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

10/19/94

**DOE-0059-95
DOE-FN EPAS
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REPORT**



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

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OCT 19 1994
DOE-0059-95

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 5th 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 SEPTEMBER, 1994**

Enclosure 1 is the consolidated CA/FFCA/FFA and RI/FS Monthly Progress Report which describes the activities accomplished September 1-30, 1994, and planned actions for the period of October, 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,

for

Jack R. Craig
Fernald Remedial Action
Project Manager

Enclosures: As Stated

cc w/ enc:

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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 September 30, 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 September 1 through September 30, 1994, and planned actions for the period October 1 through October 31, 1994.

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

Period Ending September 30, 1994

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 September 1994. Information is presented for each of the Removal Actions identified in the Consent Agreement As Amended.

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

Period Ending September 30, 1994

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 & 9 Operational Plants 2/3 & 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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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending September 30, 1994

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

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

Period Ending September 30, 1994

REMOVAL ACTION SUMMARY

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

*Shading denotes completed actions

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

Period Ending September 30, 1994

Removal Actions

RA No. 1, Contaminated Water Under FEMP Buildings

Current Month:

The Plant 8 Volatile Organic Compounds (VOC) Treatment System continues to operate. Plants 6 and 9 perched groundwater extraction wells are in operation. Restart of Plants 2/3 and 8 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 September due to prior maintenance commitments.

Planned Activities:

- Complete corrective maintenance and reestablish operation of Plants 2/3 and 8 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. Contract for cultural resource effort along State Route 128 is expected to be in place so that field work can begin by mid-October.

Delta Steel has now requested that they be provided bottled water service from the FEMP until the PWS is complete.

Bid documents for Project A (transmission main from the Bolton Plant to the Great Miami River), including cultural resource language, are complete. The Hamilton County Commissioners are expected to approve documents for bids the first week in October.

Planned Activities:

- Continue proceedings to transfer ownership of the Alternate Water Supply to A&W.
- Continue to support Hamilton County Department of Public Works (HCDPW) on installation of the PWS including service connections.
- Participate in HCDPW Project A pre-construction meeting and HCDPW Project B Public Hearing.

0118

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

Period Ending September 30, 1994

Removal Actions

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

- Complete cultural resources (data recovery) efforts for area in Project B along State Route 128.
- Acknowledge Delta Steel's request for bottled water service—reach agreement as to how this will be accomplished.

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 4 remains shut down due to pumping reconfiguration. Additionally, on September 1, 1994, Recovery Well 5 shut down and was unable to be restarted. Flapper-type check valves with top access flanges have been purchased to be installed in each recovery well valve pit as backup to the existing spring-loaded check valves (valve which failed on Recovery Well 1). Installation of the new valve in Recovery Well 1 was completed September 6 and the remaining four valves are scheduled for installation in October. Also, 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. An 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 is planned to be accomplished utilizing the new site drilling contractor - Alliance Drilling.

Planned Activities:

- Continue to evaluate additional modifications implemented to address the arsenic contamination found in the monitoring wells. Weekly monitoring will be performed to prevent any arsenic from entering the recovery wells.
- Install new check valve in Recovery Wells 2 through 5.
- Repair and install electrical panel in Recovery Well 4.
- Resume five-well pumping scheme.

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

Period Ending September 30, 1994.

Removal Actions

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

Part 3 - Interim Advanced Waste Water Treatment (IAWWT)

IAWWT Storm Water Retention Basin (SWRB) Unit

Current Month:

The IAWWT(SWRB) continued with minimal operational downtime due to improved filtration system installed in March as part of the South Plume Interim Treatment (SPIT) System project. This system was down for approximately two weeks in September due to a lack of filtration capability at the new filters installed under the South Plume Interim Treatment Facility. These filters were non-operable due to a broken air compressor motor that has been repaired. A spare motor will be ordered to keep on hand for future occasions, if the need should arise.

Planned Activities:

- Continue to operate IAWWT(SWRB).

IAWWT Biodenitrification Effluent Treatment System (BDN-ETS) Unit

Current Month:

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

Planned Activities:

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

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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 September 30, 1994

Removal Actions

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

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.

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] project continues to operate satisfactorily. However, it was out of service for approximately two weeks in September due to a broken air compressor motor.

Planned Activities:

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

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

Period Ending September 30, 1994

Removal Actions

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

Step 2

Current Month:

Use 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 III line was completed on September 26, 1994. 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.

Planned Activities:

- Complete installation of instrumentation and controls in the portion of line going to 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 flow, and increasing capacity from 300 gpm to approximately 400 gpm is scheduled for completion by March 1995. No action was taken during the month of September.

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

Period Ending September 30, 1994

Removal Actions

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

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:

In an effort to reduce worker exposure to the Decant Sump Tank and to improve confidence in the liquid level measurements, a submersible pressure indicator/transmitter was installed in the tank in August 1994. The new water level indicator equipment allows accurate, continuous, and remote level readings from the tank.

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.

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

Period Ending September 30, 1994

Removal Actions

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

Planned Activities:

- Subcontractor to demobilize.
- 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 September was 15,888 drum equivalents (DEs) for a total of 77,962 DEs shipped to the NTS in FY-94. This volume includes 19,445 drums of residues removed from inventory and shipped to-date.

Shipments of AMCCOM metal to the NTS in September was 941 DEs and completed the disposition of this waste stream.

Shipments of thorium to the NTS in September was 349 DEs. This was the first shipment of the remaining thorium inventory under the new approval.

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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118

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

Period Ending September 30, 1994

Removal Actions

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 so intelligent bid packages can 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, 1,209 maintenance work orders to isolate and disconnect all utilities/energy sources from equipment not in use have been prepared. Of these, 551 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.

Current status of task orders to determine if hold-up material is present in equipment is: 517 prepared and, of those, 222 have been completed. Also, 168 task orders to remove the hold-up material from equipment have been prepared; of those, 42 have been completed to-date (this is 12 task orders ahead of the September 30 milestone of 30 completions).

The seventh shipment of depleted derbies was shipped on September 30, 1994, to the customer, Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee. That shipment was a mixed load of 40 derbies and 66 metal derby skids. Total derbies shipped to-date is 108 MTU of 440 MTU total.

Suspension of all declarations of surplus disposition or release of nuclear related equipment, materials or associated documentation to the private sector continues in accordance with the memorandum issued by the Secretary of Energy Hazel O'Leary, dated August 3, 1994. This action excludes sales already committed.

Less than three months after approval was received on June 24, 1994, to ship the remaining Army metal to the Nevada Test Site (NTS) for burial, the shipments were completed. The material shipped was Phase II of the removal of all Army-owned material from the site (Phase I was the successful removal of 1843.5 MTU, which was completed in November 1992). This phase covered the removal of 1028.5 MTU in 70 shipments and was completed two weeks ahead of the 14-week projected schedule on September 23, 1994.

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

Period Ending September 30, 1994

Removal Actions

RA No. 12, Safe Shutdown (continued)

The University of Washington, in connection with Battelle Northwest Laboratories, is planning a series of precision gravity experiments utilizing depleted uranium. The experiments are sponsored by the National Science Foundation. They are interested in obtaining a portion of the FEMP's depleted uranium metal inventory for use in these experiments. This interest is still in the inquiry stage, but we are continuing to work with Professor Boynton of the University of Washington to encourage this interest. Because this material would be for another government agency, the transfer would not be affected by the moratorium on distribution of nuclear materials.

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

RA No. 13, Plant 1 Ore Silos

Current Month:

The two tall and two short east tile silos have been dismantled and work began on the west silos. Containment and scaffolding are being removed where the east silos were.

Planned Activities:

- Dismantle the two tall and two short west silos.

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

Period Ending September 30, 1994

Removal Actions

RA No. 13, Plant 1 Ore Silos (continued)

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

Current Month:

The draft Final Report was reviewed and comments incorporated during the month of September.

Planned Activities:

- Receive sample analyses from EPI Labs.
- Submit draft Final Report to DOE by October 31, 1994.

KEY MILESTONES	STATUS	DUE DATE
Phase V - Submittal of Final Report to DOE	Open, on schedule. Extension on due date verbally approved.	October 31, 1994

000017

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

Period Ending September 30, 1994

Removal Actions

RA No. 15, Scrap Metal Piles

Current Month:

Phase I: The stabilization of waste from the Phase I lead melt was completed; confirmatory sampling and analysis of the remaining Phase I slag and oxide was completed. The stabilization of hazardous waste from the normal metal melt was initiated. FERMCO provided the draft Final Report to DOE-FN on September 27, 1994 for transmittal to the EPAs.

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

Planned Activities:

- Phase I: Determine disposition of 84 remaining oxides boxes. Ship sulfur cement solidified waste for burial based on confirmatory sample results.
- 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	September 30, 1993 March 25, 1994
Phase I - Submit draft Final Report to U.S. EPA	On Schedule	September 30, 1994
Phase IIB: Submittal of Subcontractor's Removal Action Project Plan	Open, behind Schedule	September 30, 1993
Phase IIB: Submittal of Final Report	Open, behind schedule	March 30, 1995

RA No. 17, Improved Storage of Soil and Debris

Current Month:

September activities included completion of final Health and Safety documentation work permits, commencement of mobilization of site support contractor, and procurement started on waste containers for the regrading and seeding (placement of a vegetative cover) over the existing soil and rubble pile north of Third Street. Continued collecting sampling & analysis data to determine the RCRA status for the debris/residue/remains from the scrap metal pile located at the Building 69 pad (former site of the now-deleted Scrap Metal Pad (SMP) tension support structure). The Implementation Plan which depicts the work scope for removing the debris/residues from the former SMP site was completed.

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

Period Ending September 30, 1994

Removal Actions

RA No. 17, Improved Storage of Soil and Debris (continued)

Planned Activities:

- Propose to the EPAs to delete the construction of the three temporary covered storage structures: Central Storage Facility (CSF), Decontamination Facility Pad (DFP), and the Scrap Metal Pad (SMP). These proposed changes were developed as a result of a re-evaluation of the evolving waste and debris management strategies within OU 3 and from public concerns regarding the construction of additional storage structures. Proposed changes to be submitted in early October 1994.
- Begin containerization and removal of the remaining debris/residue at the SMP.
- Begin removing the accessible debris from the Soil and Rubble Pile North of Third Street and some perimeter fence removal and establishing work zones.
- Complete re-sampling (analysis complications) at some of the previous sample points from the residues/debris at the SMP area in order to complete characterization.

RA No. 19, Plant 7 Dismantling

Current Month:

The felling of Plant 7 was completed on September 17, 1994. The final takedown completed an effort which began on September 10, when subcontractors detonated 50 linear-shaped explosive charges. The first two floors of the building collapsed as planned; however, splice plates that had been pre-cut on the third and fifth floors did not separate as anticipated. The final takedown involved strategic placement and detonation of additional explosive charges at key structural supporting columns on the second, fourth, fifth, and sixth floors.

Planned Activities:

- Continue to dismantle and remove exterior structures including tanks, balance of pipe rack, and projecting concrete structures.
- Continue to segregate, package, and load into waste containers materials removed from Plant 7.
- Continue to shear and load structural steel into containers for off-site recycling.
- Subcontractor to demobilize.

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

Period Ending September 30, 1994

Removal Actions

RA No. 20, Stabilization of UNH Inventories

Current Month:

Construction of the new UNH transfer pipe continued. The UNH operating procedures have been reviewed and are in the process of being issued. The SAR was reviewed by an Independent Safety Review Committee and the comments are being incorporated. The new UNH transfer pumps were delivered and have been installed.

Planned Activities:

- Complete construction of transfer pipe
- Issue UNH Operating Procedures
- Train for UNH operations
- Complete isolation of UNH storage tanks
- Issue SAR to DOE-FN
- Complete self assessment of UNH project to prepare for ORR.

RA No. 26, Asbestos Removals (Asbestos Program)

Current Month:

The Certified for Construction (CFC) package was issued and construction activities continued for the encapsulation/encasement of transite siding and roofing on the Metal Dissolver Building.

Planned Activities:

- Complete the compilation of work packages and continue construction activity on the thermal system insulation removal at the Harshaw Towers and other related similar projects.
- Proceed with PARSONS engineering evaluation of alternatives to remove and replace Plant 2/3 transite roof temporarily and remove other friable Asbestos Containing Material (ACM) until Plant 2/3 dismantling occurs.

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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 September 30, 1994

Removal Actions

RA No. 28, Contamination at the Fire Training Facility

Current Month:

Demolition of the two-story block building was completed on September 7, 1994. The building debris has been size-reduced and covered. It is currently staged along the north and west perimeter of the asphalt pad which surrounded the building.

Removal of the open-top tank from the ground was completed on September 20, 1994. Sludges from the tank have been removed. The soil beneath the tank showed visible stains and will be excavated.

Excavation of contaminated soils from the skid tank pond began. The skid tank pedestals which sat inside the pond have been removed and containerized.

Planned Activities:

- Size reduction and containerization of the open top tank.
- Complete excavation of the contaminated soils in the skid tank pond, and in the ground hole where the open top tank was sitting.
- Excavate contaminated soils in other areas.

RA No. 29 Erosion Control at Inactive Flyash Pile

Current Month:

Maintenance and repairs to the Inactive Flyash Berm were completed on September 15, 1994.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

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:

Received final approval, with editorial comments, of the OU 1 Remedial Investigation Report/Baseline Risk Assessment from U.S. EPA on August 4, 1994. Final distribution was completed on September 2, 1994.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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.

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. Geotechnical testing, consisting of CPT and drilling activities, began on August 22, 1994, with the start of CPT fieldwork. CPT testing was completed September 1, 1994. The next phase of field work, which involves placement of borings, will commence in early October 1994.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

1.4 Treatability Studies (continued)

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. Work on developing formal responses to comments received has been initiated with the expected completion date of October 28, 1994.

1.6 Planned Activities for October 1994

- Revisions to the Draft OU 1 ROD in response to DOE FN-HQ comments will continue. In addition, activities in support of the Responsiveness Summary portion of the ROD will continue. A Draft ROD inclusive of the Responsiveness Summary will be forwarded to DOE on October 7, 1994 for review.
- Begin drilling activities for the Geotechnical testing phase of DEEP October 4, 1994.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

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:

Complete.

Issues/Corrective Actions:

None to 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 September 30, 1994

Remedial Investigations/Feasibility Studies

2.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 2 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.	04/29/94 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 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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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

2.2 Remedial Investigation

Status:

The official approval letter for the OU 2 Remedial Investigation Report was received from U.S. EPA on September 9, 1994. Comments were incorporated and the document was submitted to the EPAs ahead of schedule.

Issues/Corrective Actions:

None to report.

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 the OU 2 FS on August 23, 1994. Comments from the EPAs will be addressed and incorporated into a final Draft OU 2 Feasibility Study Report.

Issues/Corrective Actions:

None to report.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

2.6 Planned Activities for October 1994

- Incorporate EPA comments into the Final Draft OU 2 FS Report.
- Issue Draft Record of Decision (ROD) October 6, 1994.
- Continue efforts on the Pre-design Investigation Work Plan

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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 Ohio EPA has conditionally concurred and the U.S. EPA has verbally 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 for the RI has been proposed based on the proposed 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 September 19, 1994, approximately 93% of the chemical field characterization analytical data and 13% of the radiological field characterization analytical data have been received from the laboratories. Approximately 85% of planned chemical data to be collected has been validated.

Issues/Corrective Actions:

None to 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 September 30, 1994

Remedial Investigations/Feasibility Studies

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:

OU 3 has begun formal activities on the Feasibility Study. Cost estimating and technology screening have begun. Recent meetings between DOE, U.S. EPA, and Ohio EPA have established a revised schedule for the OU 3 FS and subsequent documents such as the Proposed Plan and the Record of Decision. The dates are expected to be written into future changes of the Amended Consent Agreement. The revised submittal date for the OU 3 FS report to U.S. EPA is September 11, 1995. Additionally, the document will be submitted in conjunction with the OU 3 RI Report (a combined RI/FS Report).

The OU 3 FS will be prepared as a focused feasibility study with three alternatives and on the assumption of a performance-based Record of Decision (ROD), instead of a ROD specifying a very specific set of technologies to utilize. Four disposition options have been identified for materials generated by OU 3: on-site disposal, off-site disposal, controlled recycling, and 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.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

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 or screening and will be summarized in treatability study reports.

Issues/Corrective Actions:

None to 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 September 30, 1994

Remedial Investigations/Feasibility Studies

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 finalized and printed on September 16, 1994 for transmittal to the EPAs. The documents were subsequently transmitted by DOE-FN to the EPAs on September 19, 1994 in order to meet required submittal within sixty days after finalization of the IROD (on or before September 20, 1994). This effort involved some last minute enhancements of the document. It also involved a change in the implementation plan to be submitted with the Work Plan, from the Pilot Plant Complex Implementation Plan to the Building 4A Implementation Plan. A public Notice of Availability of the Work Plan and the associated documents was published in local papers on September 21, 1994.

Efforts are continuing on the refinement of the Pilot Plant Complex and Plant 1 Complex Implementation Plans, in anticipation that some amount of work will begin on these projects in FY95. Submittal of these documents to the EPAs is currently planned for October 1994.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

3.6 Interim Action RD/RA Work Plan

An annotated outline for a combined Remedial Design Prioritization and Sequencing Report and Material Disposition Plan has been developed and distributed for internal review. 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, and 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. A multi-disciplinary team has been formed to develop this document, which is scheduled for submittal to the EPAs within six months of submittal of the Draft RD/RA Work Plan (i.e., March 17, 1994).

Issues/Corrective Actions:

None to report.

3.7 Planned Activities for October 1994

- Continue efforts to develop the OU 3 Waste Disposition Plan and the Remedial Design Prioritization and Sequencing Report, including the development of a waste management model to support these documents and the RD/RA Work Plan.
- Finalize the Implementation Plans for the Pilot Plant complex and the Plant 1 complex, for anticipated submittal to the EPAs in October 1995.
- Begin efforts to develop material for presentation to the public relative to the design efforts which were undertaken for the interim remedial action, and 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 at some time prior to the beginning of the first remedial action efforts.
- Complete technology identification and screening to support FS development.
- Develop 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.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

3.7 Planned Activities for October 1994

- 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.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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:

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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 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 April 1995.

Issues/Corrective Actions:

None to report.

4.5 Record of Decision

Status:

Conditional approval of the OU 4 Record of Decision was received from the U.S. EPA on September 6, 1994. On September 13, 1994, a 30-day extension from the U.S. EPA for the submittal of the Final Record of Decision was requested. If approved, the revised submittal date will be November 4, 1994. The 30-day extension was required to support the National Environmental Policy Act procedural requirements for a 30-day waiting period prior to the signing of the OU 4 Record of Decision.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

4.6 Planned Activities for October 1994

- Address all outstanding EPA comments and DOE-HQ comments on the Record of Decision for OU 4.
- Continue construction of the Phase I Pilot Plant facility.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

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:

EPA's comments on the draft Remedial Investigation (RI) Report were received on September 12. Section leads immediately began assessing the scope of the comments and drafting responses and actions. As draft responses/actions underwent and received internal technical review and approval, sets of comment responses on the more significant sections of the RI Report were forwarded to the appropriate EPA reviewer for preliminary review. The purpose of this exchange was to ensure that the sense of the comments had been correctly interpreted and that the proposed action was in line with the reviewers expectations.

A meeting has been scheduled for October 5 where DOE and EPA plan to discuss DOE's draft comment responses, focusing on risk assessment and contaminant fate and transport issues. At that point DOE will be able to decide if they will or will not request the 20-day extension for document revision allowed by the Amended Consent Agreement.

DOE's own planned revisions to the 18-volume report were pursued, especially revisions to plates and figures.

Issues/Corrective Actions:

DOE will notify EPA if they decide to request the 20-day extension for resubmittal of the OU 5 RI Report.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

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	30 (or up to 50) days from receipt of EPA comments

C = Consent Agreement Date

5.2 Feasibility Study/Proposed Plan

Status:

Internal review of the draft Feasibility Study/Proposed Plan (FS/PP) was completed. Effort is currently being applied to addressing and incorporating the peer review comments.

A series of meetings were held with representatives of the Citizens' Land-Use Committee regarding the FS approach to convey some of the technical information to the Committee. As a result, some revisions in the FS approach have been adapted to better mirror the ongoing deliberations of the Task Force.

Volumes of affected soil/sediment have been recalculated to adapt revisions to the alternatives, the input of the task force, and the issuance of revised slope factors for uranium. The volume and potential footprints of excavation have been formalized for each alternative under consideration.

Source term and volume estimates for the Comprehensive Response and Risk Evaluation (CRARE) continue to be compiled to support required fate and transport runs. The CRARE text is in preparation with a draft scheduled for issuance in early October.

The current target date for issuance of the revised FS for internal peer review prior to issuance to the EPAs is October 29, 1994.

K₁ Study - DOE received notice on September 22, 1994, that the U.S. EPA disapproved the OU 5 Project Specific Plan (PSP) for K₁ Soil Sampling and Analyses.

Issues/Corrective Actions:

None to 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 September 30, 1994

Remedial Investigations/Feasibility Studies

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

5.3 RCRA Monitoring

Status:

1994 RCRA groundwater sampling activities were concluded on September 14 with the end of the fourth quarter sampling event. Preparation of the RCRA Annual Report was commenced on September 19, 1994.

Issues/Corrective Actions:

None to report.

5.4 Treatability Studies

Treatability activities continue to focus in support of the OU 5 FS Report. Issues specifically related to reducing contaminant mobility and developing a less costly chemical intensive process provide the basis for the current testing efforts.

Status:

Laboratory treatability testing continues to be conducted on additional FEMP soils. These soils are considered to represent a wider range of representative soil/contaminant matrix. These tests are targeted at determining the applicability of physical separation processes within the soil washing system to provide a treatment process for soil not inherently meeting on-site Waste Acceptance Criteria (WAC). These tests will be completed in early October.

Additional testing of other surface and subsurface soils is being conducted to better define the leachable fraction of uranium associated with FEMP soils. Uranium distribution constants are being determined for selected soils to provide fate and transport modelers with support data. This portion of the testing effort is scheduled to be completed in late October.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

5.4 Treatability Studies (continued)

Issues/Corrective Actions:

None to report.

5.5 Planned Activities for October 1994

- Continue preparation of responses to U.S. EPA and Ohio EPA comments on the OU 5 draft RI Report.
- Continue revision on OU 5 draft FS Report to meet November 16 submittal to the EPAs.
- Continue preparation of 1994 RCRA Annual Groundwater Report.
- Address comments received from U.S. EPA on PSP for K₁ Soil Sampling and Analyses.
- Complete laboratory treatability testing on additional FEMP soils to determine the applicability of physical separation processes within the soil washing system.
- Complete testing of other surface and subsurface soils to better define the leachable fraction of uranium.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

6.0 Community Relations

Status:

On September 7, 1994 the Fernald Envoys held their monthly meeting. About 40 envoys were updated on several issues. Public Affairs gave a presentation on the results from the Community Assessment conducted in May. The significant findings were that there has been a marked improvement in the communication process being used by DOE to inform the community of activities and other issues. The Community Assessment determined three goals for Fernald: (1) Increase opportunity for public involvement (in which the Envoys will play a significant role); (2) Continue to monitor programs; and (3) Present information in a clear, understandable form. Two more presentations were given: (1) A summary of the 1993 Site Environmental Report, and (2) A brief summary of some of the new technologies being used at Fernald. The second portion of the meeting was dedicated to the envoys sharing feedback from their respective groups and organizations. The next meeting is scheduled for October 12, 1994.

The Fernald Citizens Task Force's monthly meeting was held September 10 at the Plantation in Harrison, Ohio. About 40 people, including the task force members, representatives from DOE, DOE-HQ, and FERMC0 were in attendance. Prior to departing to view the Plant 7 Take Down ceremony at the Fernald site, the Task Force discussed its criteria for future use. These criteria are being refined and are anticipated to become final at the October 8, 1994 Task Force meeting. The Task Force also had an extended discussion about future use scenarios. Based on information provided by OU 5, Task Force members discussed whether protecting the Great Miami Aquifer was a priority. A draft report with the Task Force's recommendation for future land use is due to DOE in October, and will be finalized in November 1994.

Demolition of the tallest building at Fernald was successfully completed around 9:30 p.m., Saturday, September 17. Saturday's takedown completed an effort which began September 10, when contractors responsible for the Plant 7 dismantling project detonated 50 linear-shaped, explosive charges intended to take the building down. The building dropped approximately 20-25 feet instead of the planned 78 feet. Notifications had been made prior to the second implosion to near-by residents and neighbors. Approximately 100 people witnessed the takedown from the parking lot.

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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 September 30, 1994

Remedial Investigations/Feasibility Studies

6.0 Community Relations (continued)

From August 10 through September 8, 1994 DOE held a formal public comment period on the *Operable Unit 1 Feasibility Study Report/Proposed Plan -- Environmental Assessment*. During a formal public meeting on August 23, DOE and FERMCO officials presented the documents. In addition to the formal comments made at that meeting, DOE received 17 written comments. OU 1 personnel are developing a responsiveness summary to address formal public comments. The responsiveness summary will be attached to the *Operable Unit 1 Record of Decision*.

On September 13, copies of the *Responsiveness Summary for the Operable Unit 4 Feasibility Study/Proposed Plan-Draft Environmental Impact Statement*, September 1994, were sent to stakeholders who commented during the OU 4 formal public comment period which concluded June 19, 1994. Copies of the document are also available to the public at the Public Environmental Information Center.

The revised *Community Relations Plan* was submitted to the U.S EPA and Ohio EPA on September 15 for review. At the same time, the plan was given to several community leaders representing the Fernald Citizens Task Force, FRESH, and three local townships. Comments from the community leaders are currently being collected. EPA's comments were requested by September 30. DOE will meet with U.S and Ohio EPA's public outreach coordinators on October 5 to discuss their comments on the revised plan and the path forward.

On September 13, representatives from Ohio EPA and U.S. EPA conducted a public meeting at the Crosby Elementary School to discuss Disposal Siting Criteria and Waiver Issues. About 35 people attended and asked questions about the status of the proposed waiver, what happens if the siting criteria are enforced or if waived, and will it have an impact on the issue of waste from other sites coming to Fernald. Most questions were answered and the public was encouraged to review the OU 2 Proposed Plan.

On September 19, the first Ohio Federal Facilities Forum was held at Wright Patterson Air Force Base. About 20 employees from DOE/FERMCO attended. The FEMP presentation focused on (1) site background; (2) status of the RI/FS, and (3) Risk Assessment. All the represented Ohio DOE facilities along with Ohio EPA and U.S. EPA discussed their accomplishments, problems, and challenges. The group selected five major issues common to all sites and assigned a working group to each. The working group will meet and develop an outline and give a report at the next meeting, proposed for January 1995.

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

Period Ending September 30, 1994

Remedial Investigations/Feasibility Studies

6.1 Planned Activities for October 1994 (continued)

- From October 12 through October 14, the DOE Ohio Field Office will conduct the DOE fall Public Participation Quarterly Meeting at Hueston Woods. The Fernald Envoy Program, a first-of-its-kind within the DOE nuclear weapons complex, will be a featured break-out topic at the conference.
- DOE will conduct a Community Meeting on October 18, 1994 at the Plantation in Harrison, Ohio starting at 7:00 p.m.. The two break-out sessions will focus on: (1) "The Draft Site Treatment Plan", and (2) "Potential Future Uses of the Fernald Site" developed by the Fernald Citizens Task Force.
- The OU 2 Public Meeting to discuss their Proposed Plan and take formal comment will be the last week of October or the early part of November. The actual date depends upon when approval of the FS/PP is received.
- The regular monthly FRESH meeting will be held October 27, 1994 at the Venice Presbyterian Church in Ross, Ohio beginning at 7:30 p.m.
- The public comment period on the Draft Site Treatment Plan ends on October 31 1994.

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

PERIOD ENDING SEPTEMBER 30, 1994

ENCLOSURE A

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

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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 September 30, 1994

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 September 1994.

Summary - September 1994

The total quantity of uranium discharged from the FEMP to the Great Miami River via Manhole 175 (Outfall 11o00004001) was 4.44 kilograms. The average uranium concentration for the previous 12 months was 0.41 mg/L. This is 46.1 % 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 September 1994. Based on 1.04 inches of rainfall in September 1994, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 2.95 kilograms.

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

Period Ending September 30, 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: 11000004001
001 Total Discharge
Manhole 175 (Effluent to Great Miami River)

DATE: SEPTEMBER 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	0.245	144	541	0.24	0.22	81
2	0.168	140	631	0.30	0.19	101
3	0.175	180	766	0.42	0.28	142
4	0.143	176	946	0.48	0.26	162
5	0.178	230	721	0.43	0.29	145
6	0.258	221	676	0.36	0.35	122
7	0.221	***	***	0.28	0.23	95
8	0.238	***	***	0.32	0.29	108
9	0.198	***	***	0.39	0.29	132
10	0.149	***	***	0.52	0.29	176
11	0.150	***	***	0.54	0.31	182
12	0.158	***	***	0.32	0.19	108
13	0.206	***	***	0.14	0.11	47
14	0.246	***	***	0.09	0.08	29
15	0.259	***	***	0.12	0.12	41
16	0.239	***	***	0.12	0.11	41
17	0.161	***	***	0.09	0.06	31
18	0.145	***	***	0.15	0.08	51
19	0.241	***	***	0.15	0.14	51
20	0.182	***	***	0.12	0.08	41
21	0.224	***	***	0.11	0.09	37
22	0.243	***	***	0.08	0.07	26
23	0.221	***	***	0.02	0.02	7
24	0.151	***	***	0.05	0.03	17
25	0.107	***	***	0.07	0.03	25
26	0.231	***	***	0.06	0.05	20
27	0.228	***	***	0.07	0.06	22
28	0.207	***	***	0.11	0.09	37
29	0.199	***	***	0.03	0.02	9
30	0.208	***	***	0.01	0.01	4
Total	5.979				4.44	

*** Analytical results not yet available.

SEP 30 1994

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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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 001 Total Discharge

DATE: SEPTEMBER 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.	0.199	36	136	0.20	0.15	66
Max.	0.259	230	946	0.54	0.35	182
Min.	0.107	140	541	0.01	0.01	4

The average uranium concentration for the previous twelve months was 0.41 mg/l. This is 46.1 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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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

6116

Period Ending September 30, 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: 11000004002
002 Discharge (Overflow) to Storm Sewer Outfall Ditch
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

DATE: SEPTEMBER 1994

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

Based on 1.04 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 2.95 kgs.

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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 SEPTEMBER 30, 1994

ENCLOSURE B

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

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

Period Ending September 30, 1994

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 August 1994, was transmitted to the U.S. EPA on September 15, 1994, as Enclosure B 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.

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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 September 30, 1994

INTRODUCTION

Enclosure B describes actions undertaken at the FEMP during the period September 1, through September 30, 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 August 1994 was transmitted to the U.S. EPA on September 15, 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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**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

September 30, 1994

<u>ACTION</u>	<u>DESCRIPTION</u>	<u>COMPLETION TIME AFTER FFCA SIGNED</u>	<u>FY1994 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 108(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 108(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 108(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for August 1994 was transmitted to the U.S. EPA on September 15, 1994.

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

September 30, 1994

CLEAN AIR ACT

B.4	Prepare annual progress report installation and replacement of emission control devices.	yearly	The 56th 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	<p>No stacks related to production were operating in 1993.</p> <p>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.</p> <p>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.</p>
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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**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

September 30, 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	August's FFCA Monthly Progress Report was transmitted to the U.S. EPA on September 15, 1994.
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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 SEPTEMBER 30, 1994

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
MONTHLY PROGRESS REPORT**

Period Ending September 30, 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 September 1, through September 30, 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 September 30, 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 September 30, 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 September 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 September 30, 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 September 30, 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).

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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.

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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: September 1994

Day	Ambient		Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
	Temp °F	Press In. Hg.				
*** 1	58.2	29.62	65.6	•	0.001	158,000
2	56.0	29.70	64.8	•	0.001	172,000
3	57.1	29.70	64.4	•	0.001	176,000
4	56.5	29.67	64.0	•	0.001	345,000
** 5	56.7	29.55	63.9	•	-0.027	482,000
**** 6	62.0	29.48	63.7	•	0.002	177,000
7	59.2	29.56	63.6	•	0.002	440,000
8	62.3	29.56	63.8	•	0.002	542,000
9	63.6	29.55	64.0	•	0.002	492,000
** 10	65.0	29.61	64.2	•	0.020	462,000
** 11	67.3	29.66	64.5	•	0.061	387,000
12	65.8	29.68	64.6	•	0.003	517,000
13	66.8	29.62	64.8	•	0.003	552,000
14	70.4	29.56	64.9	•	0.004	564,000
15	70.6	29.52	65.2	•	0.004	678,000
16	72.5	29.47	65.3	•	0.004	682,000
** 17	69.0	29.39	65.6	•	-0.005	562,000
18	62.5	29.49	65.0	•	0.002	131,000
19	60.2	29.60	64.4	•	0.002	188,000
20	58.7	29.60	64.0	•	0.001	137,000
21	63.6	29.50	63.8	•	0.003	217,000
22	63.8	29.39	63.9	•	0.002	187,000
23	63.9	29.33	63.8	•	0.002	186,000
** 24	64.0	29.34	63.7	•	-0.010	167,000
** 25	55.9	29.26	63.2	•	-0.009	166,000
26	54.2	29.16	62.5	•	-0.001	185,000
27	53.0	29.23	62.0	•	-0.001	50,000
28	56.3	29.26	61.5	•	0.000	76,000
29	52.3	29.42	61.2	•	-0.001	73,000
30	57.7	29.47	61.0	•	0.001	209,000
ARITHMETIC MEAN	61.5	29.50	63.9	•	0.002	312,000
MAXIMUM	72.5	29.70	65.6	•	0.061	682,000
MINIMUM	52.3	29.16	61.0	•	-0.027	50,000
MEDIAN	62.1	29.54	64.0	•	0.002	198,500

Note: • - Silo #1 Relative Humidity was inoperable, default value = 0.
 ** - Some Delta Pressure values were outside of range restrictions.
 *** - Changeout of Lucas cells in radon sampling system.
 **** - Changeout of Lucas cell in Silo #1 radon sampling system.
 DLS down for maintenance on 9/20/94 from 09:41 to 10:55 EDT.
 DLS malfunction from 9/20 at 16:19 to 9/21 at 02:16 EDT.
 Silo #1 and Silo #2 Relative Humidity was out of service from 9/15 to 9/30.

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

MONTH: **SEPTEMBER**
YEAR: **94**

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

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

Daily Average:	AMS-6 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	BKGD-1 (pCi/L)	BKGD-2 (pCi/L)
09/01/94	0.4	0.8	0.9	0.5	0.4
09/02/94	0.7	0.8	0.7	0.7	0.8
09/03/94	1.0	0.9	0.8	0.7	0.8
09/04/94	1.1	1.1	1.1	0.8	0.7
09/05/94	0.8	0.9	0.8	0.7	0.6
09/06/94	0.6	0.7	0.8	0.6	0.5
09/07/94	1.3 (a)	1.3 (a)	1.2	0.8	0.7
09/08/94	1.5	1.3	1.4	0.9	0.8
09/09/94	1.2 (a)	1.3	1.3	0.8	0.8
09/10/94	1.4	1.4	1.3	0.9	0.8
09/11/94	1.4	1.2	1.0	0.9	0.9
09/12/94	1.7	1.4	1.2	0.8	0.8
09/13/94	1.7	1.5	1.6	0.9	0.9
09/14/94	1.8	1.8	1.8	0.9	0.8
09/15/94	1.8	1.5	1.5	0.9	0.9
09/16/94	1.8	1.8	1.4	1.0	0.8
09/17/94	1.1	1.0	0.8	0.6	0.7
09/18/94	0.8	0.7	0.7	0.6	0.5
09/19/94	2.0	1.3	1.8	0.9	0.8
09/20/94	2.1	1.8	1.9	1.0	0.8
09/21/94	2.3	1.8	1.7	1.1	0.9
09/22/94	2.1	1.8	1.6	0.9	0.9
09/23/94	1.1	1.0	0.8	0.5	0.7
09/24/94	1.0	0.8	0.8	0.6	0.6
09/25/94	1.8	1.2	1.1	0.9	0.9
09/26/94	0.9	0.9	0.8	0.7	0.7
09/27/94	0.8	0.8	0.8	0.6	0.5
09/28/94	0.8	0.8	0.8	0.5	0.5
09/29/94	1.7	1.2	1.2	0.8	0.8
09/30/94	2.2	1.9	1.8	1.0	1.0

Monthly Average:	AMS-6 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	BKGD-1 (pCi/L)	BKGD-2 (pCi/L)
AVERAGE:	1.3	1.1	1.1	0.8	0.7
MAXIMUM:	2.3	1.8	1.7	1.1	1.0
MINIMUM:	0.4	0.8	0.8	0.6	0.4
MEDIAN:	1.3	1.2	1.1	0.8	0.7
STD. DEV.:	0.5	0.3	0.4	0.2	0.2

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 # 2

DATE: September 1994

Day	Ambient Temp °F	Press In. Hg.	Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
*** 1	58.2	29.62	64.5	60.0	-0.013	3,320,000
2	56.0	29.70	63.7	60.0	-0.013	3,370,000
3	57.1	29.70	63.4	60.0	-0.013	3,420,000
4	56.5	29.67	63.1	60.0	-0.012	3,450,000
5	56.7	29.55	62.9	60.0	-0.040	3,500,000
6	62.0	29.48	62.7	60.0	-0.013	3,370,000
7	59.2	29.56	62.6	60.0	-0.012	3,300,000
8	62.3	29.56	62.8	60.0	-0.013	3,280,000
9	63.6	29.55	63.0	60.0	-0.013	3,250,000
10	65.0	29.61	63.3	60.0	0.018	3,220,000
11	67.3	29.66	63.4	60.0	0.037	3,220,000
12	65.8	29.68	63.6	60.0	-0.013	3,260,000
13	66.8	29.62	63.7	60.0	-0.013	3,310,000
14	70.4	29.56	63.8	60.0	-0.013	3,320,000
15	70.6	29.52	64.1		-0.013	3,430,000
16	72.5	29.47	64.2		-0.013	3,600,000
** 17	69.0	29.39	64.4		-0.033	3,650,000
18	62.5	29.49	63.9		-0.013	3,550,000
19	60.2	29.60	63.3		-0.013	3,680,000
20	58.7	29.60	63.0		-0.012	3,710,000
21	63.6	29.50	62.8		-0.012	3,640,000
22	63.8	29.39	62.8		-0.012	3,670,000
23	63.9	29.33	62.8		-0.012	3,610,000
24	64.0	29.34	62.7		-0.034	3,560,000
25	55.9	29.26	62.2		-0.051	3,500,000
26	54.2	29.16	61.6		-0.012	3,540,000
27	53.0	29.23	61.1		-0.012	3,280,000
28	56.3	29.26	60.7		-0.012	3,190,000
29	52.3	29.42	60.4		-0.012	3,240,000
30	57.7	29.47	60.2		-0.012	3,250,000
31						
ARITHMETIC MEAN	61.5	29.50	62.9	60.0	-0.013	3,423,000
MAXIMUM	72.5	29.70	64.5	60.0	0.037	3,710,000
MINIMUM	52.3	29.16	60.2	60.0	-0.051	3,190,000
MEDIAN	62.1	29.54	63.0	60.0	-0.013	3,395,000

Note: ** - Some Delta Pressure values were outside of range restrictions

*** - Changeout of Lucas cells in radon sampling system.

DLS down for maintenance on 9/20/94 from 09:41 to 10:55 EDT.

DLS malfunction from 9/20 at 16:19 to 9/21 at 02:16 EDT.

Silo #1 and Silo #2 Relative Humidity was out of service from 9/15 to 9/30.

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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: SEPTEMBER 1994

REPORT GENERATED: 10/05/94

**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.
* 09/01/94	158000	711000	34100	127000	3320000	3670000	2910000	182000
09/02/94	172000	705000	13800	137000	3370000	3760000	2380000	287000
09/03/94	176000	717000	30400	144000	3420000	3720000	2940000	176000
09/04/94	345000	900000	57000	212000	3450000	3680000	3140000	117000
09/05/94	482000	1037000	901	304000	3500000	3590000	3230000	67800
** 09/06/94	177000	933000	300	248000	3370000	3540000	3140000	81200
09/07/94	440000	1073000	85400	316000	3300000	3480000	3140000	82400
09/08/94	542000	1070000	77500	358000	3280000	3430000	3030000	93200
09/09/94	492000	1048000	58900	341000	3250000	3450000	3050000	91100
09/10/94	462000	992000	71800	316000	3220000	3390000	2830000	87000
09/11/94	387000	949000	16800	285000	3220000	3370000	2870000	84400
09/12/94	517000	1020000	54800	374000	3260000	3390000	3100000	72200
09/13/94	552000	1044000	63900	314000	3310000	3450000	3080000	81200
09/14/94	584000	1040000	45300	308000	3320000	3520000	3010000	98600
09/15/94	678000	1121000	48900	349000	3430000	3700000	1660000	193000
09/16/94	882000	1128000	104000	282000	3600000	3760000	3340000	89500
09/17/94	582000	1187000	45300	372000	3650000	3760000	3430000	44900
09/18/94	131000	573000	20400	63100	3550000	3780000	3210000	139000
09/19/94	188000	485000	26800	123000	3680000	3810000	59900	305000
*** 09/20/94	137000	370000	6950	144000	3710000	3810000	3590000	52100
*** 09/21/94	217000	410000	17500	147000	3640000	3810000	3450000	86000
09/22/94	187000	422000	13900	131000	3670000	3810000	3430000	72100
09/23/94	186000	388000	21100	104000	3610000	3760000	3360000	68100
09/24/94	167000	375000	27500	98300	3560000	3670000	3270000	62200
09/25/94	166000	419000	16100	105000	3500000	3680000	2410000	167000
09/26/94	185000	432000	32500	109000	3540000	3700000	3170000	73400
09/27/94	50000	312000	9650	68700	3280000	3610000	2570000	194000
09/28/94	76000	285000	11800	67200	3190000	3470000	2570000	191000
09/29/94	73000	308000	13200	48200	3240000	3450000	2920000	88200
09/30/94	209000	448000	27500	147000	3250000	3410000	3100000	68400

Grab Samples of Headspace

Date	SILO 1 Concentration	SILO 2 Concentration
09/01/94	62,000	4,509,000
09/06/94	161,000	3,107,000
09/15/94	797,000	3,076,000
09/19/94	1,432,000	3,064,000
09/22/94	38,000	3,104,000
09/26/94	6,000	3,064,000
09/29/94	7,000	2,829,000

- Notes:
1. Continuous values reported to three significant digits, in pCi/L, to remain consistent with the calibration data.
 - * Changeout of Lucas cells in radon sampling system.
 - ** Changeout of Lucas cell in Silo 1 radon sampling system.
 - *** DLS out of service for maintenance activities, 9/20/94 (09:41 - 10:55 EDT).
DLS out of service due to malfunction, 9/20/94 (16:19) - 9/21/94 (02:16 EDT).

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

MONTH: SEPTEMBER
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Wiley Road, P. O. Box 388704
Cincinnati, Ohio 45238 Hamilton

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

Daily Averages:	K-65, NW (pCi/L)	K-65, SW (pCi/L)	K-65, NE (pCi/L)	K-65, SE (pCi/L)
09/01/94	0.5 (b)	1.1	0.7	0.6
09/02/94	1.0	2.2	2.3	2.1
09/03/94	1.5	2.4	2.6	2.0
09/04/94	1.7	3.3	3.9	3.1
09/05/94	2.6	2.0	1.8	1.1
09/06/94	1.1	1.4	2.8	1.0 (c)
09/07/94	1.8	2.2 (a)	5.1	0.9 (c)
09/08/94	1.7	2.2	6.4	3.2
09/09/94	1.8	2.1	6.7	2.7
09/10/94	1.8	2.1	4.9	2.7
09/11/94	1.7	2.4	3.0	2.1
09/12/94	2.1	2.8	6.0	3.3
09/13/94	2.1	2.6	6.5	4.0
09/14/94	2.1	2.8	7.5	3.4
09/15/94	2.6	2.8	7.1	3.4
09/16/94	1.9	2.4	6.5	3.0
09/17/94	1.4	2.0	4.2	2.7
09/18/94	1.1	1.7	1.6	1.5
09/19/94	1.9	2.5	3.8	3.6
09/20/94	2.2	2.8	6.6	4.0
09/21/94	3.0	3.2	11.2	5.9
09/22/94	2.4	2.9	6.7	4.8
09/23/94	2.4	2.6	2.7	2.0
09/24/94	1.7	2.1	1.9	1.6
09/25/94	2.0	2.8	6.7	3.8
09/26/94	2.0	2.2	2.6	1.7
09/27/94	0.9	1.2	2.1	0.8 (c)
09/28/94	0.7	1.3	2.1	(c)
09/29/94	1.7	2.3	4.2	1.4 (c)
09/30/94	2.2	2.5	4.6	3.6

Monthly Averages:	K-65, NW (pCi/L)	K-65, SW (pCi/L)	K-65, NE (pCi/L)	K-65, SE (pCi/L)
AVERAGE:	1.8	2.3	4.5	2.6
MAXIMUM:	3.0	3.3	11.2	5.9
MINIMUM:	0.5	1.1	0.7	0.6
MEDIAN:	1.8	2.3	4.2	2.7
STD. DEV.:	0.6	0.8	2.4	1.3

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 FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

PERIOD ENDING SEPTEMBER 30, 1994

ENCLOSURE D

EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER

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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 September 30, 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."

Also attached is the report for the Paddy's Run Road Site (PRRS) samples for the South Plume.

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

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Period Ending September 30, 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 - T108 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: AUGUST 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	0.215	***	***	<	1.0	0.0008	1.0	7.8	8.0
2	0.188	***	***	<	1.0	0.0007	1.8	7.9	8.4
3	0.231	***	***	<	1.0	0.0009	1.6	7.9	8.2
4	0.201	***	***	<	1.0	0.0008	2.8	7.8	8.0
5	0.217	***	***	<	1.0	0.0008	1.8	7.9	8.3
6	0.200	***	***	<	1.0	0.0008	1.0	8.2	8.5
7	0.225	***	***	<	1.0	0.0009	1.0	8.5	8.7
8	0.200	***	***	<	1.0	0.0008	1.4	8.7	9.2
9	0.215	***	***	<	1.0	0.0008	2.2	8.8	9.1
10	0.193	***	***	<	1.0	0.0007	1.6	8.2	8.6
11	0.212	***	***	<	1.0	0.0008	1.6	8.6	8.8
12	0.212	***	***	<	3.6	0.0029	2.6	8.8	8.9
13	0.179	***	***	<	1.0	0.0007	5.0	8.5	8.8
14	0.000								
15	0.077	***	***	<	1.0	0.0003	3.0	8.1	8.7
16	0.175	***	***	<	1.0	0.0007	2.0	8.7	9.2
17	0.208	***	***	<	1.0	0.0008	1.0	9.0	9.2
18	0.150	***	***	<	1.0	0.0008	1.2	8.7	9.2
19	0.000								
20	0.000								
21	0.000								
22	0.000								
23	0.075	***	***	<	1.0	0.0003	3.0	8.7	9.0
24	0.173	***	***	<	1.0	0.0007	1.2	8.4	8.8
25	0.169	***	***	<	1.0	0.0008	1.0	8.1	8.4
26	0.012	***	***	<	2.0	0.0001	3.0	8.1	8.3
27	0.000								
28	0.000								
29	0.000								
30	0.000								
31	0.000								
Total	3.727				0.0162				

*** 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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1]IAWWT - T108

DATE: AUGUST 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.120	***	***	1.2	0.0008
Max.	0.231	***	***	3.6	0.0029
Min.	0.012	***	***	1.0	0.0001

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**

6116

Period Ending September 30, 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 - T109 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: AUGUST 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	0.209	***	***	<	1.0	0.0008	1.0	7.8	8.0
2	0.196	***	***	<	1.0	0.0007	2.0	7.9	8.4
3	0.225	***	***	<	1.0	0.0009	1.6	7.9	8.2
4	0.202	***	***	<	1.0	0.0008	2.6	7.8	8.0
5	0.222	***	***	<	1.0	0.0008	2.0	7.9	8.3
6	0.205	***	***	<	1.2	0.0009	1.4	8.2	8.5
7	0.228	***	***	<	1.0	0.0009	2.4	8.5	8.7
8	0.214	***	***	<	1.0	0.0008	2.4	8.7	9.2
9	0.207	***	***		1.1	0.0009	2.0	8.8	9.1
10	0.212	***	***		1.1	0.0009	1.6	8.2	8.6
11	0.203	***	***		1.1	0.0008	2.2	8.6	8.8
12	0.197	***	***		1.0	0.0007	4.2	8.8	8.9
13	0.166	***	***		1.1	0.0007	8.0	8.5	8.8
14	0.000								
15	0.077	***	***		1.5	0.0004	4.0	8.1	8.7
16	0.167	***	***		1.5	0.0009	2.2	8.7	9.2
17	0.160	***	***		1.8	0.0011	1.6	9.0	9.2
18	0.150	***	***		1.4	0.0008	1.6	8.7	9.2
19	0.000								
20	0.000								
21	0.000								
22	0.000								
23	0.062	***	***		1.1	0.0003	3.6	8.7	9.0
24	0.143	***	***	<	1.0	0.0005	1.0	8.4	8.8
25	0.139	***	***		1.2	0.0006	1.0	8.1	8.4
26	0.010	***	***		2.8	0.0001	5.8	8.1	8.3
27	0.000								
28	0.000								
29	0.000								
30	0.000								
31	0.000								
Total	3.594					0.0154			

*** 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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T109

DATE: AUGUST 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.116	---	---	1.1	0.0007
Max.	0.228	---	---	2.8	0.0011
Min.	0.010	---	---	1.0	0.0001

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**

6116

Period Ending September 30, 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: [608]
SWRB Pump Station Discharge
Stormwater Retention Basin Effluent

DATE: AUGUST 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	1.157	203 <	99	0.25	1.09
2	1.743	216 <	99	0.32	2.11
3	1.005	221 <	99	0.31	1.18
4	0.403	171 <	99	0.17	0.26
5	0.439	131 <	95	0.20	0.33
6	0.405	180 <	95	0.24	0.37
7	0.453	189 <	95	0.22	0.38
8	0.414	113	108	0.21	0.33
9	0.422	167 <	95	0.26	0.42
10	0.405	180 <	95	0.30	1.98
11	0.415	315 <	95	0.30	1.14
12	0.409	266 <	90	0.33	0.50
13	0.345	243 <	90	0.34	0.56
14	0.000				
15	0.154	347 <	86	0.34	0.58
16	0.342	207	90	0.33	0.52
17	0.368	212	108	0.34	0.54
18	0.299	149 <	81	0.29	0.44
19	0.000				
20	0.000				
21	0.000				
22	0.000				
23	0.137	140 <	81	0.29	0.15
24	0.316	212 <	81	0.32	0.38
25	0.308	167 <	81	0.32	0.37
26	0.022	306	104	0.32	0.03
27	0.000				
28	0.192	302 <	86	0.21	0.15
29	1.870	131 <	86	0.20	1.42
30	1.948	149	99	0.21	1.55
31	1.854	86 <	86	0.20	1.40
	15.825				18.20

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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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (808) SWRB

DATE: AUGUST 1994

	<u>Flow (MGD)</u>	<u>Total Alpha(2) (pCi/l)</u>	<u>Total Beta(2) (pCi/l)</u>	<u>Total U (mg/l)(2)</u>	<u>Total U (kgs)</u>
Avg.	0.510	213	108	0.30	0.73
Max.	1.948	347	108	0.34	2.11
Min.	0.022	86	81	0.17	0.03

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 September 30, 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: [605]
Biodenitrification Tower
BDN Tower Effluent

DATE: AUGUST 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	0.128	811	901	1.60	0.78
2	0.130	721	946	1.60	0.79
3	0.128	721	946	1.50	0.72
4	0.112	14	149	0.03	0.01
5	0.096	18	135	0.04	0.01
6	0.101	27	189	0.07	0.03
7	0.097	18	176	0.02	0.01
8	0.097	198	721	0.42	0.15
9	0.100	189	631	0.32	0.12
10	0.086	36	338	0.09	0.03
11	0.075 <	9	275	0.02	0.01
12	0.082	14	387	0.03	0.01
13	0.068	14	401	0.04	0.01
14	0.073	14	261	0.01	0.00
15	0.068	27	347	0.07	0.02
16	0.070	14	302	0.02	0.00
17	0.068	14	266	0.03	0.01
18	0.070	86	541	0.14	0.04
19	0.064 <	9	392	0.01	0.00
20	0.065	9	405	0.01	0.00
21	0.066	23	495	0.04	0.01
22	0.054	27	631	0.09	0.02
23	0.067	18	631	0.04	0.01
24	0.066	23	631	0.04	0.01
25	0.064	27	766	0.07	0.02
26	0.066	18	811	0.03	0.01
27	0.064	9	856	0.02	0.00
28	0.060	18	856	0.07	0.02
29	0.110	212	1486	0.40	0.17
30	0.124	198	1261	0.44	0.21
31	0.123	243	1802	0.55	0.26
Total	2.660				3.46

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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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (605) BDN/WETS

DATE: AUGUST 1994

	<u>Flow (MGD)</u>	<u>Total Alpha(2) (pCi/l)</u>	<u>Total Beta(2) (pCi/l)</u>	<u>Total U (mg/l)(2)</u>	<u>Total U (kgs)</u>
Avg.	0.086	165	659	0.34	0.11
Max.	0.130	811	1802	1.60	0.79
Min.	0.054	9	135	0.01	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.

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

6116

Period Ending September 30, 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]
Biode-nitrification Tower
BDN Tower Effluent

DATE: AUGUST 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	3.00							
3		7	0.12	0.6 <	6.0 <	14.0 <	17.0 <	6.0
4								
5								
6								
7								
8								
9	2.72	4 <	0.10	17.0 <	6.0 <	14.0 <	17.0 <	6.0
10								
11								
12								
13								
14								
15		4	0.10	24.6 <	6.0 <	14.0 <	17.0 <	6.0
16	2.08							
17								
18								
19								
20								
21								
22								
23	2.08							
24								
25								
26								
27								
28		13 <	0.10	26.0	6.4 <	14.0 <	17.0 <	6.0
29								
30								
31	2.47							

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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 September 30, 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: [SP2]
Stormwater Retention Basin Emergency Bypass
SWRB Bypass Effluent

DATE: AUGUST 1994

Day	Flow (MGD)
1	0.733
2	1.359
3	0.549
4	0.000
5	0.000
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000
18	0.000
19	0.000
20	0.000
21	0.000
22	0.000
23	0.000
24	0.000
25	0.000
26	0.000
27	0.000
28	0.192
29	1.870
30	1.948
31	1.854
Total	8.505

(0.0000)

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

6116

Period Ending September 30, 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: AUGUST 1994

<u>Day</u>	<u>Flow (MGD)</u>	<u>Total U (ug/l)</u>	<u>Total U (kgs)</u>
1	2.290	5.4	0.05
2	2.152	4.7	0.04
3	2.170	4.2	0.03
4	2.341	5.2	0.05
5	2.189	2.9	0.02
6	2.190	3.7	0.03
7	2.241	1.9	0.02
8	2.325	4.5	0.04
9	2.327	3.9	0.03
10	1.831	4.7	0.03
11	1.918	5.9	0.04
12	2.236	6.3	0.05
13	2.284	6.5	0.06
14	2.191	7.8	0.06
15	2.116	6.1	0.05
16	2.136	5.2	0.04
17	2.213	5.2	0.04
18	2.250	6.3	0.05
19	1.925	6.3	0.05
20	2.229	7.2	0.06
21	2.179	3.5	0.03
22	2.196	4.8	0.04
23	2.149	4.8	0.04
24	2.587	6.1	0.06
25	1.765	6.4	0.04
26	2.154	• 4.1	0.03
27	2.191	• 4.3	0.04
28	2.281	• 4.3	0.04
29	1.574	• 4.3	0.03
30	1.842	• 4.3	0.03
31	2.387	• 4.3	0.04
Total	66.859		1.27

* No samples collected; monthly average used.

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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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: South Plume

DATE: AUGUST 1994

	<u>Flow (MGD)</u>	<u>Total U (ug/l)(2)</u>	<u>Total U (kgs)</u>
Avg.	2.157	5.0	0.04
Max.	2.587	7.8	0.06
Min.	1.574	1.9	0.02

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**

6116

Period Ending September 30, 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: [SP3]
Valve House
South Plume/Stormwater Retention Basin *

DATE: AUGUST 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	3.447	41 <	99	69	0.90		7.6
2	3.895	54 <	99	120	1.77		7.3
3	3.175	32 <	99	49	0.59		7.3
4	2.744 <	14 <	99	13	0.14	3.4	7.4
5	2.628 <	14 <	95	13	0.13		7.3
6	2.595 <	14 <	95	13	0.13		7.5
7	2.694 <	14 <	95	11	0.11		7.3
8	2.739 <	14 <	95	13	0.13		7.2
9	2.749 <	14 <	95	13	0.14		7.3
10	2.238	32 <	90	28	0.24		7.4
11	2.333 <	14 <	90	6	0.06	4.0	7.4
12	2.645 <	14 <	90	5	0.05		7.3
13	2.629	14 <	86	6	0.06		7.3
14	2.191 <	14 <	86	5	0.04		7.5
15	2.270 <	14 <	86	5	0.04		7.3
16	2.478 <	14 <	86	5	0.04		7.2
17	2.581	14 <	86	5	0.04		7.3
18	2.549 <	9 <	81	5	0.05	2.6	7.2
19	1.925 <	9 <	81	6	0.04		7.3
20	2.229 <	9 <	81	6	0.05		7.9
21	2.179 <	9 <	81	6	0.05		7.3
22	2.196 <	9 <	81	6	0.05		7.3
23	2.286 <	9 <	81	6	0.05		7.2
24	2.903 <	9 <	81	6	0.06		7.4
25	2.073 <	9 <	81	6	0.04	3.2	7.2
26	2.176 <	9 <	81	6	0.05		7.3
27	2.191 <	9 <	86	6	0.05		7.2
28	2.473 <	9 <	86	9	0.09		7.3
29	3.444	45	131	93	1.21		7.4
30	3.790	36	95	90	1.29		7.4
31	4.241	36 <	86	92	1.48		7.3
Total	82.684				9.15		

* Effective 3/11/94, the SWRB discharges were combined with the South Plume.

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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 September 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP3] Valve House

DATE: AUGUST 1994

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	2.667	20	91	29	0.30
Max.	4.241	54	131	120	1.77
Min.	1.925	9	81	5	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.

6116

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

Period Ending September 30, 1994

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 396705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP4]
Parshall Flume
Effluent Downstream of Manhole 176B

DATE: AUGUST 1994

<u>Day</u>	<u>DO (mg/l)</u>	<u>IRON (mg/l)</u>	<u>MANGANESE (mg/l)</u>
1			
2			
3			
4	5.9	0.84	0.2
5			
6			
7			
8			
9			
10			
11	9.1	0.64	0.2
12			
13			
14			
15			
16			
17			
18	8.4	0.47	0.2
19			
20			
21			
22			
23			
24			
25	9.0	0.98	0.2
26			
27			
28			
29			
30			
31			

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EFFLUENT REPORT 1994

Fernald Environmental Management Project
 U.S. Department of Energy
 7400 Willey Road, P.O. Box 538705
 Cincinnati, Ohio 45253-8705
 9002 M 9501 900212

Paddy's Run Road Site

Quarterly Grab Samples

Monitoring Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units
Benzene	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
Ethylbenzene	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
Toluene	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
Xylenes	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
1,1,1-Trichloroethane	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
1,1-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
1,2-Dichloroethane	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	mg/l
Arsenic	2.2 A	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/l
Potassium	3030 B	2886	2886	2886	2842	2842	2842	2842	2842	2842	2842	2842	ug/l
Sodium	13400	NA	NA	NA	14090	14090	14090	14090	14090	14090	14090	14090	ug/l
Phosphates	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/l
Sulfates	61.5	64.0	64.0	64.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	mg/l

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Data for January and March reported using SW-846 requirements. All others reported using CLP requirements.

NA = Not available.

A = Reported value is less than the CRDL but greater than the IDL. Post digestion spike for furnace AA analysis is out of control limits (65-125%) while sample absorbance is less than 50% of spike absorbance. Spiked sample recovery not within control limits.

B = Reported value is less than the CRDL but greater than the IDL.

NA = Data not available. Analysis not run; sample has been discarded