed Completed	Sept. 30, 1993 March 25, 1994
Phase I - Submit draft Final Report to U.S. EPA	Completed	October 4, 1994
Phase IIB: Submittal of Subcontractor's Removal Action Project Plan	On hold until funding is available	Sept. 30, 1993
Phase IIB: Submittal of Final Report	On hold until funding is available	March 30, 1995

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RA No. 17, Improved Storage of Soil and Debris

Current Month:

October activities included set-up of radiological control point trailer and construction zone boundaries for the site support contractor who will perform the regrading and seeding over the existing soil and rubble pile north of Third Street. A letter was drafted for submittal to U.S. EPA requesting concurrence to; 1) delete the Decontamination Facility Pad (DFP) from the scope of RA 17; and 2) defer the decision to build the Central Storage Facility (CSF) until more information is known regarding the on-site waste acceptance criteria -- if deemed necessary, the CSF will be constructed under a remedial action within OU 3 in future years.

Completed the resampling that was required, prompted by high preliminary analysis levels from initial sampling data. This sampling is being conducted to determine the RCRA status for the debris/residue/remains from the scrap metal pile located at the Building 69 pad. Removal of the remains/debris is the only portion of the remaining scope of the Scrap Metal Pad (SMP) tension support structure. The SMP tension support structure has been deleted from the scope of the removal action. The Implementation Plan which depicts the work scope for removing the debris/residues from the former SMP site was completed.

Planned Activities:

- Begin removal of portions of existing perimeter fence to gain access to pile.
- Set up subcontractor laydown and staging areas.
- Begin removing the accessible debris from the Soil and Rubble Pile North of Third Street.
- Begin containerization and removal of the remaining debris/residue at the Scrap Metal Pad.

RA No. 19, Plant 7 Dismantling

Current Month:

October activities included dismantlement of structural steel which included the main building. PDG is currently shearing and loading the structural steel into roll-off boxes. Forty of the 75 boxes have been loaded.

Planned Activities:

- Continue to dismantle and remove exterior structures including tanks, projecting concrete structures, and excess soilpile.
- Continue to segregate, package, and load materials removed from Plant 7 into waste containers.

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Removal Actions

RA No. 19, Plant 7 Dismantling (continued)

- Continue to shear and load structural steel into containers for recycling contract.
- Clean, repair, and apply sealant to first floor slab.
- Subcontractor to demobilize.
- Decontaminate construction equipment.

RA No. 20, Stabilization of UNH Inventories

Current Month:

Construction of the new UNH transfer pipe continued and is near completion. The UNH operating procedures were issued. The Safety Analysis Report (SAR) was issued. The new UNH transfer pumps were found to have stress cracks in their suction castings and were returned to the manufacturer for replacement. Double-diaphragm pumps, already located on site, will be utilized for the project in place of the defective progressive cavity pumps. The double-diaphragm pumps are acid resistant, can pump slurries, and are commonly used on site for this purpose. The operating procedures, SAR, Plan of Action (POA) and several other documents must be revised to incorporate the new double-diaphragm pumps.

On October 17, 1994, DOE-FN and FERMCO received notification of Ohio EPA's intent to refer DOE and FERMCO for enforcement action regarding outstanding violations that exist with the storage of UNH in the UNH tank system. The letter was issued in response to: 1) the FEMP's discovery of additional leaks in the UNH tank system, and 2) concern that the scheduled January 16, 1995 start-up date would be delayed because newly delivered process pumps failed quality assurance inspection.

In response to the October 17 letter, the FEMP considered all alternatives and provided a list of actions in an October 21, 1994 letter addressed to the Ohio EPA. It was determined that soil washing Pilot Plant Facility spare pumps could be safely used for the UNH service. As the result of relocating the spare pumps, the FEMP intends to meet the original January 16, 1995 start-up date. In addition, the letter stated:

- Two tanks are available (15,000 gallons each) in the Plant 2/3 area to transfer UNH if needed. Currently, the FEMP is evaluating the options for transferring UNH material into these tanks as a precautionary measure prior to processing.
- Inspections, monitoring, and surveillances have been increased and secondary containment has been improved.

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Removal Actions

RA No. 20, Stabilization of UNH Inventories (continued)

- Of six new leaks identified in the October 14, 1994 letter, three have been repaired, one is in the process of being repaired and two are in areas that cannot be accessed until the UNH tanks are empty. The rate of the leaks has remained constant, and is measured in drops per day.

A meeting was held between DOE-FN, DOE-HQ, FERMCO, and Ohio EPA on October 25, 1994. As the result of the meeting, the following have been drafted for subsequent submittal to Ohio EPA: Winter Weather Condition effects on UNH operation, tank processing sequence, revised project schedule maintaining the January 16, 1995 operation start-up date, and criteria for initiating transfer of leaking tank contents.

Planned Activities

- Complete construction of transfer pipe.
- Re-issue operating procedures, SAR, and POA.
- Train for UNH operations.
- Complete isolation of UNH storage tanks.
- Complete self assessment of UNH project.

RA No. 26, Asbestos Removals (Asbestos Program)

Current Month:

The encapsulation/encasement of transite siding and roofing on the Metal Dissolver Building has been completed.

The Harshaw Tower, Hot Raffinate Building, Maintenance Building, and Fire Protection Building have had abatement completed.

The PARSONS engineering evaluation of alternatives to remove and replace the Plant 2/3 transite roof temporarily and remove other friable Asbestos Containing Material (ACM) until Plant 2/3 dismantling occurs, was put on hold in October until the funding issues are resolved.

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Removal Actions

RA No. 26, Asbestos Removals (Asbestos Program) (continued)

Planned Activities:

- Continue the compilation of work packages. Construction activity on the thermal system insulation removal is ongoing. Water Treatment Building (20B) is scheduled to start in November.

RA No. 28, Contamination at the Fire Training Facility

Current Month:

Excavations of the magnesium burn area, burn pond, and radiologically-contaminated soils in the east field area have been completed. Magnesium burn area soils and the radiologically contaminated soils have been placed in bermed stockpiles. The sump and burn pond soils were containerized.

Stained soils from the open top tank trench have been excavated and drummed. Soils have also been excavated from the area around piezometer 1512 and containerized.

Verification samples have been collected from the burn pond, sump, and magnesium burn area.

Planned Activities:

- Size reduction and containerization of the open top tank.
Collection of verification samples.
Excavation of the asphalt pad.

RA No. 30, Seepage Control at the South Field and Inactive Flyash Pile

The goal of this removal action is to minimize future groundwater contamination by intercepting contaminated seeps that drain from the South Field and Inactive Flyash Pile and infiltrate to the Great Miami Aquifer.

Current Month:

The Removal Site Evaluation was submitted for internal review on October 11, 1994. On October 26, 1994, DOE directed FERMCO to proceed with the removal action as a time-critical action.

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Removal Actions

RA No. 30, Seepage Control at the South Field and Inactive Flyash Pile

Planned Activities:

- Evaluation of Alternatives.
- Begin development of Workplan.
- Prepare RFP for Design Services.

KEY MILESTONES	STATUS	DUE DATE
Submit RSE	Completed	October 11, 1994
Submit Workplan	Under Development	December 24, 1994
Complete Removal Action	Completed	October 17, 1995

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1.0 Operable Unit 1

Operable Unit 1 (OU 1), as defined in the Amended Consent Agreement, includes Waste Pits 1 - 6, Clearwell, Burn Pit, berms, liners, and soil within the operable unit boundary.

1.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

1.2 Remedial Investigation

Status:

Complete.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 1 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 1 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	10/4/93 A	12/20/93 A	02/04/94 A

C = Consent Agreement Date
A = Actual
* = Request for extension

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1.3 Feasibility Study/Proposed Plan

Status:

Received conditional approval of the OU 1 Feasibility Study/Proposed Plan from the U.S. EPA on July 29, 1994. Submitted final comment responses and change pages for U.S. EPA and Ohio EPA review and approval on August 26, 1994. Final approval of the document was received from the U.S. EPA on September 27, 1994. Final distribution was completed on October 26, 1994.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 1 FEASIBILITY STUDY/PROPOSED PLAN

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis is performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	03/04/94 A	06/01/94 A	07/01/94 A

C = Consent Agreement Date
A = Actual

1.4 Treatability Studies

Status:

Remedy Screening/Remedy Selection Treatability Studies in support of the OU 1 Remedial Investigation/Feasibility Study (RI/FS) are complete. Conditional approval of the Dewatering and Excavation Evaluation Program (DEEP) treatability work plan was received from U.S. EPA on August 5, 1994. The final revised document has been completed and distributed. The DEEP program was developed to identify applicable excavation technique(s) to remove waste pit material and to determine how to optimize and refine these technique(s). DEEP is broken up into four test phases: geotechnical, wet excavation, dewatering, and dry excavation.

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1.4 Treatability Studies (continued)

Geotechnical testing, consisting of Cone Penetrometer Testing (CPT) and drilling activities, began on August 22, 1994, with the start of CPT fieldwork. CPT testing was completed September 1, 1994. Drilling activities began October 4, 1994, and were completed on October 21, 1994. A total of total of 16 borings were completed during this time period. Phase II, wet excavation, is scheduled to begin in late November.

Issues/Corrective Actions:

None to report.

1.5 Record of Decision

Status:

DOE-FN and DOE-HQ comments to the Draft OU 1 Record of Decision (ROD) were received on July 19, 1994. Revisions to the Draft ROD in response to these comments have been initiated. The formal public comment period for the Proposed Plan ended on September 8, 1994. The formal responses to comments were completed on October 28, 1994.

Planned Activities for November 1994

- The draft OU 1 ROD will be submitted to U.S. EPA and Ohio EPA on November 4, 1994, for review and comment.
- Phase II of the DEEP project, wet excavation, is scheduled to begin in late November.

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2.0 Operable Unit 2

Operable Unit 2 (OU 2), as defined in the Amended Consent Agreement, includes the Flyash Piles, other South Field disposal areas, Lime Sludge Ponds, Solid Waste Landfill, berms, liners, and soil within the operable unit boundary.

2.1 RI/FS Work Plan Addendum

DOE-FN submitted the Remedial Investigation Report for OU 2 to the U.S. EPA and Ohio EPA in October 1992. Based on December 17, 1992, review comments from the U.S. EPA and Ohio EPA on the RI Report and subsequent disapproval of the document, OU 2 required a second phase of Remedial Investigation sampling and analysis in order to meet the objectives of the March 1988 RI/FS Work Plan.

Status:

Complete.

Issues/Corrective Actions:

None to report.

2.1.1 RI Field Investigation

Status:

Issues/Corrective Actions:

None to report.

2.2 Remedial Investigation

Status:

EPA's approval of the comment response document based on the incorporation of seven additional comments was received on October 11, 1994. Response to the remaining comments are due on November 11, 1994.

Issues/Corrective Actions:

None to report.

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OPERABLE UNIT 2 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 2 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	02/18/94 C	04/22/94 C	06/15/94 C (due to extension)

C = Consent Agreement Date

2.3 Feasibility Study/Proposed Plan

Status:

The Feasibility Study Report was sent to U.S. EPA and Ohio EPA on August 23, 1994. Comments and conditional approval from the EPAs were received on October 11, 1994. Responses to the comments were developed and will be discussed with the EPAs November 1, 1994. Changed pages to the FS document will be sent to the EPAs in November.

The Public comment period for the FS/PP began on October 26, 1994.

Issues/Corrective Actions:

None to report.

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2.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 2 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT DRAFT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA DRAFT FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	04/29/94 C	07/05/94 C	08/24/94 C

C = Consent Agreement Date

2.4 Treatability Studies

Status:

None to report.

Issues/Corrective Actions:

None to report.

2.5 RD/RA Work Plan

The scope-of-work and estimates in support of the RD/RA Work Plan are being revised as part of the ongoing FY95 planning. The revised RD/RA Work Plan will reflect the addition of the sitewide disposal facility to OU 2's scope-of-work. A Remedial Design Work Plan will be scheduled to be submitted to the U.S. EPA and the Ohio EPA 60 days after receipt of the approved Record of Decision (ROD) in accordance with the Amended Consent Agreement. A phased approach will be used for submittal of the RD/RA work plan with the disposal facility plan being submitted first and the OU 2 waste unit plan being submitted approximately six months thereafter.

Status:

Work is being rescheduled to begin in FY95 consistent with plans for the sitewide disposal facility.

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2.6 Record of Decision

Status:

Draft Record of Decision was submitted to DOE on October 6, 1994.

SCOPE	SUBMIT DRAFT TO EPA	SUBMIT TO EPA DRAFT FINAL
Presents the selected remedial action for OU 2 in accordance with CERCLA.	1/5/95	5/29/95

2.7 Planned Activities for November

- Meet with EPAs to discuss the FS Responses to Comments.
- Issue changed pages to Feasibility Study/Proposed Plan.
- Continue efforts on the Pre-Design Investigation Work Plan
- Participate in Formal Public Meeting on the OU 2 Proposed Plan on November 8, 1994.

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3.0 Operable Unit 3

Operable Unit 3 (OU 3), as defined in the Amended Consent Agreement, includes the Production Area and production-associated facilities and equipment (including all above-and below-grade improvements) including all structures, equipment, utilities, drums, tanks, solid waste, waste, product, thorium, effluent lines, K-65 transfer lines, waste water treatment facilities, fire training facilities, scrap metal piles, feed stocks, and coal pile.

3.1 RI/FS Work Plan

Status:

The U.S. EPA and Ohio EPA have conditionally approved the modification document to the OU 3 RI/FS Work Plan Addendum. The modification request included: (1) justification for eliminating the OU 3 stand-alone Baseline Risk Assessment, (2) justification for a reduced field characterization program, (3) proposed revisions in the approach to performing the OU 3 Feasibility Study, and (4) a revised OU 3 RI/FS schedule with milestones.

Issues/Corrective Actions:

None to report.

3.2 Remedial Investigation

Status:

A revised schedule and approach for the RI has been proposed based on the suggested elimination of the Baseline Risk Assessment, trending of early data, and a combined RI/FS Report. Significant cost savings will result from this revised schedule. As of October 14, 1994, 100% of the chemical field characterization analytical data has been received from the laboratories and validated. 32% of the radiological field characterization analytical data has been received from the off-site laboratories.

Issues/Corrective Actions:

None to report.

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OPERABLE UNIT 3 REMEDIAL INVESTIGATION REPORT PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature of contaminants within the OU 3 study area. Estimates the volume of contaminated media and materials. Characterizes contamination in the former production area and establishes remedial action objectives.	03/13/96 C 09/11/95 F	05/12/96 C 12/05/95 F	06/11/96 C 01/24/96 F

C = Consent Agreement Date

F = Forecast Date

3.3 Feasibility Study/Proposed Plan

Status:

The OU 3 FS will be prepared as a focused feasibility study with three alternatives and will be based on the assumption of a performance-based Record of Decision (ROD), rather than a specific set of technologies to be used. This document will be submitted to the EPAs on September 11, 1995 as a combined RI and FS Report. Four disposition options have been identified for materials generated by OU 3: 1) on-property disposal, 2) off-site disposal, 3) controlled recycling, and 4) unrestricted release for disposal or recycling. These options will each have criteria associated with them, such that not all options are to be available for every material stream. Treatment will be considered a viable option when required to meet at least one of the options and, also when it cost effectively supports meeting a criteria which leads to a cheaper disposition option.

The OU 3 Feasibility Study is continuing the development phase of information to allow the detailed analysis of alternatives, which eventually leads to the selection of a preferred remedy to remediate OU 3. Technology screening is nearly complete with an initial representative approach determined for each material category and alternative combination. These approaches will form the basis for the development of alternatives.

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OPERABLE UNIT 3 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	04/12/96 C 09/11/95 F	08/07/96 C 12/05/95 F	11/05/96 C 01/24/96 F

C = Consent Agreement Date

F = Forecast (FS, PP, and ROD anticipated to be delivered early)

Issues/Corrective Actions:

None to Report.

3.4 Treatability Studies

Status:

The FEMP has been conducting remedy screening treatability studies in parallel with the field investigation and alternatives development. Initial studies were identified in the OU 3 Treatability Study Work Plan, approved April 13, 1994. Additional studies are currently being planned and will be submitted for review and approval upon completion of planning. These studies include: Chemical Leaching of Concrete, Kelly Decontamination on Concrete, Surface Decontamination/Removal of Metal, Transite Characterization, N-Scan PGNA, EET of Transite, Plant 7 Gross Decontamination, Ultrasonic Decontamination of Strategic Metals, Recycling of Plant 7 Metals, Recycling of High Nickel Alloys, Recycling of Copper, Treatment of Thorium Nitrate, Treatment of High Fluoride Waste Waters, and treatability studies on legacy mixed waste in support of the Site Treatment Plan. These tests will support FS decision-making and will be summarized in treatability study reports.

Issues/Corrective Actions:

None to report.

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3.5 Interim Action - Record of Decision

Status:

The IROD was signed by DOE on June 8, 1994 and forwarded for U.S. EPA signature on June 10. The U.S. EPA signed the IROD on July 22, 1994.

Issues/Corrective Actions:

None to report.

3.6 Interim Action RD/RA Work Plan

The Interim RD/RA Work Plan will detail how design activities will be performed to meet the scope of the interim remedial action for facility decontamination and dismantlement, and how this design will then be implemented through the remedial action program.

Status:

The Draft RD/RA Work Plan, including all appendices, and the associated program level planning documents (i.e., Sampling and Analysis Plan, Operations and Maintenance Plan, Health and Safety Plan, and Construction Quality Assurance Plan), along with the Building 4A Implementation Plan, were transmitted by DOE-FN to the EPAs on September 19, 1994, and are currently under review.

Implementation plans for Phase I of the Plant 1 Complex and the "Outlying Components" (i.e., 39D, 28F, and 69) of the Pilot Plant Complex design package, underwent final review and revision in preparation for submittal to U.S. EPA/Ohio EPA. Submittal will take place once funding for these projects is ascertained, and feedback on the implementation plan concept is obtained from U.S. EPA/Ohio EPA through its review of the Building 4A Implementation Plan.

The annotated outline for the Remedial Design Prioritization and Sequencing Report (PSR) has been finalized. This document will provide the sequence and schedule by which all OU 3 components will be decontaminated and dismantled within the framework of the interim remedial action. The Material Disposition Plan proposed in the RD/RA Work Plan is now planned to take the form of a Material Balance Model to be included as an appendix to the PSR.

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3.6 Interim Action RD/RA Work Plan (continued)

The Material Balance Model will define the types of material to be generated, the rate of generation of those materials based on the schedule developed, and the impact of this action to on-property storage availability, and as such will work as a tool in evaluating the impacts of any schedule on the material balance on the site. A multi-disciplinary team has been formed to develop this document with a current concentrated focus on the prioritization/sequencing of the complexes. This document is scheduled for submittal to the EPAs within six months of submittal of the Draft RD/RA Work Plan (i.e., March 17, 1995).

Issues/Corrective Actions:

None to report.

3.7 Planned Activities for November 1994

- Continue efforts to develop the OU 3 Remedial Design Prioritization and Sequencing Report, including the development of the Material Balance Model, to support the RD/RA Work Plan. The primary focus for the month will be on reaching agreement on the grouping of components into complexes, and prioritizing/sequencing the complexes.
- Continue efforts to develop material for presentation to the public, relative to the design efforts which were undertaken for the interim remedial action. Provide information on specifics relative to upcoming remedial action activities such as construction schedules, anticipated environmental monitoring, and other issues of public interest. This material will be presented both in a fact sheet and in some type of public briefing some time prior to the beginning of the first remedial action efforts.
- Begin efforts to develop responses to comments which U.S. EPA/Ohio EPA might provide through their reviews on the RD/RA Work Plan and/or the Building 4A Implementation Plan.
- Revise the Implementation Plans for Phase I of the Plant 1 Complex and the "Outlying Components" of the Pilot Plant design package based on comments received from U. S. EPA/Ohio EPA on the Building 4A Implementation Plan.
- Develop preliminary Contaminants of Concern List for OU 3 materials.

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3.7 Planned Activities for November 1994 (continued)

- Complete technology identification, screening, and evaluations to support FS development. Select representative technologies for each OU 3 material category to support alternative development.
- Continue development of alternatives for on-property and off-site disposal with a detail approach for each of the eleven material categories within OU 3. Recycling and free-release will be utilized under both alternatives to the maximum extent practical.
- Begin developing information to support the assessment of the alternatives with respect to the nine EPA evaluation criteria.
- Leachability studies of porous and non-porous materials will be beginning to generate leaching characteristics that can be used in developing Waste Acceptance Criteria for OU 3 materials for an on-property disposal cell.
- Refinement of the volume estimates for the total quantity of materials in OU 3. These estimates include assessing all below-grade improvements and refining volumes due to acid brick, fire brick, process piping, and equipment.

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4.0 Operable Unit 4

Operable Unit 4 (OU 4), as defined in the Amended Consent Agreement, consists of Silos 1, 2, 3, and 4, the silo berms, the Decant Sump Tank System, and soil within the operable unit boundary.

4.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

4.2 Remedial Investigation

Status:

Complete.

Issues/Corrective Actions:

None to report.

4.3 Feasibility Study/Proposed Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

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4.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 4 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis is performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	09/10/93 C 09/09/93 A	11/10/93 C 11/12/93 A	12/28/93 C 12/21/93 A

C = Consent Agreement Date
A = Actual Date

4.4 Treatability Studies

4.4.1 Bench Scale Treatability Studies

A Treatability Study Work Plan addresses the additional information that is required to support the FS and subsequent remedy selection for OU 4. There are two separate treatability studies to support the OU 4 FS. One study considers cement stabilization of Silos 1, 2, and 3 material and chemical extraction, leachate precipitation, and leachate stabilization of Silos 1 and 2 material. The second treatability study considers the vitrification of Silos 1, 2, and 3 material.

Status:

Complete.

4.4.2 Pilot Plant Treatability Studies

A two phase Pilot Plant Treatability Study is being conducted to develop the design of facilities and equipment for the final remediation of OU 4. Phase I will utilize bentonite and surrogate materials, the pilot plant scale vitrification facility, and the empty Silo 4 as a test bed for demonstrating both vitrification and waste retrieval technologies. Phase II will utilize bentonite, actual K-65 and Silo 3 materials retrieved from the silos in addition to treating radon gas. A work plan has been developed for each phase.

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4.4.2 Pilot Plant Treatability Studies (continued)

Status:

The Pilot Plant Phase II Work Plan was submitted to U.S. EPA on May 11, 1994. Ohio EPA comments on the Phase II Work Plan were received on June 27, 1994. U.S. EPA comments on the Phase II Work Plan were received on July 11, 1994. On August 5, 1994 comment responses and a revised Phase II Work Plan were submitted to the U.S. EPA and Ohio EPA.

On September 27, 1994, a meeting was held in Chicago, Illinois to discuss additional concerns on the Phase II Work Plan. Basically, the concerns discussed included the lack of detail contained in the Work Plan, i.e., test sequences, testing methodology, and off-gas radon control. The issues were resolved through agreement to attach the Test Plan to the Work Plan. The Test Plan will be submitted to the EPA as a Work Plan attachment in November 1994.

Approval of the Preliminary Safety Analysis Report (PSAR) for OU 4 by DOE-FN was obtained on August 17, 1994. This approval authorizes construction of the Pilot Plant. Work continues to produce the Final Safety Analysis Report for OU 4.

Approval to begin construction was received June 1, 1994 from DOE-FN. Construction of the Pilot Plant facility began on June 23, 1994.

Pilot Plant Phase I Operations are projected to begin in June 1995.

Issues/Corrective Actions:

None to report.

4.5 Record of Decision

Status:

The U.S. EPA approved the request for extension of the submittal of the Final Report to the U.S. EPA to November 4, 1994. Draft responses to the U.S. EPA and Ohio EPA comments were submitted to both agencies on October 11, 1994. Both agencies provided verbal approval of the comment responses by October 20, 1994. The Final Record of Decision for Remedial Actions at Operable Unit 4 was submitted to DOE-FN on October 20, 1994 for subsequent transmittal to DOE-HQ for approval. The Final Record of Decision for Remedial Actions at Operable Unit 4 will be submitted to the U.S. EPA and Ohio EPA on November 4, 1994.

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4.6 Planned Activities for November 1994

- Continue construction of the Phase I Pilot Plant facility.
- Submit Final Record of Decision to the U.S. EPA and Ohio EPA on or before November 4, 1994 (Consent Agreement Milestone).
- Seek to obtain U.S. EPA approval of the Final Record of Decision.

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5.0 Operable Unit 5

Operable Unit 5 (OU 5), as defined in the Amended Consent Agreement, includes: groundwater, surface water, and soil not included in the definitions of Operable Units 1 through 4, sediment, flora and fauna.

5.1 Remedial Investigation

Status:

After meeting with the U.S. EPA on October 5 to discuss draft responses to comments, action was taken to incorporate the revisions into the text, tables, and figures of the Remedial Investigation (RI) Report. There were a few significant comments/responses remaining unresolved after the October meeting. Resolution of these items was pursued over the next two weeks. On October 11, DOE requested the allowable 20-day extension from U.S. EPA to revise the OU 5 Report.

The draft final OU 5 RI Report will be delivered to U.S. EPA on November 1, 1994. A separately-bound comment/response document will accompany the report.

Issues/Corrective Actions:

None to report

OPERABLE UNIT 5 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 5 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	06/24/94 C	09/12/94 C	11/01/94 C

C = Consent Agreement Date

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Remedial Investigations/Feasibility Studies

5.2 Feasibility Study/Proposed Plan

Status:

Draft revised text was completed for all sections and appendices of the Feasibility Study (FS) incorporating peer review comments. The text is undergoing a final consistency check and technical editing prior to printing and submittal to U.S. EPA and Ohio EPA on November 16, 1994.

Comprehensive Response and Risk Evaluation (CRARE) fate and transport modeling and risk calculations were completed and are under final peer review.

The Proposed Plan was revised to incorporate review comments and is undergoing final formatting.

Responses were issued to U.S. EPA comments on the K₁ Sampling Plan. Available data from the study has been compiled for inclusion in the FS.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 5 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	11/16/94 C	01/15/95 C	02/14/95 C

C = Consent Agreement Date

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Remedial Investigations/Feasibility Studies

5.3 RCRA Monitoring

Status:

Preparation of the RCRA Annual Report continued during the month of October.

Issues/Corrective Actions:

None to report

5.4 Treatability Studies

Treatability activities in support of the OU 5 FS Report have been concluded. Closeout activities related to inventorying and archiving selected soil samples are in progress. Treatability data related to the most recent testing which focused on reducing contaminant mobility and developing a less costly chemical intensive process are currently being evaluated and incorporated into a treatability database.

5.5 Planned Activities for November 1994

- Closeout of RI Report activities.
- Finalize preparation of draft Feasibility Study for transmittal to the EPA.
- Continue closeout activities related to inventory and archiving of selected soil samples.
- Continue preparation of 1994 RCRA Annual Report.

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6.0 Community Relations

Status:

DOE and FERMCO held a teleconference with U.S. and Ohio EPA community outreach coordinators on October 5 to discuss the revised draft *Community Relations Plan*. During the discussion, U.S. EPA granted conditional approval of the plan, pending appropriate resolution of written comments submitted by the Ohio EPA. To date, Ohio EPA and stakeholder comments have been incorporated in the draft document, and the revised version is being reviewed internally. The document will be submitted to the EPAs for final approval by mid November.

The Fernald Citizens Task Force's monthly meeting was held October 8, 1994 at the AmeriSuites in Forest Park, Ohio. About 25 people, including the task force members, representatives from DOE, EPA, and FERMCO were in attendance. The task force resolved to eliminate the 10^{-6} risk level from further consideration for soil. It will only consider future uses in the 10^{-4} or 10^{-5} risk ranges. The task force also voted unanimously to protect the Great Miami Aquifer and endorsed a 10^{-5} risk level for groundwater protection. Also discussed was a recommendation to eliminate from further consideration all new residential and agricultural use on DOE's FEMP property.

On October 12, 1994 the Defense Nuclear Facilities Safety Board (DNFSB) held a public hearing for the Fernald and Mound sites in Ross, Ohio. The purpose of the hearing was for the DNFSB to receive general comments and views of topics related to its fifth annual report which will be submitted to Congress in February 1995. Approximately 30 people attended including representatives from FRESH, the Task Force, and Ohio EPA. During the hearing, DNFSB members formally accepted oral comments from four members of the audience including the President of FRESH. A transcript will be made available at the Public Environmental Information Center.

On October 13, 1994 the Fernald Envoys held their monthly meeting. About 40 envoys were updated on several issues. Copies of the final *Strategic Plan* were made available to the envoys to distribute to their respective organizations. A computerized Public Affairs database has been developed making it easier for envoys to enter and access their reports. Featured speaker was Pat Jackson, an expert in the field of public participation, who spoke about how to achieve a balance between providing too much or too little information and getting feedback from the envoys' various organizations and groups. The next envoy meeting is scheduled for November 2.

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6.0 Community Relations (continued)

The DOE Public Participation Quarterly Meeting was held Oct. 11-14, at Hueston Woods, Ohio. About 80 people -- DOE and DOE contractors, all responsible for public involvement at headquarters and various sites across the complex -- attended the quarterly meeting. Several members of Fernald's Public Affairs staff participated in breakout sessions on "Public Participation Games," "Envoy Program," and "Measuring Program Effectiveness." These sessions resulted in an exchange of ideas and requests for additional information from representatives from other sites. Ken Morgan, DOE Director of Public Information at the Ohio Field Office, was given the first annual public participation award from DOE's Office of Public Accountability. He was given the award for introducing imaginative public involvement techniques at the Fernald Environmental Management Project, including such initiatives as the Envoy program, the Fernald Citizens Task Force, innovative meetings, and other elements of cutting-edge public involvement techniques.

Approximately 125 people attended the Community Meeting on October 18 at the Plantation. The DOE-FN Acting Associate Director for Environmental Management gave the presentation on the cleanup status of the five operable units, progress made on three removal actions, and the waste shipment totals for FY94. The meeting then broke into smaller groups to discuss (1) the *Draft Site Treatment Plan*, and (2) Potential Future Uses of the Fernald Site as developed by the Fernald Citizens Task Force (FCTF). After the break-out sessions, updates were given by U.S. EPA, Ohio EPA, the FCTF, and FRESH. The information from all break-out sessions was mailed to everyone who attended and given to the envoys for distribution. A transcript of the meeting will be available at the PEIC after November 2.

Approximately 60 people attended the workshop at the Plantation on October 25 to discuss the proposed Operable Unit 2 on-site disposal facility with representatives from EPA, DOE, and FERMCO's Operable Unit 2 staff. The presentations included the following topics:

- overview of the Operable Unit 2 subunits and the volume of contaminated material;
- overview of the preferred remedial alternative;
- details of the proposed design and location of the Operable Unit 2 disposal cell; and
- criteria used in selecting the preferred remedial alternative for Operable Unit 2.

Questions from the public were encouraged throughout the presentations. A public comment period on the *OU 2 Proposed Plan* began on October 26 and ends on November 25.

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6.0 Community Relations (continued)

DOE-FN representatives attended the monthly FRESH meeting on October 27, 1994. Approximately 35 residents attended. The following topics were included in the briefing given by DOE-FN:

- Updates on several Operable Unit documents;
- DOE's proposed Work Force restructuring activities for 'FY95

Managers from DOE and FERMCO were present to discuss the 1993 *Site Environmental Report* with FRESH members and encouraged them to provide their opinions regarding the report and its accompanying summary booklet.

The Public Environmental Information Center (PEIC), which houses the Administrative Record and the Public Reading Room will have to be relocated due to inadequate space at the current facility. Documents, files, and other information prepared during the Remedial Design/Remedial Action phase of the cleanup will be kept at the PEIC. Knowing the public would like the PEIC to remain close to the Fernald site, the relocation will be within one mile of the site. The move is not expected to occur for a few months. The exact location is presently unknown. Stakeholders will be informed of the location, before the move takes place.

The public comment period on the *Draft Site Treatment Plan* ended on October 31, 1994. DOE received no comments on the Plan from the public.

Issues/Corrective Action:

None.

6.1 Planned Activities for November 1994

- On November 3, Ohio EPA will meet with local residents at the Venice Presbyterian Church, Ross, Ohio to discuss the preferred remedial alternative for Operable Unit 2.
- On November 4, DOE will submit the *Draft Record of Decision for Remedial Actions at Operable Unit 1* (Waste Pits) to U.S. EPA and Ohio EPA.
- By November 4, DOE will submit the *Final Record of Decision for Remedial Actions at Operable Unit 4* (Silos 1-4) to U.S. EPA and Ohio EPA.

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Remedial Investigations/Feasibility Studies

6.1 Planned Activities for November 1994 (continued)

- On November 8, DOE along with EPA will conduct a public meeting to take oral and written comments on the *Operable Unit 2 Proposed Plan*. The meeting begins at 7:00 p.m. at the Plantation in Harrison, Ohio.
- The regular monthly meeting of the Fernald Citizens Task Force will be held on November 12, from 8:30 a.m. until noon, at the FERMCO Training Center, 6025 Dixie Hwy, Fairfield, Ohio. The draft future use recommendation developed by the task force will be delivered to DOE and EPA in November.
- On November 14, DOE will hold a public workshop to discuss the path forward on the UNH (uranyl nitrate hexahydrate) project. The meeting will begin at 7:00 p.m. at the Crosby Elementary School, 8382 New Haven Road, Harrison, Ohio.
- On November 15, DOE will discuss with the public the findings of the *Operable Unit 5 Remedial Investigation Report*. The meeting will begin at 7:00 p.m. at the Crosby Elementary School, 8382 New Haven Road, Harrison, Ohio.
- The *Draft Operable Unit 5 Feasibility Study* is on schedule for submittal to U.S. EPA on November 16.
- Due to the holidays, the regular monthly meeting of FRESH will be held on November 17 at the Venice Presbyterian Church beginning at 7:00 p.m. FRESH members will be celebrating their 10th anniversary at this meeting.
- The public comment period on the *Proposed Plan for Remedial Actions at Operable Unit 2* began October 26 and ends on November 25, 1994.
- The revised *Community Relations Plan*, with all comments incorporated, will be submitted to the U.S. EPA and Ohio EPA for approval.

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ENCLOSURE A

**WASTE WATER FLOWS AND RADIONUCLIDE
CONCENTRATIONS UNDER CA SECTION XXIII.B**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Introduction

The accompanying Effluent Radiation Reports provide, in accordance with the requirements of Section XXIII.B of the Consent Agreement As Amended under CERCLA Sections 120 and 106 (a), data on the daily waste water flows, radionuclide concentrations, and loadings released to the Great Miami River and an estimate of runoff and radionuclide concentrations to Paddy's Run during October 1994.

Summary - October 1994

The total quantity of uranium discharged from the FEMP to the Great Miami River via Manhole 175 (Outfall 11o00004001) was 1.70 kilograms. The average uranium concentration for the previous 12 months was 0.42 mg/L. This is 47.2% of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

There was no discharge from the Storm Water Retention Basin Spillway (Outfall 11o00004002) to Paddy's Run via the Storm Sewer Outfall Ditch in October 1994. Based on 1.12 inches of rainfall in October 1994, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 3.18 kilograms.

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EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: 11000004001
001 Total Discharge
Manhole 175 (Effluent to Great Miami River)

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)	Calculated Total U-238 (pCi/l) (1)
1	0.149	36	**	0.06	0.03	20
2	0.106	23	**	0.04	0.02	15
3	0.214	27	**	0.07	0.06	24
4	0.218	99	**	0.17	0.14	57
5	0.216	**	**	0.08	0.06	25
6	0.253	27	**	0.07	0.07	24
7	0.245	**	**	0.02	0.02	6
8	0.195	**	**	0.06	0.04	19
9	0.164	**	**	0.04	0.02	12
10	0.186	**	**	0.04	0.03	14
11	0.124	**	**	0.06	0.03	19
12	0.133	**	**	0.07	0.03	22
13	0.141	**	**	0.07	0.04	23
14	0.138	**	**	0.16	0.08	54
15	0.129	**	**	0.14	0.07	47
16	0.118	**	**	0.03	0.01	10
17	0.171	**	**	0.05	0.03	16
18	0.167	**	**	0.04	0.02	13
19	0.179	**	**	0.05	0.03	16
20	0.168	**	**	0.12	0.08	41
21	0.142	**	**	0.22	0.12	74
22	0.098	**	**	0.30	0.11	101
23	0.084	**	**	0.38	0.12	128
24	0.140	**	**	0.29	0.15	98
25	0.136	**	**	0.12	0.06	41
26	0.150	**	**	0.09	0.05	29
27	0.149	**	**	0.06	0.04	21
28	0.137	**	**	0.06	0.03	20
29	0.086	**	**	0.05	0.01	16
30	0.075	**	**	0.06	0.02	20
31	0.164	**	**	0.12	0.07	41
Total	4.775				1.70	

** Analytical results not yet available.

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EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 001 Total Discharge

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha (pCi/l)(2)	Total Beta (pCi/l)(2)	Total U (mg/l)(2)	Total U (kgs)	Calculated Total U-238 (pCi/l)(1)(2)
Avg.	0.154	**	**	0.09	0.05	32
Max.	0.253	**	**	0.38	0.15	128
Min.	0.075	**	**	0.02	0.01	6

The average uranium concentration for the previous twelve months was 0.42 mg/l. This is 47.2 percent of the Derived Concentration Guide(DOE Order 5400.5) for ingested water.

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

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EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: 11O00004002
002 Discharge (Overflow) to Storm Sewer Outfall Ditch
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

DATE: OCTOBER 1994

There was no discharge to Paddy's Run from the Stormwater Retention Basin.

Based on 1.11 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 3.15 kgs.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE
AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
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ENCLOSURE B

**FFCA: INITIAL REMEDIAL MEASURES
AND OTHER OPEN ACTIONS**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
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INTRODUCTION

Enclosure B describes actions undertaken at the FEMP during the period October 1, through October 31, 1994, that are not covered by the reporting requirements of the Consent Agreement As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a).

WORK ASSIGNMENTS AND PROGRESS

Descriptions of ongoing work progress are presented in the following sections of this report. The status of ongoing work in support of the Federal Facility Compliance Agreement (FFCA) is summarized in Table 1 of Enclosure B. Completed work previously reported upon has been eliminated for the sake of brevity. In this portion of the report and in Table 1, descriptions of actions are presented in a format consistent with that of the FFCA.

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND
LIABILITY ACT (CERCLA)**

1. Initial Remedial Measures

Section C

K-65 Silo Project - Status information on the K-65 Silo project normally reported in this section is being provided under Operable Unit 4: Silos 1-4.

2. Remedial Investigation/Feasibility Study (RI/FS)

Status information on the Remedial Investigation/Feasibility Study (RI/FS) normally reported in this section is being provided separately in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).

3. Reports and Record Keeping

Section B

The RI/FS Monthly Technical Progress Report for September 1994 was transmitted to the U.S. EPA on October 19, 1994, as an integral part of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report in accordance with the requirements of Section X of the Consent Agreement As Amended.

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CLEAN AIR ACT (CAA)

Section E

The Quarterly Particulate Emissions Report will now be incorporated into the Annual NESHAP Compliance Report.

RADIATION DISCHARGE INFORMATION

Section A

This information will now be submitted on an annual basis as part of the FEMP Site Environmental Report.

REPORTING REQUIREMENTS

Section B

The Federal Facility Compliance Agreement Monthly Progress Report for September 1994, was transmitted to the U.S. EPA on October 19, 1994, as Enclosure B of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CAFFCA/FFA-CARE) Monthly Progress Report.

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TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

October 31, 1994

<u>ACTION</u>	<u>DESCRIPTION</u>	<u>COMPLETION TIME AFTER FFCA SIGNED</u>	<u>FY1995 STATUS</u>
CERCLA			
1.	INITIAL REMEDIAL MEASURES		
1.C	Implement radon control plan approved by the U.S. EPA.	----	No longer applicable. Progress on actions to address radon emissions from the K-65 Silos are being reported separately under Section IX-Removal Actions of the Consent Agreement/FFCA Monthly Progress Report.
2.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY		No action required.
2.A	RI/FS work is to be conducted in accordance with the U.S. EPA guidelines.	N/A	
2.B	--No Action Required--	----	Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA sections 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for September 1994 was transmitted to the U.S. EPA on October 19, 1994.

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TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

October 31, 1994

CLEAN AIR ACT

B.4	Prepare annual progress report installation and replacement of emission control devices.	yearly	The Sixth Annual Progress Report on the installation and replacement of emission control devices is being prepared by the Effluent Monitoring and Control Section of the ES&H Division. The report was transmitted to DOE July 15, 1994.
C.	Provide annual reports to the U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY1992 was transmitted to the U.S. EPA on June 28, 1993 (DOE-2281-93).
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	No stacks related to production were operating in 1993. Periodic confirmatory measurements to demonstrate compliance with NESHAP Subpart H were conducted on three laboratory exhaust stacks. These tests were conducted in accordance with a program to verify low emissions from stacks without continuous in-stack monitoring. Due to the permanent shutdown of metals production, resumption of the FFCA Stack Testing Program is unlikely. A proposal is being developed to substitute the NESHAP Subpart H testing/monitoring program for the FFCA Stack Testing. When this proposal is completed it will be formally submitted to U.S. EPA.
D.2	Provide U.S. EPA with stack-test results for stacks tested that year.	45 days	No stacks related to production were operated or tested in 1993.
E.1	Maintain records of monthly particulate matter emissions.	----	Ongoing.

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TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

October 31, 1994

RCRA

A.1	Conduct a hazardous waste determination on all waste streams.	30 days	Complete. Pursuant to the Proposed Amended Consent Decree, a RCRA waste evaluation was conducted on all identified waste streams pertaining to the PACD.
A.2	Commence a hazardous waste analysis program for materials in the landfill and going to the incinerator.	30 days	Complete. Operation of these units was discontinued and data on the waste which had gone to them was provided in a 30-day FFCA deliverable on August 17, 1986.
A.5	Update the facility closure plan to reflect the year the facility expects to begin closure.	30 days	The Facility closure date is dependent upon closure schedules for individual TSD units as presented most recently in Section I of the RCRA Part B Permit Application transmitted to the Ohio EPA and the U.S. EPA on March 26, 1993 (DOE-1471-93). Facility closure will be completed on a date the last TSD unit is closed.

REPORTING REQUIREMENTS

B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	September's FFCA Monthly Progress Report was transmitted to the U.S. EPA on October 19, 1994.
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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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ENCLOSURE C

**FEDERAL FACILITY AGREEMENT:
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
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Period Ending October 31, 1994

Introduction

The Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA), signed November 19, 1991, requires that a monthly report be submitted to the U.S. EPA regarding all steps undertaken in the preceding month to implement Part V of the agreement and that all data generated as a result of those actions be submitted.

Enclosure C fulfills those requirements by describing steps taken at the FEMP during the period October 1, through October 31, 1994, to implement Part V, Radon-222 Control and Abatement Plan, paragraphs 19-33 of the FFA-CARE.

Work Assignments and Progress

In this section of Enclosure C, action descriptions and work progress are presented in a format consistent with that of the FFA-CARE. Immediately following this section are the K-65 Silos Report and the Selected Radon Data Report. Reporting this data is also a requirement included in the U.S. EPA approved Silos 1 and 2 Removal Action Work Plan (Removal Action No. 4).

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 19 & 21	Implement the K-65 Silos 1 and 2 Removal Action in accordance with the approved Silos 1 and 2 Removal Action Work Plan.	12/1/91	Completed. Installation of the bentonite completed 11/28/91.
Part V, 20	Reduce radon-222 to a level As-Low-As Reasonably Achievable (ALARA) with the goal as specified in the Silos 1 and 2 Removal Action Work Plan.	5/22/92	Completed. Concentrations off-site remain well below performance goal of removal action.
Part V, 22	Submit proposed methodology for estimating radon-222 concentration reductions resulting from completion of the Silos 1 and 2 Removal Action.	Within 60 days of completing removal action; 1/27/92.	The Bentonite Effectiveness Environmental Monitoring Plan was resubmitted to the U.S. EPA for comment and approval on 3/13/92. EPA approval was received on 4/24/92. DOE used the approved ISCLT method to demonstrate compliance in the Final Report. The final report was submitted to U.S. EPA on May 17, 1994. There were no comments received from the U.S. EPA or the Ohio EPA. Commitment is completed.
Part V, 23	Evaluate performance of the removal action and determine whether or not additional actions are needed prior to final remediation.	None specified.	Methodology for estimating radon-222 concentration reduction submitted to U.S. EPA per paragraph 20 of Part V. The final report was issued to the U.S. EPA on May 17, 1994. The performance of the removal action was a success; no further action is required. Action completed.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 24, 25, and 33	Demonstrate compliance with NESHAP Subpart Q at the completion of final remediation using a methodology approved by the U.S. EPA. Applicable to: Silos 1, 2, and 3; Waste Pits 1, 2, 3, 4, and 5 and the Clearwell; and any newly discovered radon-222 emission sources.	None specified.	No information to report for October 1994.
Part V, 26	Directly measure radon-222 flux from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	Radon sampling is complete for Pits 1, 2, and 3. All measurements were below the criteria set by the U.S. EPA. A final report was issued to the U.S. EPA on 6/25/92. A letter was received from the U.S. EPA on 10/16/92 giving approval of the proposed method for measuring the radon flux from Pit 4. The letter also stated that since the Clearwell is water covered, and Pit 5 is nearly 100% water covered, the flux from Pit 5 and the Clearwell may be assumed to be zero.
Part V, 26	Include direct measurement data from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	See above.
Part V, 27	Estimate radon-222 emissions from Silo 3 based upon characterization data; include the estimated radon-222 emission data from Silo 3 in the RI/FS that includes Silo 3 under the CERCLA Consent Agreement.	None specified.	Completed. An estimate of radon flux from the K-65 Silo 3 was submitted to the U.S. EPA on 12/17/91. Radon flux for the silo was estimated to be below 20 pCi/m ² -s.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 28	Submit documentation or estimates of current radon-222 emissions from existing but newly discovered sources that contain radium-226 in sufficient concentrations to emit radon-222 in excess of NESHAP Subpart Q prior to final remediation.	Within 30 days of discovery.	No new sources identified.
Part V, 30	Submit methodology for direct measurement or other appropriate means of characterization of the relevant emissions pursuant to paragraph 29 of the FFA.	Within 45 days of the U.S. EPA response pursuant to paragraph 29.	None required.
Part V, 31	Submit results of measurements pursuant to paragraph 30.	Within 30 days of U.S. EPA approval of characterization method.	None required.
Part VI, 31	Submit monthly report on steps undertaken to implement Part V of the FFA-CARE and the data obtained in the preceding month.	20th day of succeeding month.	The progress report being submitted herewith as an integral part of the CERCLA Consent Agreement Monthly Progress Report.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

Data Reporting Requirements: RA No. 4: Silos 1 and 2

As defined in the Silos 1 and 2 Removal Action Work Plan and the Federal Facility Agreement, data associated with monitoring the effectiveness of the bentonite installation are included in the following tables: the K-65 Silos Report and the Selected Radon Data Report.

The K-65 Silos Report includes data on the following parameters:

- Ambient temperature and pressure near the silos.
- Silos 1 and 2 headspace temperature.
- Silos 1 and 2 differential pressure.
- Silos 1 and 2 radon headspace concentration.
- Silos 1 and 2 headspace humidity

The Selected Radon Data Report includes radon data from the following locations:

- Air monitoring station number 5 (AMS-5)
- Air monitoring station number 6 (AMS-6)
- Pilot Plant
- Background data
- K-65 Monitoring Data (K-65 NW, K-65 SW, K-65 NE, K-65 SE).

The radon data submitted in Enclosure C: Due to its high source strength, unique measurement methods had to be devised to measure radon emissions from this nonstandard source. The data that has been gathered since 1992 is collected by qualified technicians using detailed procedures. This data although not yet verified, serves as a very good qualitative indicator of the integrity of the bentonite sealant layer covering the residues in the silos. Activities have been initiated to enhance the quality and independently verify the data that is being collected.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITIES COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

MONTH: OCTOBER
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Wiley Road, P. O. Box 398704
Cincinnati, Ohio 45239 Hamilton

SELECTED RADON DATA REPORT
(Monthly Summary of Selected Sampling Locations)

Daily Averages:	AMS-6 (pCi/L)	AMS-8 (pCi/L)	PILOT PLANT (pCi/L)	BKGD-1 (pCi/L)	BKGD-2 (pCi/L)
10/1/94	1.5 (a)	1.4	1.4	0.7	0.9
10/2/94	0.8	0.7	0.8	0.7	0.8
10/3/94	0.4 (a)	0.5	0.5	0.5	0.5
10/4/94	1.1	0.8	0.8	0.6	0.6
10/5/94	1.0	0.8	0.8	0.7	0.7
10/6/94	1.9	1.4	1.4	0.9	1.2
10/7/94	1.8	1.5	1.5	0.7	0.8
10/8/94	1.8	1.4	1.5	0.6	1.1
10/9/94	0.5 (a)	0.6	0.6	0.5	0.6
10/10/94	1.1	0.9	0.8	0.7	0.8
10/11/94	1.0	0.8	0.7	0.6	0.6
10/12/94	1.2 (a)	0.8 (a)	0.7	0.7	0.9
10/13/94	0.8	0.7	0.8 (a)	0.6	0.6
10/14/94	0.8	0.7	(a)	0.6	0.5
10/15/94	1.5	1.1	(a)	0.8	1.0
10/16/94	1.6	1.2	(a)	0.8	0.9
10/17/94	2.4	1.9	(b)	1.1	1.2
10/18/94	2.1	1.7	0.4 (b)	1.0	0.9
10/19/94	0.4	0.5	0.8	0.5	0.5
10/20/94	1.1	0.9	1.1	0.7	0.8
10/21/94	2.2	1.9	1.9	1.0	1.1
10/22/94	2.2	1.8	1.8	1.1	1.2
10/23/94	2.2	1.8	1.7	0.9	1.1
10/24/94	1.9	1.8	1.8	1.0	1.0
10/25/94	1.9	1.2	1.9	0.7	0.6
10/26/94	0.9	0.9	0.9	0.6	0.7
10/27/94	2.5	4.5	1.9	1.1	1.2
10/28/94	2.5	2.9	2.1	1.1	1.3
10/29/94	2.0	1.7	1.5	0.6	1.1
10/30/94	2.6	2.2	2.2	1.1	1.3
10/31/94	1.5	1.5	1.5	1.0	1.2

Monthly Average:	AMS-6 (pCi/L)	AMS-8 (pCi/L)	PILOT PLANT (pCi/L)	BKGD-1 (pCi/L)	BKGD-2 (pCi/L)
AVERAGE:	1.6	1.3	1.2	0.8	0.9
MAXIMUM:	2.6	4.5	2.2	1.1	1.3
MINIMUM:	0.4	0.5	0.5	0.5	0.5
MEDIAN:	1.5	1.4	1.1	0.7	0.8
STD. DEV.:	0.7	0.8	0.6	0.2	0.3

STANDARD LEGEND:

1. "(a)" indicates censored data due to excessive readings.
2. "(b)" indicates data loss due to monitor malfunction.
3. "(c)" indicates programming error in monitor.
4. "(d)" indicates data loss due to relocation of monitor.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

**K-65 SILO REPORT
RADON CONCENTRATIONS**

MONTH: OCTOBER 1994

REPORT GENERATED: 11/01/94

**Daily Summary of Recorded Headspace Concentrations
(recorded at 5 minute intervals)**

Date	SILO 1				SILO 2			
	Average	Maximum	Minimum	Std. Dev.	Average	Maximum	Minimum	Std. Dev.
10/01/94	145,000	360,000	20,400	64,800	2,870,000	3,130,000	2,340,000	198,000
10/02/94	36,000	278,000	8,190	45,300	2,730,000	3,010,000	2,240,000	175,000
10/03/94	9,850	39,700	8,190	2,210	2,490,000	2,750,000	1,890,000	162,000
10/04/94	171,000	943,000	8,950	184,000	2,850,000	3,080,000	2,290,000	90,800
10/05/94	400,000	1,070,000	119,000	256,000	3,090,000	3,360,000	2,730,000	183,000
10/06/94	551,000	1,160,000	118,000	375,000	3,270,000	3,410,000	3,070,000	85,300
10/07/94	519,000	1,130,000	122,000	292,000	3,260,000	3,410,000	3,010,000	67,300
10/08/94	724,000	1,200,000	226,000	279,000	3,210,000	3,410,000	2,830,000	133,000
10/09/94	241,000	1,010,000	16,800	252,000	3,050,000	3,280,000	2,210,000	167,000
10/10/94	171,000	740,000	33,200	93,300	3,050,000	3,320,000	2,470,000	155,000
10/11/94	156,000	469,000	32,500	72,900	3,110,000	3,320,000	2,680,000	143,000
10/12/94	444,000	1,060,000	47,500	271,000	3,330,000	3,450,000	3,140,000	59,500
10/13/94	241,000	877,000	41,800	175,000	3,390,000	3,480,000	3,280,000	47,800
10/14/94	160,000	909,000	27,500	164,000	3,280,000	3,470,000	2,920,000	86,300
10/15/94	349,000	1,050,000	46,100	248,000	3,330,000	3,520,000	2,990,000	89,400
10/16/94	647,000	1,180,000	46,100	394,000	3,330,000	3,480,000	3,050,000	71,000
10/17/94	707,000	1,220,000	48,200	355,000	3,410,000	3,560,000	3,230,000	80,500
10/18/94	573,000	1,210,000	48,200	289,000	3,420,000	3,610,000	2,970,000	129,000
10/19/94	540,000	1,170,000	48,900	274,000	3,420,000	3,540,000	3,210,000	52,700
10/20/94	336,000	1,180,000	44,600	294,000	3,390,000	3,560,000	2,870,000	134,000
10/21/94	623,000	1,250,000	44,600	382,000	3,450,000	3,590,000	3,280,000	61,700
10/22/94	774,000	1,350,000	222,000	352,000	3,500,000	3,650,000	2,940,000	78,500
10/23/94	217,000	1,030,000	18,200	206,000	3,300,000	3,670,000	2,580,000	234,000
10/24/94	401,000	1,100,000	49,600	235,000	3,400,000	3,570,000	3,030,000	101,000
10/25/94	179,000	587,000	43,200	74,000	3,410,000	3,590,000	2,830,000	120,000
10/26/94	191,000	845,000	44,800	104,000	3,530,000	3,650,000	3,390,000	53,300
10/27/94	463,000	1,100,000	42,500	299,000	3,590,000	3,760,000	3,410,000	65,200
10/28/94	507,000	1,070,000	130,000	251,000	3,670,000	3,830,000	3,230,000	106,000
10/29/94	315,000	941,000	46,100	191,000	3,600,000	3,660,000	3,080,000	188,000
10/30/94	650,000	1,250,000	61,800	397,000	3,790,000	3,990,000	3,650,000	72,200
10/31/94	1,110,000	1,850,000	373,000	368,000	3,890,000	4,010,000	2,970,000	98,100

Grab Samples of Headspace

Date	SILO 1 Concentration	SILO 2 Concentration
10/04/94	156,000	2,828,000
10/06/94	1,529,000	2,662,000
10/10/94	142,000	2,831,000
10/13/94	168,000	2,990,000
10/17/94	1,563,000	2,938,000
10/20/94	69,000	1,682,000
10/24/94	130,000	2,607,000
10/27/94	187,000	2,957,000
10/31/94	2,079,000	3,253,000

- Notes:**
1. All values reported in pCi/L.
 2. Continuous data reported to three significant digits to remain consistent with the calibration data.
- * DLS malfunction 10/11/94 (11:11 - 13:02). Gateway communication failure.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITIES COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

MONTH: OCTOBER
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Wiley Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

SELECTED RADON DATA REPORT
(Monthly Summary of Selected Sampling Locations)

Daily Averages:	K-85, NW (pCi/L)	K-85, SW (pCi/L)	K-85, NE (pCi/L)	K-85, SE (pCi/L)
10/01/94	2.0	2.7	6.2	4.8
10/02/94	1.0	2.9	0.6	0.6
10/03/94	0.7	2.1	0.6	0.5
10/04/94	1.1	1.7	1.3	1.1
10/05/94	1.8	2.0	2.7	1.8
10/06/94	2.4	2.9	5.9 (b)	3.8
10/07/94	2.0	2.7	5.4	3.4
10/08/94	1.8	2.4	3.4 (b)	3.0
10/09/94	0.9	1.2	(b)	1.9
10/10/94	1.3	2.4	(b)	1.4
10/11/94	1.4	3.2	(b)	1.0
10/12/94	2.7	2.8 (a)	0.4 (b)	1.7
10/13/94	1.6	2.2	0.7	0.8
10/14/94	1.1	3.0	1.4	1.2
10/15/94	2.0	3.2	2.6	2.4
10/16/94	2.8	3.5	5.8	3.3
10/17/94	3.0	3.8	10.8	5.0
10/18/94	2.3	2.8	11.2	4.2
10/19/94	0.6	1.0	0.8	0.8
10/20/94	1.8	2.1	3.8	2.4
10/21/94	3.0	3.7	8.1	4.7
10/22/94	3.7	4.2	7.9	5.8
10/23/94	2.3	2.9	8.3	3.9
10/24/94	2.1	2.7	6.0	3.6
10/25/94	1.8	2.7	5.6	3.5
10/26/94	1.3	2.0	2.8	2.2
10/27/94	3.0	4.3	9.7	4.3
10/28/94	3.0	4.4	12.5	5.6
10/29/94	2.8	3.2	6.6	4.3
10/30/94	3.5	4.1	9.9	5.7
10/31/94	4.1	3.4	3.4	3.2

Monthly Averages:	K-85, NW (pCi/L)	K-85, SW (pCi/L)	K-85, NE (pCi/L)	K-85, SE (pCi/L)
AVERAGE:	2.1	2.8	5.1	3.0
MAXIMUM:	4.1	4.4	12.5	5.8
MINIMUM:	0.6	1.0	0.4	0.5
MEDIAN:	2.1	2.8	5.3	3.3
STD. DEV.:	0.9	0.8	3.5	1.6

STANDARD LEGEND:

1. "(a)" indicates censored data due to erroneous readings.
2. "(b)" indicates data loss due to monitor malfunction.
3. "(c)" indicates programming error in monitor.
4. "(d)" indicates data loss due to relocation of monitor.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

K-65 SILO REPORT

LOCATION: Silo # 1

DATE: October 1994

Day	Ambient Temp °F	Press In. Hg.	Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
1	65.8	29.31	61.3	*	0.002	145,000
2	61.5	29.35	61.8	*	0.001	36,000
3	57.9	29.43	61.5	*	0.000	10,000
4	51.9	29.58	61.0	*	-0.001	171,000
5	52.1	29.53	60.7	*	-0.001	400,000
6	53.9	29.52	60.3	*	0.000	551,000
7	60.3	29.53	60.2	*	0.001	519,000
8	65.0	29.45	60.5	*	0.002	724,000
9	54.4	29.46	60.8	*	0.022	241,000
10	47.1	29.68	59.8	*	-0.002	171,000
11	47.7	29.38	58.4	*	-0.002	156,000
12	53.0	29.63	58.6	*	-0.001	444,000
13	52.4	29.58	58.6	*	-0.001	241,000
14	58.2	29.54	58.6	*	0.000	160,000
15	58.8	29.60	58.7	*	0.000	349,000
16	61.8	29.67	58.8	*	0.001	647,000
17	58.7	29.60	58.8	*	0.001	707,000
18	54.3	29.48	58.7	*	-0.001	573,000
19	58.8	29.37	58.8	*	0.000	540,000
20	59.2	29.40	58.9	*	0.000	338,000
21	51.8	29.41	58.5	*	-0.001	623,000
22	54.7	29.27	58.2	*	0.000	774,000
23	52.4	29.35	58.0	*	-0.002	217,000
24	42.8	29.44	57.3	*	-0.003	401,000
25	38.5	29.50	56.3	*	-0.004	179,000
26	42.1	29.62	55.9	*	-0.003	191,000
27	39.3	29.65	55.1	*	-0.003	463,000
** 28	43.2	29.54	54.6	*	-0.003	507,000
29	47.0	29.54	54.5	*	-0.002	315,000
30	47.3	29.54	54.5	*	-0.002	650,000
** 31	53.1	29.21	54.7	*	-0.025	1,110,000
ARITHMETIC MEAN	53.1	29.49	58.5	*	-0.001	404,871
MAXIMUM	65.8	29.67	61.8	*	0.022	1,110,000
MINIMUM	38.5	29.21	54.5	*	-0.025	10,000
MEDIAN	53.1	29.52	58.7	*	-0.001	400,000

Note: * - Silo #1 Relative Humidity was either inoperable or the default value = 0.
** - Some Delta Pressure values were outside of range restrictions.
Silo #1 Relative Humidity was out of service from 10/1 to 10/12.
DLS malfunction 10/11/94 (11:11 - 13:02), Gateway communication failure.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

K-65 SILO REPORT

LOCATION: Silo # 2

DATE: October 1994

Day	Ambient		Temperature	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
	Temp °F	Press In. Hg.	Head Space °F			
1	65.8	29.31	60.4	*	-0.012	2,870,000
2	61.5	29.35	60.8	*	-0.013	2,730,000
3	57.9	29.43	60.6	*	-0.013	2,490,000
4	51.9	29.58	60.1	*	-0.012	2,850,000
5	52.1	29.53	59.9	*	-0.012	3,090,000
6	53.9	29.52	59.5	*	-0.012	3,270,000
7	60.3	29.53	59.4	*	-0.012	3,260,000
8	65.0	29.45	59.7	*	-0.012	3,210,000
** 9	54.4	29.46	59.9	*	-0.012	3,050,000
10	47.1	29.66	59.1	*	-0.012	3,050,000
11	47.7	29.38	57.7	*	-0.012	3,110,000
12	53.0	29.63	58.0	*	-0.011	3,330,000
13	52.4	29.58	58.0	*	-0.011	3,390,000
14	58.2	29.54	57.9	*	-0.012	3,280,000
15	58.8	29.60	58.0	*	-0.012	3,330,000
16	61.6	29.67	58.1	*	-0.012	3,330,000
17	58.7	29.60	58.1	*	-0.012	3,410,000
18	54.3	29.48	58.1	*	-0.012	3,420,000
19	58.8	29.37	58.1	*	-0.012	3,420,000
20	59.2	29.40	58.2	*	-0.012	3,390,000
21	51.8	29.41	57.8	*	-0.011	3,450,000
22	54.7	29.27	57.6	*	-0.011	3,500,000
23	52.4	29.35	57.4	*	-0.011	3,300,000
24	42.8	29.44	58.8	*	-0.011	3,400,000
25	38.5	29.50	58.0	*	-0.011	3,410,000
26	42.1	29.62	55.5	*	-0.011	3,530,000
27	39.3	29.65	54.9	*	-0.010	3,590,000
** 28	43.2	29.54	54.5	*	-0.010	3,670,000
29	47.0	29.54	54.4	*	-0.011	3,600,000
30	47.3	29.54	54.3	*	-0.010	3,790,000
31	53.1	29.21	54.4	*	-0.033	3,890,000
ARITHMETIC MEAN	53.1	29.49	57.8	*	-0.012	3,303,548
MAXIMUM	65.8	29.67	60.8	*	-0.010	3,890,000
MINIMUM	38.5	29.21	54.3	*	-0.033	2,490,000
MEDIAN	53.1	29.52	58.0	*	-0.012	3,330,000

Note: * - Silo #2 Relative Humidity was either inoperable or the default value = 0.

** - Some Delta Pressure values were outside of range restrictions.

Silo #2 Relative Humidity was out of service from 10/1 to 10/12.

DLS malfunction 10/11/94 (11:11 - 13:02), Gateway communication failure.

000068

6246 -

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

PERIOD ENDING OCTOBER 31, 1994

ENCLOSURE D

EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER

000069

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

Introduction

Enclosure D lists monthly discharges to the Great Miami River. This information is required by the DOE/U.S. EPA Agreement Resolving Dispute Concerning Denial of Request for Extension of Time to Submit Operable Unit 2 Document and discussed in the "Addendum No. 1 to the South Groundwater Contamination Plume Removal Action Parts 2 and 3 Work Plan."

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP1]
IAWWT - T108 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.074	0.0	0.0	2.3	0.0006	2.2	7.8	8.2
2	0.222	0.0	0.0	1.7	0.0014 <	1.0	8.4	8.7
3	0.217	0.0	0.0	1.8	0.0015	1.2	8.7	8.8
4	0.167	0.0	0.0	2.9	0.0018 <	1.0	8.6	8.8
5	0.129	0.0	0.0	6.2	0.0030 <	1.0	8.7	8.9
6	0.215	0.0	0.0	1.5	0.0012 <	1.0	8.0	8.6
7	0.208	0.0	0.0	2.7	0.0021 <	1.0	8.9	9.2
8	0.130	0.0	0.0	1.6	0.0008	1.0	9.1	9.3
9	0.000							
10	0.122	0.0	0.0	17.7	0.0082	0.0	9.1	9.2
11	0.212	0.0	0.0	4.2	0.0034	2.0	9.1	9.2
12	0.213	0.0	0.0	3.6	0.0029	2.6	9.1	9.2
13	0.195	0.0	0.0	2.9	0.0021	2.8	9.1	9.4
14	0.182	0.0	0.0	9.6	0.0066 <	1.0	7.7	8.8
15	0.216	0.0	0.0	7.8	0.0064 <	1.0	7.6	7.7
16	0.212	0.0	0.0	7.9	0.0063 <	1.0	7.6	7.7
17	0.224	0.0	0.0	7.4	0.0063	1.4	7.6	7.7
18	0.241	0.0	0.0	9.6	0.0088 <	1.0	7.6	8.0
19	0.277	0.0	0.0	8.7	0.0091 <	1.0	7.6	7.7
20	0.301	0.0	0.0	7.3	0.0083 <	1.0	7.5	7.6
21	0.265	0.0	0.0	1.8	0.0018	1.6	7.9	8.6
22	0.285	0.0	0.0	2.3	0.0025	1.6	8.8	9.0
23	0.259	0.0	0.0	2.3	0.0023	2.2	8.9	9.1
24	0.209	0.0	0.0	9.1	0.0072	1.6	8.4	8.6
25	0.055	0.0	0.0	8.8	0.0018	1.2	8.4	8.6
26	0.000							
27	0.000							
28	0.093	0.0	0.0	1.3	0.0005	1.2	7.4	8.4
29	0.212	0.0	0.0	2.7	0.0022	1.0	8.4	8.5
30	0.236	0.0	0.0	2.6	0.0023	1.0	8.4	8.6
31	0.204	0.0	0.0	2.8	0.0022	2.6	8.4	8.6
Total	5.575				0.1036			

*** Analytical results not yet available.

000071

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T108

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.180	0.0	0.0	4.9	0.0037
Max.	0.301	0.0	0.0	17.7	0.0091
Min.	0.000	0.0	0.0	1.3	0.0005

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Wiley Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP1]
IAWWT - T109 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
2	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
3	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
4	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
5	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
6	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
7	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
8	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
9	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
10	0.118	0.0	0.0	0.0	0.0000	0.0	9.1	9.2
11	0.195	0.0	0.0	0.0	0.0000	0.0	9.1	9.2
12	0.196	0.0	0.0	0.0	0.0000	0.0	9.1	9.2
13	0.170	0.0	0.0	0.0	0.0000	0.0	9.1	9.4
14	0.183	0.0	0.0	0.0	0.0000	0.0	7.7	8.8
15	0.220	0.0	0.0	0.0	0.0000	0.0	7.6	7.7
16	0.227	0.0	0.0	0.0	0.0000	0.0	7.6	7.7
17	0.263	0.0	0.0	0.0	0.0000	0.0	7.6	7.7
18	0.258	0.0	0.0	0.0	0.0000	0.0	7.6	8.0
19	0.242	0.0	0.0	0.0	0.0000	0.0	7.6	7.7
20	0.235	0.0	0.0	0.0	0.0000	0.0	7.5	7.6
21	0.274	0.0	0.0	0.0	0.0000	0.0	7.9	8.6
22	0.293	0.0	0.0	0.0	0.0000	0.0	8.8	9.0
23	0.263	0.0	0.0	0.0	0.0000	0.0	8.9	9.1
24	0.218	0.0	0.0	0.0	0.0000	0.0	8.4	8.6
25	0.054	0.0	0.0	0.0	0.0000	0.0	8.4	8.6
26	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
27	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
28	0.086	0.0	0.0	0.0	0.0000	0.0	7.4	8.4
29	0.197	0.0	0.0	0.0	0.0000	0.0	8.4	8.5
30	0.228	0.0	0.0	0.0	0.0000	0.0	8.4	8.6
31	0.204	0.0	0.0	0.0	0.0000	0.0	8.4	8.6
Total	4.124				0.0000			

*** Analytical results not yet available.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T109

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.133	0.0	0.0	0.0	0.0000
Max.	0.293	0.0	0.0	0.0	0.0000
Min.	0.000	0.0	0.0	0.0	0.0000

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [608]
SWRB Pump Station Discharge
Stormwater Retention Basin Effluent

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	0.074	0	0	0.00	0.00
2	0.222	0	0	0.00	0.00
3	0.217	0	0	0.00	0.00
4	0.167	0	0	0.00	0.00
5	0.129	0	0	0.00	0.00
6	0.215	0	0	0.00	0.00
7	0.208	0	0	0.00	0.00
8	0.130	0	0	0.00	0.00
9	0.000	0	0	0.00	0.00
10	0.240	0	0	0.00	0.00
11	0.407	0	0	0.00	0.00
12	0.409	0	0	0.00	0.00
13	0.365	0	0	0.00	0.00
14	0.365	0	0	0.00	0.00
15	0.436	0	0	0.00	0.00
16	0.439	0	0	0.00	0.00
17	0.487	0	0	0.00	0.00
18	0.499	0	0	0.00	0.00
19	0.519	0	0	0.00	0.00
20	0.536	0	0	0.00	0.00
21	0.539	0	0	0.00	0.00
22	0.578	0	0	0.00	0.00
23	0.522	0	0	0.00	0.00
24	0.427	0	0	0.00	0.00
25	0.109	0	0	0.00	0.00
26	0.000	0	0	0.00	0.00
27	0.000	0	0	0.00	0.00
28	0.179	0	0	0.00	0.00
29	0.409	0	0	0.00	0.00
30	0.464	0	0	0.00	0.00
31	0.408	0	0	0.00	0.00
	9.699				0.00

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (606) SWRB

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (mg/l)(2)	Total U (kgs)
Avg.	0.313	0	0	0.00	0.00
Max.	0.578	0	0	0.00	0.00
Min.	0.000	0	0	0.00	0.00

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [605]
Biodenitrification Tower
BDN Tower Effluent

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	0.055	0	0	0.00	0.00
2	0.053	0	0	0.00	0.00
3	0.062	0	0	0.00	0.00
4	0.070	0	0	0.00	0.00
5	0.046	0	0	0.00	0.00
6	0.042	0	0	0.00	0.00
7	0.040	0	0	0.00	0.00
8	0.040	0	0	0.00	0.00
9	0.041	0	0	0.00	0.00
10	0.040	0	0	0.00	0.00
11	0.040	0	0	0.00	0.00
12	0.037	0	0	0.00	0.00
13	0.040	0	0	0.00	0.00
14	0.053	0	0	0.00	0.00
15	0.084	0	0	0.00	0.00
16	0.082	0	0	0.00	0.00
17	0.068	0	0	0.00	0.00
18	0.070	0	0	0.00	0.00
19	0.068	0	0	0.00	0.00
20	0.054	0	0	0.00	0.00
21	0.052	0	0	0.00	0.00
22	0.055	0	0	0.00	0.00
23	0.054	0	0	0.00	0.00
24	0.055	0	0	0.00	0.00
25	0.054	0	0	0.00	0.00
26	0.060	0	0	0.00	0.00
27	0.068	0	0	0.00	0.00
28	0.058	0	0	0.00	0.00
29	0.054	0	0	0.00	0.00
30	0.054	0	0	0.00	0.00
31	0.057	0	0	0.00	0.00
Total	1.706				0.00

* Analytical results not yet available.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (605) BDNVETS

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (mg/l)(2)	Total U (kgs)
Avg.	0.055	0	0	0.00	0.00
Max.	0.064	0	0	0.00	0.00
Min.	0.037	0	0	0.00	0.00

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [605]
Biodenitrification Tower
BDN Tower Effluent

DATE: OCTOBER 1994

Day	C-BOD5 (mg/l)	TSS (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)	Chromium (ug/l)	Copper (ug/l)	Nickel (ug/l)	Hex-Chrom (ug/l)
1								
2								
3								
4	1.75							
5		10 <	0.10	0.9 <	6.0 <	14.0 <	17.0 <	6.0
6								
7								
8								
9								
10								
11	1.27 <	2 <	0.10	1.1 <	6.0 <	14.0 <	17.0 <	6.0
12								
13								
14								
15								
16								
17		10 <	0.10	0.3 <	6.0 <	14.0 <	17.0 <	6.0
18	2.41							
19								
20								
21								
22								
23		11 <	0.10	0.4 <	6.0 <	14.0 <	17.0 <	6.0
24								
25	1.47							
26								
27								
28								
29								
30								
31								

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP3]
Valve House
South Plume/Stormwater Retention Basin *

DATE: OCTOBER 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (Grab (S.U.))
1	1.581	9.0	**	17	0.10	0.0	7.3
2	1.676	13.5	**	31	0.20	0.0	7.3
3	1.637	22.5	**	32	0.20	0.0	7.4
4	1.598	13.5	**	29	0.18	0.0	7.4
5	1.743	9.0	**	24	0.16	0.0	7.4
6	1.522	13.5	**	35	0.20	0.0	7.3
7	1.667	**	**	37	0.23	0.0	7.3
8	1.626	**	**	29	0.18	0.0	7.4
9	1.444	**	**	10	0.05	0.0	7.4
10	1.665	**	**	17	0.11	0.0	7.4
11	1.838	**	**	31	0.22	0.0	7.6
12	1.458	**	**	44	0.24	0.0	7.4
13	0.874	**	**	31	0.10	0.0	8
14	1.194	**	**	9	0.04	0.0	7.9
15	1.723	**	**	8	0.05	0.0	7.3
16	1.946	**	**	8	0.06	0.0	7.3
17	1.900	**	**	8	0.06	0.0	7.3
18	1.915	**	**	8	0.06	0.0	7.4
19	2.122	**	**	8	0.07	0.0	7.3
20	1.868	**	**	9	0.06	0.0	7.3
21	1.999	**	**	8	0.06	0.0	7.4
22	2.050	**	**	9	0.07	0.0	7.5
23	1.993	**	**	10	0.08	0.0	7.5
24	1.827	**	**	14	0.10	0.0	7.4
25	1.458	**	**	10	0.06	0.0	7.3
26	1.188	**	**	10	0.04	0.0	7.2
27	1.313	**	**	8	0.04	0.0	7.3
28	1.705	**	**	12	0.08	0.0	7.5
29	1.786	**	**	17	0.11	0.0	7.3
30	2.112	**	**	17	0.14	0.0	7.3
31	1.851	**	**	14	0.10	0.0	7.3
Total	52.279				3.43		

* Effective 3/11/94, the SWRB discharges were combined with the South Plume.
** Analytical results not yet available

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP3] Valve House

DATE: OCTOBER 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	1.686	**	**	17	0.11
Max.	2.122	**	**	44	0.24
Min.	0.874	**	**	8	0.04

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: Valve House
South Groundwater Contamination Plume

DATE: OCTOBER 1994

Day	Flow (MGD)	Total U (ug/l)	Total U (kgs)
1	1.507	9.1	0.05
2	1.454	9.1	0.05
3	1.420	8.8	0.05
4	1.431	8.7	0.05
5	1.814	8.5	0.05
6	1.307	9.2	0.05
7	1.459	9.6	0.05
8	1.496	9.5	0.05
9	1.444	9.7	0.05
10	1.425	8.4	0.05
11	1.431	20.2	0.11
12	1.049	3.3	0.01
13	0.509	3.1	0.01
14	0.829	11.0	0.03
15	1.287	10.5	0.05
16	1.507	10.5	0.06
17	1.413	9.6	0.05
18	1.416	10.1	0.05
19	1.803	11.2	0.07
20	1.332	8.9	0.04
21	1.460	10.4	0.06
22	1.472	10.3	0.06
23	1.471	9.4	0.05
24	1.400	9.4	0.05
25	1.349	10.3	0.05
26	1.188	10.1	0.05
27	1.313	9.3	0.05
28	1.526	9.4	0.05
29	1.377	9.4	0.05
30	1.648	9.4	0.06
31	1.443	10.5	0.06
Total	42.580		1.57

* No sample collected, monthly average used.

**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending October 31, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: South Plume

DATE: OCTOBER 1994

	<u>Flow (MGD)</u>	<u>Total U (ug/l)(2)</u>	<u>Total U (kgs)</u>
Avg.	1.374	9.8	0.05
Max.	1.648	20.2	0.11
Min.	0.509	3.1	0.01

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

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