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**DOE-FN/EPA
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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 March 31, 1994

Introduction

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

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WORK ASSIGNMENTS AND PROGRESS

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

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

CA Section IX. Removal Actions

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

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REMOVAL ACTION SUMMARY

NO.	TITLE	SCOPE	STATUS
Phase I			
1	Contaminated Water Under FEMP Buildings	Pump water from piezometers and extraction wells underneath Plants 2/3, 6, 8, and 9. Treat extracted water for volatile organic chemicals and uranium removal before discharge.	Ongoing
2	Waste Pit Area Run-off Control	Collect and treat contaminated storm water run-off from the waste pit area.	Construction Completed: 6/15/92 Operational: 7/30/92
3	South Groundwater Contamination Plume	Part 1 - Install new alternate water supply and transfer to industrial user.	Operational: 12/7/92
		Part 2 - Pump and discharge groundwater from South Plume.	Transfer: Ongoing Ongoing
		Part 3 - Install and operate Interim Advanced Waste Water Treatment system to reduce uranium contaminant loading to the Great Miami River.	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
4	Silos 1 & 2	Install bentonite cap to reduce and monitor radon emissions. Provide follow-on monitoring.	Cap Completed 11/28/91 Monitoring Ongoing
5	Decant Sump Tank	Periodically remove liquid from K-65 decant sump tank.	Ongoing
6	Waste Pit 6 Residues	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed 12/19/90

Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
7	Plant 1 Pad Continuing Release	Stage I - Implement run-on/off control measures. Stage II - Install new pad. Stage III - Upgrade existing Plant 1 Storage Pad.	Completed 1/17/92 Completed 12/4/92 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. Phase II - Complete active flyash pile controls.	Completed 6/29/92 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.	Project work was stopped
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. Phase II - Disposition copper scrap metal.	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
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.	Final Report Approved by U.S. EPA 3/31/94 at TIE Meeting

* Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
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	Final Report Approved by U.S. EPA 3/31/94 at TIE Meeting
23	Inactive Flyash Pile	Conduct field investigation to identify locations requiring material removal.	Final Report Submitted to U.S. EPA 6/30/92
24	Pilot Plant Sump	Remove liquid and sludge from the sump	U.S. EPA Approved Final Report 1/14/94
25	Nitric Acid Tank Car and Surrounding Area	Remove residual contents from tank car and decontaminate and dispose of tank car	U.S. EPA Approved Final Report 12/9/93
26	Asbestos Removals (Asbestos Program)	Mitigate the potential for contaminant release 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

* Shading denotes completed actions

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Removal Actions

RA No. 1, Contaminated Water Under FEMP Buildings

Current Month:

Due to freeze damage to the VOC Treatment System, maintenance and corrective measures were implemented during February and March to return the system to operation. Procurement of the electronic flow meter is scheduled for April 22, 1994 and procurement for replacement cartridge filters is scheduled for May 6, 1994. With acute operator attention, the system can be operated without a flow meter and with the available cartridge filters for a period of time. Plans are to restart the system by April 15, 1994, assuming leak checks and other major functional checkouts (pumps and instrumentation) are acceptable.

Planned Activities:

- Reestablish operation of the VOC Treatment System and restart perched water pumping.

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) is ongoing. The U.S. EPA and Ohio EPA approved deleting Delta Steel from the current scope of the project, with agreement that they would be served by a planned Public Water Supply (PWS). Progress on the PWS continues with some delays being encountered to address archeological and historical items.

Planned Activities:

- Continue the transfer of ownership of the Alternate Water Supply to A&W.
- Continue to support Hamilton County on installation of the PWS.

Part 2 - Pumping and Discharge System

Current Month:

The capture zone evaluation for the well field continues to suggest that arsenic concentrations in the monitoring wells south of the recovery wells are returning to prepumping levels.

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

Part 2 - Pumping and Discharge System (Continued)

Planned Activities:

- Continue operating extraction well field at a rate of 1500 gallons per minute (gpm).
- Data collected during the first quarter of the recovery well field operation will be compiled and submitted to the U.S. EPA and Ohio EPA in April 1994. This quarterly report will meet the first reporting requirement defined in the Design, Monitoring and Evaluation Program (DMEPP).

Part 3 - Interim Advanced Waste Water Treatment

IAWWT Storm Water Retention Basin Unit

Current Month:

The unit continued to use cartridge filter elements excessively during operation and the FEMP has had problems keeping them in stock. Accordingly, a multimedia filtration unit was installed upstream of the ion exchange units. The filtration unit was placed in operation on March 31, 1994.

Planned Activities:

- Operate IAWWT (SWRB) with less downtime due to improved filtration.

IAWWT Bionitrification Effluent Treatment System Unit

Current Month:

Repairs to the treatment system were completed and resin replaced in the ion exchangers the week of March 21. The system was placed in operation on March 24 treating approximately 50 gpm discharge from the BDN facility.

Planned Activities:

- Operate the system as needed to treat BDN effluent.

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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 two homeowner systems installed south of the FEMP continue to operate successfully. The FEMP is continuing to monitor the effectiveness of the ion exchange resins at these two residences. Trending analysis in collected data indicate the changeout of the resin in the lead columns will be required during 1994. A procedure for resin vessel changeout has been prepared for review and approval.

Planned Activities:

- Approve resin vessel changeout procedure and continue to monitor performance.

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

Step 1

Current Month:

The new IAWWT unit referred to as the South Plume Interim Treatment (SPIT) project was completed and placed in operation on March 31, 1994.

Planned Activities:

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

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 requires treatment. 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.

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

Step 2 (Continued)

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:

Changes have been made to the AWWT project scope to eliminate scheduled improvements which would have specifically addressed the Sewage Treatment Plant and clean-side General Sump flows. Plans are underway to expedite installation of the 20-inch line that will eventually serve a future AWWT system, Phase III. This will allow South Plume groundwater to be transferred to the AWWT Phase II system to meet this commitment.

Planned Activities:

- Begin installation of the AWWT Phase III line.

Step 4

Current Month:

No action has been taken to-date to extend 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.

Planned Activities:

- The conversion of the IAWWT SWRB unit will occur after currently treated waste stream is routed to AWWT Phase I in January 1995. Conversion will be accomplished by March 30, 1995.

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Removal Actions

RA No. 4, Silos 1 and 2

Current Month:

The results of the video camera investigation of the Silo 2 bentonite cap (due to a slight upward trend in headspace radon concentration) were compared against baseline videos of the bentonite surface taken immediately following its installation. Overall, the bentonite cap integrity is in very good condition. The Removal Action No. 4 Final Report was issued to DOE-FN on March 25, 1994.

Planned Activities:

- Awaiting internal DOE comments on the Final Report for Removal Action No. 4, comments are due by April 15, 1994.

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, DOE is proceeding to install a submersible pressure indicator/transmitter in the tank. The new water level indicator equipment will allow for accurate, continuous, and remote level readings from the tank.

Planned Activities:

- The action to install the new water level indicator is expected to be completed by the end of May 1994.

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RA No. 7, Plant 1 Pad Continuing Release

Current Month:

All concrete slab work for Phases C and D and Tension Support Structure (TSS) #6 was completed. All electrical lighting and controls was completed on Phases C, D and TSS#6.

Planned Activities:

- Resume coating operation; coating operation of Phases C, D, and TSS#6 is to be completed by May 1, 1994.

KEY MILESTONES	STATUS	DUE DATE
Complete Installation of Stage III and Tension Support Structure	Open, ahead of schedule	February 21, 1995

RA No. 9, Removal of Waste Inventories

Current Month:

The volume of waste shipped off-site in March was 6,524 DEs for a total of 29,703 DEs shipped to the NTS in FY-94. This volume includes 5,992 drums of residues removed from inventory and shipped to date.

A project team focused on legacy construction waste has characterized and approved for shipment 45 white metal boxes (WMB) (~4,500 DEs). This project is tasked with the characterization of 10 WMBs per week.

DOE-NV approval of the revised FEMP Application to Ship Waste to the Nevada Test Site, Rev. 5.1, and approval of the final confirmatory sampling results for FEMP residues was received in March. The official application approval from DOE-NV which will release the AMCCOM metal for shipment to the Nevada Test Site is expected in April.

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Removal Actions

RA No. 9, Removal of Waste Inventories (Continued)

Planned Activities:

- DOE-NV approval of the FEMP waste application.
- April shipping activities will include the resumption of contaminated trash shipments, initiation of AMCCOM shipments, and initiation of thorium shipments may be possible. April activities will also include the resumption of residue shipments to SEG. Shipments are planned to begin April 1994 and continue through June 1994. A one month delay was caused by the extreme cold weather freezing the water in drums to be compacted. The compactor will not effectively remove the ice (free liquid) without first thawing the drums. The one month delay will allow the drums to thaw before shipments resume.

KEY MILESTONES	STATUS	DUE DATE
Submit Annual Work Procedures for 1994	Open, on schedule	June 30, 1994

RA No. 12, Safe Shutdown

Current Month:

The first of three Implementation Plans for the removal of hold-up materials from equipment in Plant 4 is nearing completion. Those three plans were for the KOH System, HF Recovery System, and H₂ off-gas system. The KOH system has been completed except for an area that contained frozen liquid, a Safety Assessment is in progress for the HF Recovery System, and the plan for clean-out of the H₂ off-gas system should be initiated in April.

The verification of process equipment located in Plant 5 and the Pilot Plant was completed. The verification of the process equipment in Plant 6 began. The red-lining of as-built floor plan drawings to agree with equipment verification in Plants 5, 6, and the Pilot Plant continued.

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Removal Actions

RA No. 12, Safe Shutdown

Current Month (Continued):

The following is the status of capital equipment: of an estimated 1,687 total number of items, 1,157 have reported on AC-563 Forms to be excessed, and 530 have been identified as "In Use/Future Use" items. This information may vary from month-to-month due to change in status of equipment items and/or as a result of field verification.

Seven hundred and ninety-nine (799) maintenance work orders to isolate and disconnect all utilities/energy sources from equipment not in use have been prepared. Of these, 437 have been completed. Field verification of the completed orders is ongoing. Completion of these work orders is a preliminary step for removal of hold-up material from the equipment in preparation for equipment removal and decontamination and decommissioning. These numbers may vary from month-to-month due to change in status of the equipment.

Three-hundred ninety-eight (398) task orders to identify if hold-up material is present in equipment have been prepared; of these, 108 have been completed. Also, one hundred five (105) task orders to remove the hold-up material from equipment have been prepared.

Work continues with Westinghouse Hanford Company, DOE-Richland, and DOE Headquarters in finalizing the "Environmental Assessment (EA) for the Packaging/Repackaging, Loading, and Transportation Associated with the Sale of Uranium Materials Located at the Hanford Site, Richland, Washington, and the Fernald Site, Fernald, Ohio." Presently, the preparation of this NEPA document is on hold awaiting details of the type of packaging to be used by COGEMA, the French Company which is purchasing a major portion of the material being sold.

The third truckload of 102 derbies was shipped on March 30, 1994, to Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee. This brings the total shipped against this order to 302 derbies, or 112,118 net pounds.

British Nuclear Fuels was the successful bidder for 350,000 net pounds (120 metric tons uranium weight) of depleted UF₄. Safe Shutdown is in the process of developing a shipping plan that will explain all of the packaging and transportation costs that BNFL will incur. Once that plan is agreed upon, then BNFL will sign the contract for the materials. A final draft of the plan was released for review on March 16, 1994, and comments are being addressed. Removal of the material from the FEMP is projected to be complete by the end of calendar year 1994, provided the contract is signed in a timely manner.

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RA No. 12, Safe Shutdown

Current Month (Continued):

Eleven (11) pieces of new, excess equipment have been removed from Plant 5 and have been transferred to the U.S. Army. The equipment was shipped to Aerojet Ordnance, Jonesboro, Tennessee, an Army contractor, on March 15, 1994. The equipment was never used and has a book value of \$1.6 million. Approximately \$800 would have been received for this equipment if it had been sold as scrap metal. However, due to the strict radiological controls maintained on-site, this equipment may have required burial, which would have cost approximately \$100,000 for packaging, transporting, and burial at the Nevada Test Site. The U.S. Army will install the equipment at Aerojet Ordnance where it will be utilized for its designed purpose. This is a cost avoidance of approximately \$1.8 million to the U.S. Government and taxpayers.

Field activities were completed for the north and south solvent tanks on March 31, 1994, for clean closure. Also, during March, field activities were initiated for Hazardous Waste Management Units T-5 and T-6 tanks.

Planned Activities:

- Continue preparation, with Hanford and the DOE, of the NEPA documentation for the sale of the excess uranium materials.
- 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 isolation, identify hold-up in equipment, and remove/drum hold-up from process equipment.
- Complete the verification of equipment in Plant 6 during April and initiate verification of the equipment in the Refinery.
- Continue to prepare implementation packages and obtain appropriate approvals. Continue field inspections of implementation activities.
- Continue to follow the status of 4A metal removal to the Nevada Test Site.

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RA No. 12, Safe Shutdown

Planned Activities (Continued):

KEY MILESTONES	STATUS	DUE DATE
Submit Annual Work Procedures for 1994	Open, ahead of schedule	June 30, 1994

RA No. 13, Plant 1 Ore Silos

Current Month:

DOE-FN concurred with the FERMCO decision to utilize Wise Construction to complete the dismantlement of the ore silos. Wise mobilized on March 4. An alternate method of dismantling the tile silos has been verbally approved by DOE. PARSONS was directed to begin the design work on the proposed method, which involves knocking the tile into the silo's cone, then into a chute where they are directed to a 7a box. The DOE is in the process of obtaining the U.S. EPA's approval on the new method.

Planned Activities:

- Obtain EPA concurrence on alternate method for dismantling silos.
- April activities include dismantling the remaining four concrete silos.
- PARSONS is to complete 90% design on the new concept.
- The tiles on the southwest silos are to be repaired.

KEY MILESTONES	STATUS	DUE DATE
Complete Removal Action	Estimated completion date November 1994	December 19, 1994

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

Current Month:

March activities included removal of any remaining soil that was excavated from Zone 4. The soil was stockpiled per criteria contained in RA #17 and the stockpiled area was fine graded. A walkover survey of Zone 4 was performed in March. An addendum to the sampling plan was written to include the area of Zone 4 for verification sampling. A letter is being drafted to address the Thorium and Radium issues within the Sewage Treatment Plant controlled area.

Planned Activities:

- Scheduled April activities include completion of verification soil sampling in and around Zones 1, 2, and 4. Once the verification soil sampling is complete and the results returned, we will be able to determine if all of the contamination has been removed to below the action levels.
- Draft letter addressing Thorium and Radium will be issued in final form in the month of April.

KEY MILESTONES	STATUS	DUE DATE
Phase IV - Completion of off-property and on-property excavations	Completed	February 25, 1994
Phase V - Submittal of Final Report	Open	September 26, 1994

RA No. 15, Scrap Metal Piles

Current Month:

Phase I completion of metal melting was accomplished on March 27, 1994. Phase I FERMCO confirmatory sampling of SEG slag and oxides took place the week of March 28. The Phase II Technical Evaluation and Pre-award Audit were performed the week of March 21, 1994.

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RA No. 15, Scrap Metal Piles (Continued)

Planned Activities:

- Phase I slag/oxides analysis by April 15, 1994, data validation by April 22, initiate SEG slag/oxides compaction and overpacking April 25, 1994, waste certification/DOE-NV audit April 27/28, 1994.
- Phase II Technical Evaluation Cost Proposal to Acquisitions by April 15, 1994.
- The Phase II subcontractor's Removal Action Project Plan is expected 30 days after Notice-to-Proceed.

KEY MILESTONES	STATUS	DUE DATE
Complete Phase I	Completed	March 27, 1994
Phase I - Submit Final Report	Open, ahead of schedule	September 30, 1994
Phase IIB: Submittal of Subcontractor's Removal Action 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:

March activities included continued preparation of the bid package for the Certified-for-Construction (CFC) design package that merged the designs for the Decontamination Facility Pad (DFP) facility (originally part of Phase II design) and the design package for the Central Storage Facility (CSF), Scrap Metal Pad (SMP) structure, and associated facilities (Phase I). Direction was also provided to the Architectural Engineer (AE) to commence with Title II design for the regrading and placement of a vegetative cover over the existing soil and rubble pile north of Third Street. Sampling was completed on March 24, of residues/debris left from the scrap metal previously stored on the SMP.

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Removal Actions

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

Planned Activities:

- A/E subcontractor to begin Title II design of the regrading and seeding plan that was approved to be utilized for the existing Third Street soil and rubble pile in early April.
- Removal and containerization of the remaining debris/residue in the SMP area planned for April prior to actual construction activities for the SMP structure.
- Preparation of the bid package for the CFC "merged" design package for subsequent transmittal to qualified bidders will continue since different site conditions.

RA No. 19, Plant 7 Dismantling

Current Month:

The first phase of the large-scale interior removal work began on March 9, 1994 on the seventh floor. Interior transite removal began in the penthouse on March 23, 1994. The application of lockdown paint to the interior surface of the exterior transite began the end of the month. Additionally, all subcontractor submittals have been received.

Planned Activities:

- Review and approve subcontractor submittals.
- Interior removal work, removal of interior transite and batt insulation, and the application of lock-down paint will continue.

RA No. 20, Stabilization of UNH Inventories

Current Month:

On March 28, 1994, Parsons Engineering issued the CFC drawings and specifications for the UNH Project. Construction of the new UNH transfer pipe also started on March 28, 1994. During the month of March samples from the UNH tanks were taken and sent to the lab for analysis.

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Removal Actions

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

Planned Activities:

- Review and update UNH neutralization project schedule and cost.
- Continue lab analysis of UNH tank samples.
- Continuation of bench-scale testing of the UNH will be performed at the FERMCO on-site laboratory facility to determine the process chemistry.

RA No. 26, Asbestos Removals (Asbestos Program)

Current Month:

Ongoing abatements within the Asbestos Program to-date include small-scale in-situ repairs, encasement, encapsulation, and removals, and the initiation of large-scale asbestos abatement within Plant 7. The Project Implementation Plan was completed on March 23, 1994.

Planned Activities:

- Start design on several thermal system insulation (TSI) removal projects. Received change proposal approval for \$1.025 million to fund this activity.

RA No. 28, Contamination at the Fire Training Facility

Current Month:

Internal comments on the revised Removal Action Work Plan/Closure Plan Information and Data Package (RAWP/CPID) were resolved and the final RAWP/CPID was resubmitted to the EPAs on February 10, 1994.

Planned Activities:

- Sediments and surface water sampling was delayed and is currently scheduled for mid-April. The delay was due to a longer than expected time to finalize the Data Quality Objectives and secure the lab contracts. After sampling results are in, the design will be finalized.

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Removal Actions

RA No. 29, Erosion Control at Inactive Flyash Pile

Current Month:

The final report on this removal action was in final review by DOE.

Planned Activities:

- DOE to complete review of final report.

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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:

Completed revision and comment incorporation of the OU 1 Draft Final Remedial Investigation/Baseline Risk Assessment. In agreement with provisions of the Amended Consent Agreement, the document was submitted to the U.S. EPA and Ohio EPA on Friday, February 4, 1994. Conditional approval of the OU 1 RI Report was verbally received at the March 31, 1994 Project Managers meeting in Chicago.

Issues/Corrective Actions:

None to report.

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1.2 Remedial Investigation (Continued)

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

1.3 Feasibility Study/Proposed Plan

Status:

The Draft OU 1 Feasibility Study/Proposed Plan (FS/PP) was submitted to U.S. EPA and Ohio EPA on March 4, 1994. Review of the OU 1 FS by EPA continues.

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	05/06/94 C	06/04/94 C

C = Consent Agreement Date A = Actual

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Remedial Investigations/Feasibility Studies

1.4 Treatability Studies

The OU 1 treatability studies have evaluated several treatment process options identified in the OU 1 Initial Screening of Alternatives document, including cement stabilization, vitrification, thermal treatment, and agglomeration. The FEMP evaluated the technical feasibility of these technologies through a series of laboratory experiments.

Where appropriate, the FEMP investigated performance criteria, including formulation ranges, compressive strength, leachability, bulking factor, and permeability. Cement stabilization binding agents, including portland cement, flyash, blast furnace slag, and sodium silicate, were evaluated. Glass formers and modifiers considered for vitrification were flyash, soil, and sodium hydroxide.

The FEMP is considering several thermal treatment methods, including: flash drying, rotary drying, and microwave drying. The FEMP has performed laboratory thermal treatment studies. The FEMP has also tested agglomeration of dried particles to reduce dusting. Polymer encapsulation was studied using several types of low density polyethylene.

Status:

Remedy Screening/Remedy Selection Treatability Studies in support of the OU 1 Remedial Investigation/Feasibility Study are complete. OU 1 treatability studies to support remedy design will be developed as needed based on the Proposed Plan and Record of Decision.

Issues/Corrective Actions:

None to report.

1.5 Planned Activities for April 1994

- Receive U.S. EPA and Ohio EPA conditional approval and comments on the draft OU 1 Final Remedial Investigation (RI)/Baseline Risk Assessment and begin revision of the final document.
- Begin compiling information for OU 1 Draft Record of Decision (ROD) due for internal DOE review by April 29, 1994.

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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:

Second round of groundwater sampling was completed in December 1993 on 61 monitoring wells and data from the wells is being validated and entered into the data base.

Issues/Corrective Actions:

None to report.

2.2 Remedial Investigation

Status:

The CRU2 Revised Draft RI Report is under review by the EPA. EPA comments are due by April 15, 1994.

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Remedial Investigations/Feasibility Studies

2.2 Remedial Investigation (Continued)

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	04/15/94 C	05/13/94 C

C = Consent Agreement Date

2.3 Feasibility Study/Proposed Plan

Status:

DOE Comments to the Feasibility Study were incorporated and the revised draft was submitted to DOE on March 25, 1994.

Issues/Corrective Actions:

Continue evaluation of the revised Remedial Investigation results and acceleration of the RI schedule.

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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	06/27/94 C	07/25/94 C

C = Consent Agreement Date

2.4 Treatability Studies

Status:

None to report.

Issues/Corrective Actions:

None to report.

2.5 Planned Activities for April 1994

- Complete analysis of geotechnical samples from the Solid Waste Landfill and the proposed OU 2 disposal cell.
- Continue engineering support work for the Solid Waste Landfill.
- Awaiting comments from EPA on the Revised Draft RI Report, comments are due April 15, 1994.

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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:

Twenty Field Work Packages (FWPs) were completed, approved, and distributed in March, 1994 with the sampling identified therein, encompassing a large extent of the samples anticipated to be taken in the next couple months of OU 3 RI/FS sampling.

Issues/Corrective Actions:

None to report.

3.1.1 Field Investigations

Status:

Field screening for chemical and metals contamination continued throughout March 1994 using two field portable X-Ray fluorescence analyzers, a field portable gas chromatograph and photo-ionization detectors. Chemical screening was performed to support selection of intrusive media locations on the Plant 1 Pad, Pilot Plant Ammonia Tank Farm, Railroad Scale House, Trailer Substation #1, Building 39A Pad, and the Drum Reconditioning Building.

Intrusive media sampling was initiated in the Electrical Power Center Building, Plant 9 Warehouse, Slag Recycling Pit, Plant 1 Pad, Pilot Plant Shelter, Pilot Pit Dissociator Shelter, and the Plant 8 Maintenance Building. Intrusive media sampling continued in the Main Maintenance Building, Ore Refinery Plant, Pilot Plant Wet Side, Boiler Plant Maintenance Building, Preparation Plant, Green Salt Plant, Pilot Plant Annex, Sewage Treatment Incinerator Building, and the Digester Control Building. A total of 146 intrusive samples were collected in March 1994.

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Remedial Investigations/Feasibility Studies

3.1.1 Field Investigations

Status (Continued):

All of the solid samples for Task Order 1, 2, and 3 against the Radioanalytical Laboratory Services Task Order Subcontract have been shipped to Datachem Laboratories. Some liquid samples remain to be shipped, and may not be shipped until April 1994, due to lack of proper shipping containers. Bids have been received on Task Order 4, but award is not expected until April 1994 due to issues regarding the bidding and the laboratories which submitted bids.

Issues/Corrective Actions:

As indicated above, bids have been received on Task Order 4 against the Radioanalytical Laboratory Services Task Order Subcontract. Of the two bids which were received, however, the low bidder has not yet been SCQ-approved. If this laboratory cannot be SCQ approved, then approval of award to the remaining laboratory which bid, would need to be reviewed and approved by DOE, since this laboratory was the high bidder.

3.2 Remedial Investigation

OPERABLE UNIT 3 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 3 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	03/13/96 C	05/12/96 C	06/11/96 C

C = Consent Agreement Date

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Remedial Investigations/Feasibility Studies

3.2 Remedial Investigation (continued)

Status:

Formal development of the RI has begun in the form of report planning, RI Report layout, Baseline Risk Assessment Report layout, non-data dependent background information collection/integration, and Baseline Risk Assessment approach and scenario development. Data management procedures have been implemented to track and manipulate field characterization data. As of March 25, 1994, approximately 50% of the chemical field characterization analytical data and 0% of the radiological field characterization analytical data have been received from the laboratories. Approximately 31% of planned data to be collected has been validated.

Issues/Corrective Actions:

None to report.

3.3 Feasibility Study/Proposed Plan

Status:

OU 3 has not begun formal activities on the Feasibility Study, although alternatives research, initial screening, and document layout planning have been initiated. As a result of the development of a Proposed Plan for Interim Action, the Feasibility Study will not address initial decontamination or dismantling, but will focus on treatment and disposition issues, which remain the scope of the final action and final Record Of Decision.

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	08/07/96 C	11/05/96 C

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3.3 Feasibility Study/Proposed Plan (continued)

Issues/Corrective Actions:

None to report.

3.4 Treatability Studies

Status:

The FEMP will conduct remedy screening treatability studies in parallel with the field investigation and alternatives development. OU 3 has developed a Treatability Study Work Plan (TSWP) to include initially-identified studies to be performed. Current actions involve planning the initial studies. The Work Plan was transmitted to U.S. EPA December 22, 1993, ahead of the scheduled January 15, 1994 due date. Comments were received from the OEPA in January and U.S EPA Conditional Approval was received in February. Comment-responses were prepared and the document was resubmitted to DOE on March 11, 1994. Additional tests will be planned and submitted as addenda to the Treatability Study Work Plan, once identified and detailed.

Issues/Corrective Actions:

None to report.

3.5 Interim Action - Record of Decision

The Interim Action Record of Decision (IROD) will document the preferred alternative from the Proposed Plan/Environmental Assessment for Interim Action (PP/EA), as amended through public comment. The IROD draft will be submitted for U.S. EPA review and approval April 11, 1994, and once approved, will form the basis for completing the decontamination and dismantlement action for OU 3 components.

Status:

The public comment period for the PP/EA closed February 8, 1994. Comments received indicated general support for the preferred alternative with several issues requiring either further explanation, future commitment, or modification to the selected remedy. A Draft Interim ROD with a draft responsiveness summary have been prepared for review by DOE-HQ.

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3.5 Interim Action - Record of Decision (continued)

Issues/Corrective Actions:

None to report.

3.6 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:

A draft of the RD/RA Work Plan for the Interim Action was distributed March 14, 1994 for DOE-FN review, one day ahead of the scheduled commitment date. In addition to the 12 copies provided to DOE-FN for their review, another 57 copies were distributed to various FERMCO organizations and others. This version of the Work Plan reflected incorporation of numerous comments received from various organizations on-site (e.g., Legal, Regulatory, Construction, Engineering, QA, QC, etc.), as well as technical support from Haliburton NUS, and external editorial support.

Issues/Corrective Actions:

None to report.

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3.7 Planned Activities for April 1994

- Transmit RFPs for OU 3 vitrification and asbestos fiber destruction treatability studies to potential treatability vendors for proposal.
- Submit the Draft Interim Action Record of Decision (Irod) and Responsiveness Summary to U.S. EPA for review by April 11, 1994.
- Comments are due from DOE-FN by April 14 on the Draft RD/RA Work Plan for Interim Action. Efforts will then commence by FERMCO to incorporate those comments in the Work Plan for subsequent submittal to DOE-HQ in May 1994.
- Continue efforts to complete the shipment of samples under the first three task orders against the Radioanalytical Laboratory Services Task Order Subcontract.
- Continue efforts to support the placement of the fourth task order in April 1994, with possible shipment of samples for radioanalytical analysis beginning in April 1994.
- Continue writing Field Work Packages (FWPs). It is anticipated that about 15 - 20 FWPs will be reviewed and approved in April 1994.

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4.0 Operable Unit 4

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

4.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

4.2 Remedial Investigation

Status:

The OU 4 Remedial Investigation Final Report was transmitted to the U.S. EPA on October 29, 1993. Ohio EPA approved the document on November 23, 1993. DOE received comments on the Baseline Risk Assessment portion of this report from the U.S. EPA Region V. Revisions to the OU 4 Remedial Investigation Final Report were issued during February 1994.

Issues/Corrective Actions:

None to report.

4.3 Feasibility Study/Proposed Plan

Status:

Ohio EPA comments on the Draft Final OU 4 Feasibility Study/Proposed Plan were received on January 25, 1994. U.S. EPA comments on the Draft Final OU 4 Feasibility Study Report were received on January 31, 1994. The report was revised to incorporate the comments and the Final Feasibility Study Report for OU 4 was submitted to U.S. and OEPAs on February 22, 1994.

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4.3 Feasibility Study/Proposed Plan

Status (Continued):

The formal public review period began on March 7, 1994 for the Operable Unit 4 Feasibility Study Report and Proposed Plan documents. The public comment period will last until April 20, 1994. All comments received will be addressed in the responsiveness summary and attached to the Proposed Draft Record of Decision for Operable Unit 4.

Issues/Corrective Actions:

None to report.

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

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.

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4.5 Record of Decision

Status:

A proposed draft Record of Decision (ROD) for OU 4 was completed on December 14, 1993. This proposed draft ROD is based on the Final Feasibility Study and Proposed Plan issued to the U.S. EPA and Ohio EPA on February 22, 1994. The proposed draft ROD was revised to reflect the additional comments received on the FS/PP and submitted to the DOE for review on February 25, 1994.

DOE-HQ comments on the proposed draft Record of Decision (ROD) for OU 4 were received on March 29, 1994. The comment responses are being prepared and incorporated into the Proposed Draft Record of Decision for OU 4. The revised Proposed Draft Record of Decision for OU 4 will be submitted to DOE-HQ on or before April 15, 1994.

4.6 Planned Activities for April 1994

- Revise the Proposed Draft Record of Decision based on the DOE comments
- Conclude public review period for the Feasibility Study Report and Proposed Plan for Remedial Action at OU 4 on April 20, 1994
- Prepare Draft Responsiveness Summary on the comments received from the public review of the Feasibility Study Report and the Proposed Plan for Operable Unit 4.

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5.0 Operable Unit 5

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

5.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

5.1.1 RI Field Investigation

Status:

FERMCO is awaiting DOE approval on the Removal Site Evaluation (RSE) for removal of Well 2561 which is located at the southern end of Paddys Run. The field work will follow approval of the RSE.

Comments from the U.S. EPA on the Surface Water Flow and Infiltration Summary Report have been received. The groundwater modeling team will present responses to comments in a Technical Information Exchange meeting scheduled for April 26.

Issues/Corrective Actions:

None to report.

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5.2 Remedial Investigation

Status:

Since submittal of the draft RI Report to DOE on February 25, evaluation of the final database was completed and data from the following sources were incorporated: Characterization Investigation Study (CIS), underground storage tank studies, Resource Conservation and Recovery Act (RCRA) closure and historical activities, the Litigation Study, and the Paddys Run Road Site (PRRS) remedial investigation. Existing maps and cross sections are being updated with this additional information. New geologic figures are being generated using the Geographic Information System to perform block modeling.

Preliminary presentations on the contents of the RI Report were made to the U.S. EPA and Ohio EPA on March 14 and 21. Over 40 draft maps depicting various contaminant concentrations in soil and groundwater were discussed and provided.

Remaining verification, quality control, and formatting of the validated database in support of the RI are continuing. The estimated completion date has been revised from mid-March to the first week of April, at which time the data will be available for use, including the fate and transport modeling activities.

A letter documenting the resolution of U.S. EPA comments on the Screening Level Ecological Risk Assessment (SLERA) is being prepared and will be sent to the U.S. EPA in April. Once approved, the DOE will not revise the SLERA; however, the comment responses must be incorporated into the Site-Wide Ecological Risk Assessment which will be included in the OU 5 RI Report.

Statistics will be compiled for all radiological, inorganic, organic and field data (including data collected during the 1993 Summer Sampling Program) needed to support the "Characterization of Background Water Quality for Streams and Groundwater" report. The text will be revised to reflect the updated data and incorporation of the DOE's responses to U.S. EPA's comments on the May 1993 draft of the report. The report is scheduled to be available in May 1994.

Issues/Corrective Actions:

None to report.

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5.2 Remedial Investigation (Continued)

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	08/23/94 C	09/22/94 C

C = Consent Agreement Date

5.3 Feasibility Study/Proposed Plan

Status:

Activities in support of the OU 5 Feasibility Study (FS) continued during March. Preliminary Land Use Objectives and alternatives attaining these objectives were identified and presented to the U.S. EPA and Ohio EPA at a technical information (TIE) exchange meeting. These objectives/alternatives will form the basis for the Detailed Analysis of Alternatives in the FS.

The Treatability Appendix is in preparation and is expected to be completed by April 5. An Integraph-based database is in preparation which will allow for site-wide soil and sediment data quantity evaluation. The database will include all available data. Due to technical difficulties, availability of the database supporting solid block modeling was delayed until April 5.

A preliminary cost estimate format and strategy was compiled to support the detailed analysis of alternatives. Following peer review the package will be presented to select members of the public and Ohio EPA and U.S. EPA for comment. Engineering efforts were initiated on each of the thirteen components comprising the full suite of remedial alternatives. Engineering for each of these components is expected to be completed by June, 1994.

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5.3 Feasibility Study/Proposed Plan (Continued)

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 5 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

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

C = Consent Agreement Date

5.4 Treatability Studies

The Treatability Study provides information to support the Feasibility Study and subsequent remedy selection for OU 5. Specifically, the study will demonstrate the feasibility of soil washing as a remedial technology for cleaning soil. The study consists of two phases: I) remedy screening Stages 1 and 2, involving laboratory and bench-scale tests; and II) remedy selection using pilot-scale equipment. The study incorporates a physical separation/chemical extraction process that has the ability to separate a soil into different particle-size fractions. The process uses reagent formulas in the washing solutions to extract contaminants from the soil. The contaminants may be separated from the wash stream into a concentrated residue for further treatment.

Status:

Initial bench-scale studies were conducted on soil from the following areas: incinerator area (ID-A), Plant 1 Pad Area (ID-B) and maintenance building area (OU 5-A). Results from these bench-scale studies were used to provide the initial operating conditions for start-up of the remedy selection soil washing pilot plant. Initial operating conditions included physical separation processes followed by chemical extraction with a dilute inorganic acid at an elevated temperature. The test system is designed to include spent extractant treatment.

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5.4 Treatability Studies (Continued)

After installing the equipment and training operations' personnel, the soil washing pilot plant (Phase 1) began processing radiologically-contaminated soil using sulfuric acid extractant, completing the ID-A and ID-B soil in August 1993. Results from the initial sample analysis, performed in the FERMCO on-site laboratory, were summarized and the mass balance calculated. FERMCO is evaluating the data.

A soil treatability laboratory has been established at the Fernald facility to support pilot plant testing and expand bench testing to address additional constituents of potential concern (CPCs) in support of all of FERMCO's RI/FS studies. Bench testing on additional CPCs and an expanded range of uranium concentrations was completed on March 11, 1994. Off-site laboratory analysis is scheduled to be completed by late-April 1994. Following completion of the RI/FS-related testing efforts, the focus will shift to remedial design process optimization testing.

Designing and programming of a database to accommodate OU 5 remedy screening and remedy selection data has begun. The database is being designed to also accommodate soil washing treatability test data from Oak Ridge National Laboratory. This test program has been conducted in parallel to the OU 5 study under the umbrella of the DOE Uranium in Soils Integrated Demonstration Program.

Issues/Corrective Actions:

None to report.

5.5 Planned Activities

- Continue data retrievals to support the June draft of the OU 5 RI.
- Continue efforts in support of the "Characterization of Background Water Quality for Streams and Groundwater" report.
- A meeting with the U.S. EPA and Ohio EPA will convene in late April to discuss groundwater model improvements. Submit a final Groundwater Modeling Report" - Summary of Model Improvement.

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6.0 Community Relations

Status:

DOE and FERMCO management are in the process of developing a long-range strategic plan for Fernald. This strategic plan will be a shared vision of the site, and stakeholder involvement is essential to the strategic planning process. The idea behind the strategic planning process is to involve managers personally in the process and include stakeholders in key decisions which potentially may affect them.

DOE is revising Fernald's Community Relations Plan to include public participation activities *after* the Remedial Investigation/Feasibility Study (RI/FS) is complete. The current Community Relations Plan only addresses public participation through the RI/FS process (selection of a final record of decision), which for Operable Units 1 and 4, will be complete in 1994. Stakeholders have indicated concerns about future participation in the cleanup of Fernald. To ensure community participation in determining how and when the public should be involved during the Remedial Design/Remedial Action stage, DOE will conduct person-to-person interviews with key stakeholders and a telephone survey of the general community within the next few months. The feedback from these interviews will be used to revise the plan.

The Fernald Envoy Program, formed in February 1994, has 53 FERMCO and DOE employees actively working with community groups and opinion leaders. Their job is to keep their groups or individuals informed about Fernald activities, listen to their opinions, suggestions and questions and bring their input back to Fernald decision makers. Envoys are now building relationships with 27 groups with which we had no previous direct contact.

On March 6, an innovative, four-year collective bargaining agreement between FERMCO and FAT&LC was approved.

A 45-day public comment period opened on the *Operable Unit 4 Feasibility Study/Proposed Plan-Draft Environmental Impact Statement*. It began on March 7 and will end on April 20, 1994.

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6.0 Community Relations

Status (Continued):

The Fernald Citizens Task Force held its regular monthly meeting on March 12, 1994, at the AmeriSuites Hotel in Forest Park, Ohio. About 25 members of the public, DOE, and FERMCO observed. The Task Force continued considering future land use options for the Fernald site. The next regular meeting of the Task Force is scheduled for April 9, 1994, at the AmeriSuites in Forest Park, Ohio. At an informal information session on March 1, 1994, the Task Force discussed its ongoing initiatives, including economic development issues and using the Task Force's experience at Fernald as a model for DOE.

On March 21, DOE held a formal public hearing to discuss the proposed cleanup plan for Operable Unit 4 (Silos 1-4), which includes the "K-65" Silos. At the formal public hearing, stakeholders were invited to provide oral and written comments on the Feasibility Study/Proposed Plan-Draft Environmental Impact Statement. Approximately 100 people attended the meeting.

A complete transcript of the public hearing is available at the Public Environmental Information Center, 10845 Hamilton-Cleves Highway, Harrison, Ohio.

DOE-FN representatives attended the monthly FRESH meeting on March 24, 1994. Approximately 50 residents attended. John Applegate, Fernald Citizens Task Force chair, spoke briefly and explained the role of the task force. The guest speaker was Bill Weida from Colorado College and Economists Allied for Arms Reductions. Mr. Weida talked about Fernald and its economic impacts on the local community.

DOE gave updates of the following:

- Operable Unit 4 Proposed Plan and Public Comment Period
- Federal Facilities Compliance Act -- Draft Site Treatment Plan to be completed by August 1994
- Explanation of a pilot-scale soil decontamination at Fernald as part of DOE's Uranium Soils Integrated Demonstration aimed at developing and applying new and enhanced technologies by demonstrating them at one test site.

DOE has made its recommendation to regulators about cleanup of Operable Unit 1 (Waste Pits). On March 29, DOE held a public workshop to discuss how and why that recommendation was developed. Approximately 45 people attended.

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6.0 Community Relations (continued)

Issues/Corrective Action:

None.

6.1 Planned Activities for April 1994

- Co-sponsored by FRESH and the Fernald Citizens Task Force, representatives from Envirocare of Utah Inc. will be available at a workshop open to the public. The workshop will be April 7, at 7 p.m., at the Meadowbrook Inn, Ross. Envirocare is a commercial facility licensed to receive, store and dispose of various radioactive materials.
- The next regular meeting of the Task Force is scheduled for April 9, 1994, at the AmeriSuites in Forest Park, Ohio.
- On April 12, DOE will conduct a workshop to discuss protection of natural resources at the Fernald site through Federally-appointed trustees. The meeting will begin at 7:00 p.m. at the Meadowbrook, 2398 Venice Blvd. in Ross, Ohio.
- The monthly FRESH meeting will be held on April 28, beginning at 7:30 p.m. at the Venice Presbyterian Church in Ross, Ohio. The special guest speaker will be an American Toxic Substances Disease Registry representative.
- The draft Operable Unit 2 Feasibility Study/Proposed Plan will be submitted to U.S. EPA on April 29, 1994.

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ENCLOSURE A

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

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Introduction

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

Summary - March 1994

The total quantity of uranium discharged from the FEMP to the Great Miami River via Manhole 175 (Outfall 11o00004001) was 21.27 kilograms. The average uranium concentration for the previous 12 months was 0.39 mg/L. This is 43.8 % 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 March 1994. Based on 1.67 inches of rainfall in March 1994, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 4.74 kilograms.

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EFFLUENT RADIATION REPORT

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

LOCATION: 11O00004001
001 Total Discharge
Manhole 175 (Effluent to Great Miami River)

DATE: MARCH 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	1.032	306	162	0.59	2.30	199
2	0.377	225	216	0.49	0.70	166
3	0.311	126	126	0.48	0.56	162
4	0.341	351	315	0.86	1.11	291
5	0.252	811	676	1.9	1.81	642
6	0.247	631	495	1.5	1.40	507
7	0.267	225	185	0.43	0.43	145
8	0.275	45	72	0.08	0.08	27
9	0.280	216	176	0.34	0.36	115
10	0.252	63	77	0.21	0.20	71
11	0.285	329	410	0.81	0.87	274
12	0.163	360	342	0.91	0.56	307
13	0.227	410	275	0.86	0.74	291
14	0.279	302	225	0.66	0.70	223
15	0.277	450	320	1.1	1.15	372
16	0.300	396	203	0.99	1.12	334
17	0.264	631	450	1.4	1.40	473
18	0.263	*	234	0.65	0.65	220
19	0.214	*	261	1.1	0.89	372
20	0.208	*	338	1.3	1.02	439
21	0.278	*	378	1.1	1.16	372
22	0.268	*	243	0.84	0.85	284
23	0.246	*	176	0.47	0.44	159
24	0.254	*	203	0.55	0.53	186
25	0.198	*	99	0.13	0.10	44
26	0.154	*	77	0.05	0.03	17
27	0.147	*	95	0.04	0.02	14
28	0.237	*	*	0.04	0.04	14
29	0.144	*	*	0.03	0.02	10
30	0.129	*	*	0.02	0.01	7
31	0.130	*	*	0.02	0.01	7
Total	8.299				21.27	

* Analytical results not yet available.

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EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 001 Total Discharge

DATE: MARCH 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.	0.268	218	228	0.40	0.69	134
Max.	1.032	811	676	0.99	2.30	642
Min.	0.129	45	72	0.02	0.01	7

The average uranium concentration for the previous twelve months was 0.39 mg/l. This is 43.8 percent of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

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

(2) Average values presented are flow-weighted.

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EFFLUENT RADIATION REPORT

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

LOCATION: 11000004002
002 Discharge (Overflow) to Storm Sewer Outfall Ditch
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

DATE: MARCH 1994

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

Based on 1.67 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 4.74 kgs.

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ENCLOSURE B

FFCA: INITIAL REMEDIAL MEASURES

AND OTHER OPEN ACTIONS

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INTRODUCTION

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

WORK ASSIGNMENTS AND PROGRESS

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

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

1. Initial Remedial Measures

Section C

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

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

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

3. Reports and Record Keeping

Section B

The RI/FS Monthly Technical Progress Report for February 1994 was transmitted to the U.S. EPA on March 18, 1994, as an integral part of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report in accordance with the requirements of Section X of the Consent Agreement As Amended.

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CLEAN AIR ACT (CAA)

Section E

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

RADIATION DISCHARGE INFORMATION

Section A

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

REPORTING REQUIREMENTS

Section B

The Federal Facility Compliance Agreement Monthly Progress Report for February 1994, was transmitted to the U.S. EPA on March 18, 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.

TABLE 1

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

MARCH 31, 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 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA sections 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for February 1994 was transmitted to the U.S. EPA on March 21, 1994.

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

MARCH 31, 1994

CLEAN AIR ACT

B.4	Prepare annual progress report installation and replacement of emission control devices.	yearly	The Sixth Annual Progress Report on the installation and replacement of emission control devices is being prepared by the Effluent Monitoring and Control Section of the ES&H Division. The report will be transmitted to DOE by April 29, 1994.
C.	Provide annual reports to the U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY1992 was transmitted to the U.S. EPA on June 28, 1993 (DOE-2281-93).
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	No stacks related to production were operating in 1993. Periodic confirmatory measurements to demonstrate compliance with NESHAP Subpart H were conducted on three laboratory exhaust stacks. These tests were conducted in accordance with a program to verify low emissions from stacks without continuous in-stack monitoring. Due to the permanent shutdown of metals production, resumption of the FFCA Stack Testing Program is unlikely. A proposal is being developed to substitute the NESHAP Subpart H testing/monitoring program for the FFCA Stack Testing. When this proposal is completed it will be formally submitted to U.S. EPA.
D.2	Provide U.S. EPA with stack-test results for stacks tested that year.	45 days	No stacks related to production were operated or tested in 1993.
E.1	Maintain records of monthly particulate matter emissions.	-----	Ongoing.

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

MARCH 31, 1994

RCRA

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

REPORTING REQUIREMENTS

B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	February's FFCA Monthly Progress Report was transmitted to the U.S. EPA on March 21, 1994.
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ENCLOSURE C

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

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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 March 1, through March 31, 1994, to implement Part V, Radon-222 Control and Abatement Plan, paragraphs 19-33 of the FFA-CARE.

Work Assignments and Progress

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

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<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 has prepared a revision to the methodology. Comment responses to the U.S. EPA's disapproval of the revised methodology will be incorporated into the Final Report. The draft Final Report for the Silos 1 and 2 Removal Action was submitted 3/25/94 for internal DOE-FN review and comment. Comments are due by 4/15/94.

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<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
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 first Bentonite Effectiveness Environmental Monitoring Report was issued to the U.S. EPA on 5/22/92. DOE submitted a revision to the methodology to the U.S. EPA on 12/17/92. Applicable information contained in this revised methodology will be included in the final report, which is now being prepared.
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 March 1994.

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<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
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, 27	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, 28	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 above 20 pCi/m ² -s.
Part V, 29	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.

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MONTHLY PROGRESS REPORT**

Period Ending March 31, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 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 March 31, 1994

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

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

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

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

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

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

The radon data submitted in Enclosure C: Radon Data for the K-65 Removal Action and in all previous consent agreement status updates is considered to be draft. The radon data, although collected by qualified technicians using detailed procedures, was not obtained in a manner which would withstand a rigorous validation process. The various field and laboratory procedures are currently being reviewed and modified to be in accordance with the approved Site-Wide CERCLA Quality Assurance Project Plan (SCQ). Once the sampling and analysis procedures have been modified and approved, along with specific validation protocols, suspect radon data will either be qualified or rejected.

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

MONTH: MARCH
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 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)
03/01/94	0.5	3.8	0.6	0.3
03/02/94	0.6	1.4	0.6	0.3
03/03/94	0.5	0.4	2.3	1.0
03/04/94	0.7	0.6	2.2	0.9
03/05/94	1.0	1.1	3.0	1.4
03/06/94	1.3	1.4	3.5	2.5
03/07/94	1.3	1.8	1.6	1.6
03/08/94	0.5	1.2	1.1	1.7
03/09/94	0.8	2.4	0.6	0.3
03/10/94	0.6	0.5	1.7	1.5
03/11/94	1.5	1.4	3.2	2.0
03/12/94	1.1	0.9	5.3	3.9
03/13/94	1.3	1.3	4.2	2.4
03/14/94	1.2	1.0	2.5	1.6
03/15/94	1.0	0.9	2.8	1.8
03/16/94	0.3	0.3	1.3	1.3
03/17/94	1.4	0.7	1.9	1.0
03/18/94	2.4	0.5	2.0	1.0
03/19/94	1.6	1.1	5.1	2.6
03/20/94	2.8	2.2	1.4	1.0
03/21/94	1.0	0.7	1.5	1.4
03/22/94	0.8	0.8	2.4	1.0
03/23/94	1.1	1.0	4.2	2.5
03/24/94	0.4	0.3	0.8	0.5
03/25/94	0.8	0.8	1.8	1.4
03/26/94	2.5	2.0	0.8	0.4
03/27/94	1.5	1.9	1.7	1.4
03/28/94	2.8	2.0	3.1	4.2
03/29/94	0.5	0.5	1.6	1.1
03/30/94	1.2	1.3	3.4	2.5
03/31/94	1.0	0.9	4.1	2.9

Monthly Averages:	K-65, NW (pCi/L)	K-65, SW (pCi/L)	K-65, NE (pCi/L)	K-65, SE (pCi/L)
AVERAGE:	1.2	1.2	2.3	1.6
MAXIMUM:	2.8	3.8	5.3	4.2
MINIMUM:	0.3	0.3	0.6	0.3
MEDIAN:	1.1	1.1	2.2	1.4
STD. DEV.:	0.7	0.7	1.3	1.0

STANDARD LEGEND:

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

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

MONTH: MARCH
YEAR: 94

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

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

Daily Averages:	AMS-5 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	BKGD (pCi/L)
03/01/94	0.5	0.6	0.5	1.3
03/02/94	0.4	0.4	0.5	1.4
03/03/94	0.4	0.4	0.5	1.3
03/04/94	0.4	0.5	0.5	1.3
03/05/94	0.7	0.7	0.7	1.3
03/06/94	0.9	0.8	0.9	1.4
03/07/94	0.8	0.8	0.7	1.5
03/08/94	0.3	0.4	0.5	1.3
03/09/94	0.4	0.4	0.4	1.4
03/10/94	0.4	0.4	0.5	1.4
03/11/94	0.7	0.7	0.7	1.4
03/12/94	0.7	0.6	0.6	1.3
03/13/94	0.5	0.5	0.6	1.4
03/14/94	0.6	0.5	0.5	1.3
03/15/94	0.5	0.4	0.6	1.3
03/16/94	0.3 (a)	0.4	0.5	1.4
03/17/94	0.4	0.4	0.5	1.4
03/18/94	0.4 (a)	0.4	0.5	1.4
03/19/94	0.6 (a)	0.5	0.6	1.3
03/20/94	0.8 (a)	0.6	0.6	1.3
03/21/94	0.6	0.5	0.6	1.3
03/22/94	0.9 (a)	0.6	0.7	1.3
03/23/94	0.6	0.6	0.8	1.3
03/24/94	0.3	0.4	0.5	1.2
03/25/94	0.5	0.5	0.6	1.3
03/26/94	0.5	0.5	0.5	1.3
03/27/94	0.4	0.5	0.6	1.4
03/28/94	0.4	0.5	0.5	1.4
03/29/94	0.4	0.4	0.5	1.5
03/30/94	0.6	0.6	0.7	1.5
03/31/94	0.6	0.5	0.6	1.1 (b)

Monthly Averages:	AMS-5 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	BKGD (pCi/L)
AVERAGE:	0.5	0.5	0.6	1.3
MAXIMUM:	0.9	0.8	0.9	1.5
MINIMUM:	0.3	0.4	0.4	1.1
MEDIAN:	0.5	0.5	0.6	1.3
STD. DEV.:	0.2	0.1	0.1	0.1

STANDARD LEGEND:

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

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: MARCH 1994

REPORT GENERATED: 04/05/94

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.
03/01/94	54,000	353,000	10,000	36,000	3,065,000	3,819,000	1,808,000	446000
03/02/94	37,000	598,000	6,000	61,000	2,973,000	3,843,000	1,712,000	483000
03/03/94	264,000	1,082,000	9,000	295,000	3,859,000	4,322,000	2,670,000	330000
03/04/94	292,000	1,175,000	6,000	367,000	3,728,000	4,346,000	2,215,000	448000
03/05/94	408,000	1,041,000	45,000	302,000	3,976,000	4,202,000	3,484,000	136000
03/06/94	434,000	975,000	82,000	225,000	3,764,000	4,178,000	2,526,000	335000
03/07/94	346,000	999,000	48,000	248,000	3,770,000	4,130,000	2,766,000	207000
03/08/94	201,000	820,000	13,000	208,000	3,529,000	3,915,000	2,766,000	225000
03/09/94	181,000	748,000	31,000	146,000	3,039,000	3,747,000	180,000	476000
03/10/94	96,000	642,000	27,000	95,000	3,471,000	3,795,000	2,789,000	150000
03/11/94	208,000	817,000	22,000	175,000	3,650,000	3,891,000	3,220,000	165000
03/12/94	387,000	969,000	87,000	260,000	3,735,000	4,106,000	3,149,000	198000
03/13/94	657,000	1,062,000	147,000	275,000	3,964,000	4,178,000	3,053,000	174000
03/14/94	637,000	1,146,000	145,000	284,000	3,853,000	4,202,000	3,101,000	228000
03/15/94	233,000	1,175,000	9,000	353,000	3,155,000	4,130,000	1,784,000	586000
03/16/94	29,000	154,000	6,000	22,000	3,343,000	3,867,000	2,287,000	266000
03/17/94	673,000	1,176,000	51,000	401,000	3,749,000	4,035,000	3,244,000	193000
03/18/94	421,000	1,176,000	7,000	509,000	2,770,000	4,082,000	658,000	1100000
03/19/94	527,000	1,175,000	76,000	322,000	3,587,000	3,867,000	3,005,000	176000
03/20/94	787,000	1,175,000	111,000	365,000	3,650,000	3,867,000	2,813,000	210000
03/21/94	469,000	1,175,000	7,000	479,000	3,111,000	3,867,000	1,544,000	637000
03/22/94	372,000	1,086,000	104,000	225,000	3,238,000	3,699,000	2,047,000	403000
03/23/94	632,000	1,175,000	83,000	315,000	3,270,000	3,747,000	1,951,000	415000
03/24/94	145,000	751,000	16,000	132,000	2,774,000	3,556,000	1,185,000	512000
03/25/94	124,000	752,000	5,000	166,000	3,214,000	3,508,000	2,526,000	193000
03/26/94	649,000	1,174,000	101,000	344,000	3,338,000	3,675,000	2,119,000	284000
03/27/94	598,000	1,176,000	53,000	366,000	3,128,000	3,675,000	1,712,000	381000
03/28/94	638,000	1,175,000	123,000	270,000	3,035,000	3,436,000	1,856,000	296000
03/29/94	90,000	610,000	10,000	67,000	2,858,000	3,244,000	1,760,000	255000
* 03/30/94	311,000	870,000	93,000	183,000	3,129,000	3,340,000	2,766,000	128000
* 03/31/94	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Grab Samples of Headspace

Date	SILO 1 Concentration	SILO 2 Concentration
03/03/94	129,000	4,369,000
03/07/94	136,000	4,032,000
03/10/94	119,000	3,641,000
03/15/94	55,000	3,313,000
03/17/94	1,857,000	3,622,000
03/21/94	388,000	3,338,000
03/24/94	198,000	3,197,000
03/28/94	789,000	3,272,000
03/31/94	54,000	3,157,000

- Notes:
- All values reported to the nearest thousand pCi/L to remain consistent with the precision of the calibration source.
 - Data lost due to data logging system malfunction (03/30/94 12:46 - 04/04/94 09:01).

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: March 1994

Day	Ambient Temp °F	Ambient Press In. Hg.	Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
1	30.3	29.61	35.9	0.5	-0.006	54,194
2	29.1	29.29	35.9	*	-0.007	36,903
3	35.4	29.28	36.0	*	-0.006	263,651
4	43.5	29.13	36.6	*	-0.005	292,178
5	40.1	29.41	37.2	*	-0.004	407,637
6	48.2	29.43	37.8	*	-0.003	434,461
7	42.8	29.46	38.6	*	-0.005	345,754
8	34.1	29.63	38.7	*	-0.007	200,882
9	25.6	29.42	38.1	*	-0.007	181,476
10	28.0	29.49	37.6	*	-0.007	95,978
11	29.4	29.62	37.2	*	-0.006	208,107
12	35.2	29.83	37.0	*	-0.005	386,997
13	39.8	29.51	37.3	*	-0.005	656,922
14	41.8	29.31	37.8	*	-0.004	636,953
15	45.6	29.14	38.6	*	-0.005	232,743
16	29.5	29.40	38.7	*	-0.009	28,780
17	28.7	29.38	38.1	*	-0.006	672,646
18	40.5	28.98	38.4	*	-0.007	420,917
19	34.0	29.35	38.4	*	-0.005	526,570
20	48.9	29.30	38.8	*	-0.003	787,374
21	49.9	29.11	40.0	*	-0.004	468,588
22	45.0	29.39	39.9	*	-0.003	371,634
23	58.1	29.26	40.5	*	-0.000	631,864
24	60.0	29.29	42.1	*	-0.001	144,611
25	35.8	29.50	41.9	*	-0.006	124,177
26	37.5	29.40	41.2	*	-0.005	648,959
27	41.2	29.10	41.0	*	-0.057	598,400
** 28	41.9	29.31	41.1	*	-0.006	638,273
** 29	35.4	29.58	41.1	*	0.025	89,952
30	30.1	29.78	40.5	*	-0.006	310,607
31						
ARITHMETIC MEAN	38.8	29.40	38.7	0.0	-0.006	363,273
MAXIMUM	60.0	29.83	42.1	0.5	0.025	787,374
MINIMUM	25.6	28.98	35.9	0.0	-0.057	28,780
MEDIAN	38.7	29.40	38.5	0.0	-0.005	358,694

Note: * - Silo #1 Relative Humidity was inoperable, default value = 0.

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

Only partial data for 3/30 and no data for 3/31 due to malfunction of DLS.

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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: March 1994

Day	Ambient Temp ° F	Ambient Press In. Hg.	Temperature Head Space ° F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
1	30.3	29.61	36.9	92.5	-0.007	3,064,521
2	29.1	29.29	36.9	92.5	-0.007	2,972,777
3	35.4	29.28	37.0	92.3	-0.005	3,859,031
4	43.5	29.13	37.7	92.0	-0.006	3,728,172
5	40.1	29.41	38.2	92.0	-0.006	3,976,256
6	48.2	29.43	38.7	92.0	-0.007	3,763,838
7	42.8	29.46	39.4	92.0	-0.007	3,769,574
8	34.1	29.63	39.4	92.0	-0.006	3,528,557
9	25.6	29.42	38.9	92.0	-0.007	3,038,623
10	28.0	29.49	38.4	92.0	-0.006	3,470,526
11	29.4	29.82	38.1	92.1	-0.006	3,649,856
12	35.2	29.83	37.9	92.0	-0.006	3,735,322
13	39.8	29.51	38.2	92.0	-0.006	3,964,118
14	41.8	29.31	38.6	92.0	-0.007	3,852,713
15	45.6	29.14	39.3	92.0	-0.006	3,155,099
16	29.5	29.40	39.5	92.0	-0.006	3,343,075
17	28.7	29.38	38.9	92.0	-0.005	3,749,372
18	40.5	28.98	39.2	91.9	-0.027	2,769,587
19	34.0	29.35	39.2	91.8	-0.006	3,586,753
20	48.9	29.30	39.5	91.4	-0.006	3,650,437
21	49.9	29.11	40.5	91.0	-0.007	3,111,286
22	45.0	29.39	40.5	91.3	-0.007	3,238,071
23	58.1	29.26	41.0	91.0	-0.008	3,269,664
24	60.0	29.29	42.6	91.0	-0.008	2,773,577
25	35.8	29.50	42.4	91.0	-0.007	3,214,377
26	37.5	29.40	41.7	91.0	-0.007	3,338,336
27	41.2	29.10	41.5	91.0	-0.031	3,127,996
** 28	41.9	29.31	41.6	91.0	-0.009	3,034,549
29	35.4	29.58	41.6	91.0	-0.007	2,857,714
30	30.1	29.78	41.1	91.0	-0.006	3,128,532
31						
ARITHMETIC MEAN	38.8	29.40	39.5	91.7	-0.008	3,390,744
MAXIMUM	60.0	29.83	42.6	92.5	-0.005	3,976,256
MINIMUM	25.6	28.98	36.9	91.0	-0.031	2,769,587
MEDIAN	38.7	29.40	39.3	92.0	-0.007	3,340,706

Note: ** - Some Delta Pressure values were outside of range restrictions
 Only partial data for 3/30 and no data for 3/31 due to malfunction of DLS.

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

PERIOD ENDING MARCH 31, 1994

ENCLOSURE D

EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER

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

PERIOD ENDING MARCH 31, 1994

Introduction

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

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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 March 31, 1994

EFFLUENT RADIATION REPORT

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

LOCATION: [606]
SWRB Pump Station Discharge
Stormwater Retention Basin Effluent

DATE: FEBRUARY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	1.136	306	122	0.43	1.85
2	0.938	302	117	0.44	1.56
3	0.357	293	144	0.45	0.61
4	0.496	383	131	0.48	0.90
5	1.061	356	149	0.50	2.01
6	0.939	297	126	0.50	1.78
7	0.057	293	198	0.44	0.09
8	0.053	0	0	0.00	0.00
9	0.425	0	0	0.00	0.00
10	0.357	0	0	0.00	0.00
11	AC	0	0	0.00	0.00
12	0.475	766	631	1.60	2.88
13	1.016	329	113	0.53	2.04
14	0.370	275	162	0.50	0.70
15	AC	0	0	0.00	0.00
16	AC	0	0	0.00	0.00
17	AC	0	0	0.00	0.00
18	AC	0	0	0.00	0.00
19	0.676	270	131	0.42	1.07
20	1.050	275	104	0.42	1.67
21	0.682	230	77	0.41	1.06
22	0.432	234	99	0.49	0.80
23	0.185	342	131	0.53	0.37
24	0.736	360	171	0.54	1.50
25	1.152	392	171	0.56	2.44
26	1.096	311	144	0.55	2.28
27	1.050	365	153	0.57	2.26
28	0.822	414	153	0.57	1.77
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15.561				29.64	

AC: Stormwater levels in retention basins not high enough to necessitate discharge.

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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 March 31, 1994

EFFLUENT RADIATION REPORT

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

LOCATION: 605
Biodenitrification Tower
BDN Tower Effluent

DATE: FEBRUARY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)	C-BOD5 (mg/l)	TSS (mg/l)	NH3-N (mg/l)
1	0.139	856	721	1.70	0.89	2.90		
2	0.140	991	631	1.70	0.90		17	< 0.10
3	0.140	1036	676	1.80	0.95			
4	0.142	991	676	1.80	0.97			
5	0.153	946	721	2.00	1.16			
6	0.183	991	811	2.10	1.45			
7	0.188	1351	721	2.20	1.56			
8	0.185	1081	721	2.20	1.54	4.24	4	< 0.10
9	0.184	1036	1036	2.20	1.53			
10	0.184	1036	856	2.10	1.46			
11	0.178	1081	766	2.10	1.41			
12	0.184	991	811	2.00	1.39			
13	0.183	946	766	2.00	1.38			
14	0.182	1036	811	2.00	1.38			
15	0.183	901	766	2.00	1.38			
16	0.186	1036	856	1.90	1.34	4.29	2	< 0.10
17	0.181	856	631	1.90	1.30			
18	0.181	901	721	1.90	1.30			
19	0.186	811	766	2.00	1.41			
20	0.185	901	811	1.1	1.33			
21	0.186	901	811	1.90	1.34			
22	0.190	0	0	0.00	0.00	5.07	16	0.44
23	0.186	0	0	1.1	1.41			
24	0.186	0	0	1.3	1.41			
25	0.134	0	0	1.3	1.06			
26	0.175	0	0	1.3	1.52			
27	0.160	0	0	1.3	1.45			
28	0.185	0	0	1.2	1.75			
Total	4.869				35.99			

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

Period Ending March 31, 1994

EFFLUENT REPORT

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

LOCATION: [605]
Biodenitrification Tower
BDN Tower Effluent

DATE: FEBRUARY 1994

Day	Flow (MGD)	NO3-N (mg/l)	Chromium (ug/l)	Copper (ug/l)	Nickel (ug/l)	Hex-Chro (ug/l)
1	0.139					
2	0.140	1.2	< 6.0	17.0	< 17.0	< 6.0
3	0.140					
4	0.142					
5	0.153					
6	0.183					
7	0.188					
8	0.185	< 0.1	< 6.0	< 14.0	< 17.0	< 6.0
9	0.184					
10	0.184					
11	0.178					
12	0.184					
13	0.183					
14	0.182					
15	0.183					
16	0.186	< 0.1	< 6.0	16.9	< 17.0	< 6.0
17	0.181					
18	0.181					
19	0.186					
20	0.185					
21	0.186					
22	0.190	< 0.1	< 6.0	17.1	< 17.0	< 6.0
23	0.186					
24	0.186					
25	0.134					
26	0.175					
27	0.160					
28	0.185					
Total	4.869					

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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 March 31, 1994

EFFLUENT RADIATION REPORT

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

LOCATION: [SP1]
SAWWT (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: FEBRUARY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.000							
2	0.000							
3	0.000							
4	0.000							
5	0.000							
6	0.000							
7	0.000							
8	0.139	0.00	0.00	1	0.00	3	8.2	9.1
9	0.068	0.00	0.00	1	0.00	1	8.1	8.2
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	0.142	0.00	0.00	0	0.00	0	7.6	8.3
Total	0.349							

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CONSOLIDATED CONSENT AGREEMENT FACILITY
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MONTHLY PROGRESS REPORT

Period Ending March 31, 1994

EFFLUENT RADIATION REPORT

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

LOCATION: [SP2]
Stormwater Retention Basin Emergency Bypass
SWRB Bypass Effluent

DATE: FEBRUARY 1994

Day	Flow (MGD)
1	1.136
2	0.938
3	0.357
4	0.496
5	1.061
6	0.939
7	0.057
8	0.053
9	0.425
10	0.357
11	0.000
12	0.475
13	1.016
14	0.370
15	0.000
16	0.000
17	0.000
18	0.000
19	0.678
20	1.050
21	0.682
22	0.432
23	0.185
24	0.736
25	1.152
26	1.096
27	1.050
28	0.822

Total 15.561

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
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MONTHLY PROGRESS REPORT**

Period Ending March 31, 1994

EFFLUENT RADIATION REPORT

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

LOCATION: [SP3]
SWRB Valve House
South Groundwater Contamination Plume

DATE: FEBRUARY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (Grab) (S.U.)
1	1.830	< 14	< 99	13	0.09		7.3
2	1.901	< 14	< 99	13	0.09		7.2
3	1.712	< 14	< 99	13	0.08	1.8	7.2
4	1.692	< 14	< 99	13	0.08		7.5
5	1.517	14	< 99	15	0.09		7.2
6	1.544	< 14	< 99	15	0.09		7.5
7	1.609	18	< 99	14	0.09		7.1
8	1.834	14	< 99	13	0.09		7.1
9	1.960	18	< 99	13	0.10		7.1
10	1.791	< 14	< 95	13	0.09	1.6	7.0
11	1.796	< 14	< 95	12	0.08		7.0
12	1.920	< 14	< 95	13	0.09		7.1
13	1.823	< 14	< 95	13	0.09		7.5
14	1.795	14	95	13	0.09		7.4
15	1.970	< 14	< 99	13	0.10		7.2
16	1.669	< 14	< 99	12	0.08		7.6
17	1.817	< 14	< 99	13	0.09	1.6	6.9
18	1.817	< 14	< 99	12	0.08		7.2
19	1.835	< 14	< 99	11	0.08		7.3
20	1.839	< 14	< 99	13	0.09		7.4
21	1.807	< 14	< 95	12	0.08		7.2
22	1.925	< 14	< 95	12	0.09		7.2
23	1.654	< 14	< 95	13	0.08		7.4
24	1.824	< 14	< 95	11	0.08	2.0	7.5
25	1.756	< 14	< 95	12	0.08		7.2
26	1.834	14	95	12	0.08		7.3
27	1.760	< 14	< 95	12	0.08		7.2
28	1.724	14	95	12	0.08		7.1
Total	49.955				2.40		

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CONSOLIDATED CONSENT AGREEMENT FACILITY
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EFFLUENT REPORT

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U.S. Department of Energy
7400 Willey Road, P.O. Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP4]
Parshall Flume
Effluent Downstream of Manhole 1768

DATE: FEBRUARY 1994

Day	DO (mg/l)	IRON (mg/l)	MANGANESE (mg/l)
1			
2			
3	9.5	0.47	0.1
4			
5			
6			
7			
8			
9			
10	9.4	5.20	0.1
11			
12			
13			
14			
15			
16			
17	9.2	0.92	0.2
18			
19			
20			
21			
22			
23			
24	9.3	0.67	0.1
25			
26			
27			
28			

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