

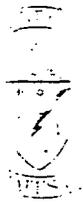
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**CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE  
AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL  
INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT  
FOR OCTOBER 1995**

11/13/95

DOE-0188-96  
DOE-FN        EPAS  
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REPORT



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

NOV 1 1995

DOE-0188-96

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

Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5th Street  
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

**CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT FOR OCTOBER 1995**

Enclosure 1 is the consolidated CA/FFCA/FFA and RI/FS Monthly Progress Report which describes the activities accomplished October 1 through 31, 1995, and planned actions for the period of November 1995. Also, enclosed are diskettes containing Lotus 1-2-3 (Version 2.2) data files of the K-65 hourly data (see Enclosure 2).

If you or your staff should have any questions, please contact me at (513) 648-3139.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

Enclosures: As Stated

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cc w/encs:

K. H. Chaney, EM-423/GTN  
B. Skokan, EM-423/GTN  
Manager, TSPP/DERR, OEPA-Columbus  
D. Pfister, DOE-FN  
D. Carr, FERMCO/52-5  
T. Hagen, FERMCO/65-2  
AR Coordinator, FERMCO

cc w/o encs:

G. Jablonowski, USEPA-V, 5HRE-8J  
F. Bell, ATSDR  
D. S. Ward, GeoTrans  
S. McClellan, PRC  
R. D. George, FERMCO/52-2  
C. Little, FERMCO  
S. Stahlheber, FERMCO/52-2  
M. Yates, FERMCO

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

**Introduction**

The Consent Agreement (CA) As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a), the Federal Facility Compliance Agreement (FFCA), and the Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA) signed September 20, 1991, July 18, 1986, and November 19, 1991, respectively, require that monthly reports be submitted to the U.S. EPA regarding progress made to meet the provisions of those agreements. This report fulfills those requirements by describing actions undertaken at the Fernald Environmental Management Project (FEMP) during the period October 1 through October 31, 1995, and planned actions for the period November 1 through November 30, 1995.

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**WORK ASSIGNMENTS AND PROGRESS**

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

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

**CA Section IX. Removal Actions**

This section provides an update of activities associated with the implementation of Removal Actions (RAs) at the FEMP during October 1995. Information is presented for each of the Removal Actions identified in the Consent Agreement As Amended.

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Period Ending October 31, 1995

**REMOVAL ACTION SUMMARY**

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

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Period Ending October 31, 1995

**REMOVAL ACTION SUMMARY**

NO.	TITLE	SCOPE	STATUS
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 resubmerging exposed pit material.	Completed: 12/19/90
7	Plant 1 Pad Continuing Release	Stage I - Implement run-on/off control measures.	Completed: 1/17/92
		Stage II - Install new pad.	Completed: 12/4/92
		Stage III - Upgrade existing Plant 1 Storage Pad	Ongoing
<b>Phase II</b>			
8	Inactive Flyash Pile Control	Install plastic chain-link barrier and post warning signs.	Completed: 12/23/91
9	Removal of Waste Inventories	Disposition of low-level waste off-site.	Ongoing
10	Active Flyash Pile Controls	Phase I - Complete interim surface stabilization.	Completed: 6/29/92
		Phase II - Complete active flyash pile controls.	Maintenance: Ongoing
11	Pit 5 - Experimental Treatment Facility	Remove contents, structure, and filter material. Backfill and cap with clay cover.	Completed: 3/20/92
12	Safe Shutdown	Remove uranium and other material from former processing equipment and ship material and equipment off-site.	Ongoing
13	Plant 1 Ore Silos	Dismantle fourteen ore silos and their support structures.	Completed: 11/18/94
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.	Final Report Submitted 11/18/94
15	Scrap Metal Piles	Phase I - Disposition LLW ferrous/non-ferrous scrap metal	Ongoing
		Phase II -  IIA - Containerization of scrap copper	Completed: 9/29/92
		IIB - Disposition of scrap copper	Ongoing
16	Collect Uncontrolled Production Area Run-off - Northeast	Collect storm water run-off from the northeast perimeter of the former production area in the Storm Water Retention Basin.	Completed: 8/20/93

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**REMOVAL ACTION SUMMARY**

NO.	TITLE	SCOPE	STATUS
17	Improved Storage of Soil and Debris	Improve storage of existing and future generated soils and debris.	Ongoing
18	Control Exposed Material in Pit 5	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed: 5/13/93
Phase III			
19	Plant 7 Dismantling	Dismantle and dispose of the Plant 7 structure.	Completed: 11/18/94
20	Stabilization of UNH Inventories	Neutralize, filter and package UNH inventory.	Ongoing
21	Expedited Silo 3	Mitigate the potential release of hazardous waste material by covering and sealing dust collector hopper, removing dust collector, and capping and covering obvious release pathways.	Completed: 2/24/93
22	Waste Pit Area Containment Improvement	Stabilize south berm of Pit 4; regrade drainage ditches along Pits 3, 4, 5, and 6; and resurface road between Pits 3, 4, 5, and 6.	Completed: 7/30/93
23	Inactive Flyash Pile	Conduct field investigation to identify locations requiring material removal.	Completed: 4/30/92
24	Pilot Plant Sump	Remove liquid and sludge from the sump.	Completed: 10/15/93
25	Nitric Acid Tank Car and Surrounding Area	Remove residual contents from tank car and decontaminate and dispose of tank car.	Completed: 10/11/93
26	Asbestos Removals (Asbestos Program)	Mitigate the potential for contaminant and migration of asbestos fibers.	Ongoing
27	Management of Contaminated Structures at the FEMP	Submit an Engineering Evaluation/Cost Analysis for managing contaminated structures. Identify alternatives for managing contaminated structures.	Final EE/CA Approved 8/16/93
28	Contamination at the Fire Training Facility	Remove, decontaminate, dispose, treat or store contaminated structures, equipment, and soil from the former Fire Training Facility.	Ongoing
29	Erosion Control at Inactive Flyash Pile	Mitigate the threat of erosion induced slope failure and discharge of flyash to Paddy's Run.	Final Report Submitted to DOE 2/94  Maintenance: Ongoing
30	Seepage Control at the South Field and Inactive Flyash Pile	Minimize future groundwater contamination by intercepting contaminated seeps that drain from the South Field and Inactive Flyash Pile and infiltrate to the GMA.	Ongoing

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***Removal Actions***

**RA No. 1, Contaminated Water Under FEMP Buildings**

**Current Month:**

On October 20, 1995 the Plant 2 hold tank level gauges were repaired, and the system was restarted.

**Planned Activities:**

- Operate perched water systems.

**RA No. 3, South Groundwater Contamination Plume**

**Part 1 - Alternate Water Supply**

**Current Month:**

The U.S. Army Corps of Engineers, through an Interagency Agreement, is proceeding with obtaining the necessary documents to transfer easement rights to Albright and Wilson Americas.

Project A of the Public Water Supply (PWS) is complete and has been accepted by Hamilton County Department of Public Works (HCDPW)/Cincinnati Water Works (CWW).

The analysis of cultural resources and final report for data recovery field work for Project B of the PWS is in progress. Field work has been completed. The final report which includes analysis of the findings will be completed in December 1995.

Construction of all work under Projects B and C is underway and is currently on schedule. This includes the tie-in to the FEMP.

The grant modification request has been approved and forwarded to Hamilton County for their signature.

Bids have been awarded and construction is underway for Project D of the PWS 500,000-gallon reservoir and the remaining water line to the reservoir on Crosby Road.

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*Removal Actions*

**RA No. 3, South Groundwater Contamination Plume**

**Part 1 - Alternate Water Supply (continued)**

**Planned Activities:**

- Continue proceedings to transfer ownership of the pumping and piping equipment as well as the easement rights to Albright and Wilson in accordance with the agreement of 1990.
- Continue to support HCDPW on installation of the entire PWS, including service connections.
- Complete bid proposal for service connections in concert with HCDPW.
- Coordinate tie-in of PWS with the FEMP on Willey Road including scheduling chlorination of the FEMP water line by CWW.

**Part 2 - Pumping and Discharge System**

**Current Month:**

The South Plume Removal Action Design Monitoring Evaluation Program Plan System Evaluation Report (DMEPP) for January 1, 1995 - June 30, 1995 was submitted to the U.S. and Ohio EPAs on October 1, 1995. This semiannual report documents the performance of the monitoring and capture systems.

A total of 57 monitoring wells were sampled for the fourth quarter sampling event. Sampling activities were completed on October 11, 1995. Data analysis and interpretation are in progress for the July 1, 1995 - December 31, 1995 report due in April 1996.

**Planned Activities:**

- Continue data analysis.

**Part 3 - Interim Advanced Waste Water Treatment (IAWWT)**

**IAWWT Storm Water Retention Basin (SWRB) Unit**

**Current Month:**

Nothing to report.

**Planned Activities:**

- Continue to operate.

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RA No. 3, South Groundwater Contamination Plume

Part 3 - Interim Advanced Waste Water Treatment (IAWWT) (continued)

IAWWT Bionitrification Effluent Treatment System (BDN-ETS) Unit

**Current Month:**

System will be operational until current inventory of high NO<sub>3</sub> water has been processed.

**Planned Activities:**

- None.

Part 4 - Groundwater Monitoring and Institutional Controls

**Current Month:**

Nothing to report.

**Planned Activities:**

- Continue to monitor performance of the ion exchange units installed at private residences.

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

Step 1

Install 200 gallons per minute (gpm) system dedicated to the treatment of a portion of the extracted South Plume groundwater—commonly known as South Plume Interim Treatment (SPIT) System.

**Current Month:**

Operations continued.

**Planned Activities:**

- Continue to operate.

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**RA No. 3, South Groundwater Contamination Plume**

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

**Step 2**

Utilization of off-peak Advanced Waste Water Treatment (AWWT) capacity.

**Current Month:**

An optimum flow of 660 gpm has been achieved at the AWWT using the current configuration. Operational goals have been established whereby the 400 gpm system uses available capacity to routinely process South Plume water daily and the 700 gpm system along with the IAWWT will change over to exclusively process South Plume water during those times when the SWRB is at a low level.

**Planned Activities:**

- Continue operational goals as described.

**Step 3**

Elimination of low uranium concentration streams.

**Current Month:**

Continue to operate at optimum flows using current configuration.

**Planned Activities:**

- Continue to operate.

**Step 4**

Extend operating life/increase capacity of the IAWWT (SWRB).

**Current Month:**

Operations continue.

**Planned Activities:**

- Treat storm water and South Plume water as required.

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***Removal Actions***

**RA No. 7, Plant 1 Pad Continuing Release**

**Current Month:**

The subcontractor continues to sawcut/remove damaged concrete and install patch compound in joints. This is scheduled to be completed the week of November 6, 1995.

**Planned Activities:**

- Subcontractor to continue sawcutting/removing damaged concrete and installing patch compound in joints.

**RA No. 9, Removal of Waste Inventories**

**Current Month:**

The volume, in cubic feet (cf), of low-level waste staged for shipment to Nevada Test Site (NTS) in October 1995 was 53,454 (external) and 46,260 (internal). As of October 31, 1995, the FEMP has shipped 0 cf (external) and 0 cf (internal) to NTS for Fiscal Year (FY) 1996.

Low level waste volume reduction includes approximately 421 drums of residues and 62 boxes of legacy construction debris.

FY 1996 LLW disposition to NTS has been temporarily discontinued in response to spending constraints associated with the FY 1996 budget continuing resolution. Waste programs Management will continue waste packaging and storage operations to develop a backlog of LLW materials to be shipped to NTS subsequent to the easing of FY 1996 spending constraints.

Shipment of uranium derbies to Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee has been delayed per request of the customer to allow for reconfiguration and addition of storage facilities. Derby shipment will be initiated upon approval from MSC.

Finally, 19 lots of Uranium tetrafluoride were shipped to the Allied Signal facility in Metropolis, Illinois.

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**RA No. 9, Removal of Waste Inventories (continued)**

**Current Status:**

The volume of low level waste materials shipped to NTS in FY 1996 per waste stream is described in the following table.

<b>WASTE STREAM</b>	<b>INTERNAL Vol. (cf)</b>	<b>EXTERNAL Vol. (cf)</b>
Process Area Scrap	0	0
Thorium	0	0
Residues to NTS	0	0
Contaminated Trash	0	0
Construction (Legacy)	0	0
Construction (Newly Generated)	0	0

Note : 1 drum equivalent = 7.4 cubic feet

A letter from the Oak Ridge Toxic Substance Control Act (TSCA) Operations offering guidance on the volume of each batch to be blended was received on October 2, 1995; the site blending document is being prepared. The remaining two batches will be blended to reduce the Total Activity of Batch 1 which is currently 2290 pCi/g, to less than 2000 pCi/g. The Waste Blending document was drafted and sent out on blue sheet review, comments are currently being incorporated.

The FERMCO Hazardous and Mixed Waste department received verbal notice from TSCA Operations on October 9, 1995 that all out of state waste shipments to the TSCA Incinerator have been stopped. This is until each site sending waste has a Residue Management Plan Approved by DOE-Oak Ridge.

The Liquid Mixed Waste Project - Tank Decontamination Plan was developed and forwarded to DOE-FN. Following their review DOE-FN transmitted the document to OEPA for approval.

The Mixed Waste Stabilization Project processing equipment, with the exception of the screen, arrived on site and is being set-up within Plant 6. Piping and ductwork has been installed for hook-up to the equipment when it is placed into position.

The General Work Plan for the Chemical Treatment Project was developed and distributed within FERMCO. Comments from this review have been incorporated and DOE-FN is currently reviewing the document prior to formal transmittal to OEPA.

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*Removal Actions*

**RA No. 9, Removal of Waste Inventories (continued)**

**Planned Activities:**

- Continue shipment of uranium derbies to Oak Ridge, Tennessee.
- Continue shipment of normal uranium process materials to Allied Signal.
- Continue packaging operations of LLW materials to be shipped to NTS upon easing of FY 1996 spending constraints.
- Incorporate DOE comments into the Chemical Treatment Project General Work Plan and send the document to DOE-FN for transmittal to OEPA and USEPA for approval.
- Start operations of the Mixed Waste Stabilization Project.
- OEPA verbal approval may be received in early November 1995.

**RA No. 12, Safe Shutdown**

**Current Month:**

The removal of holdup material from Plant 9 continues with work in the Zimlo/water treatment, Rockwell furnace, NPR furnace and machining areas. Cores from the Rockwell furnaces were removed and repackaged. Combustible materials were removed and holdup removal conducted from a dust collector in the MAWS area. All nitric acid lines and tanks in the Zimlo area have been drained. Utility disconnections were continued. Work on the redistribution of electrical power that runs through the Plant 9 complex continues.

Enclosed walkways and contamination barriers were constructed between the control point and individual buildings in the Pilot Plant complex. General housekeeping and cleaning was conducted in preparation for holdup removal. Several utility disconnections were accomplished. Commenced holdup removal from the Heat Treatment system and an exterior dust collector. Twenty-six mass restricted red drums in the thorium contaminated area of the Pilot Plant still await relocation to an interim on site storage location.

Utility disconnections in Plant 5 were continued. All the drums of mass restricted material have been removed and relocated to an interim on site storage location. The removal and redistribution of salvageable equipment and the design of the redistribution of power feeding through Plant 5 continues.

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RA No. 12, Safe Shutdown (continued)

**Planned Activities:**

- Continue holdup material removal and utility disconnections in Plant 9.
- Complete the relocation of stored enriched restricted material from the Pilot Plant. Continue holdup material removal and utility disconnections.
- Continue utility disconnections and holdup material removal plan development in Plant 5.
- Continue advanced planning to support Safe Shutdown of Plant 2/3.

RA No. 13, Plant 1 Ore Silos

**Current Month:**

Review responses to OEPA's comments on the Final Report. No comments were received from U.S. EPA on the Final Report.

**Planned Activities:**

- Transmit responses to OEPA's comments on the Final Report by November 2, 1995.

RA No. 15, Scrap Metal Piles

**Current Month:**

Phase I: None to report.

Phase II: The Engineering Study contract was awarded to Manufacturing Sciences Corporation, Oak Ridge, TN, on September 20, 1995. The Phase II study is scheduled for completion by April 30, 1996.

**Planned Activities:**

- Phase I: Final disposition of the waste streams continues to be determined.
- Phase II: The Engineering Study of the Phase II waste streams will be managed by Waste Programs Management.
- Continue preparation of RA No. 15 Final Report.

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**RA No. 15, Scrap Metal Piles (continued)**

KEY MILESTONES	STATUS	DUE DATE
Phase I - On-Site Processing Off-Site Processing	Completed Completed	Sept. 30, 1993 March 25, 1994
Phase I - Submit draft Final Report to U.S. EPA	Completed	October 4, 1994
Phase IIB: Submittal of Subcontractor's Removal Action Project Plan	Cannot proceed until treatability/engineering study is completed.	Sept. 30, 1993
Phase IIB: Submittal of Final Report	Cannot proceed until treatability/engineering study is completed.	March 30, 1995

**RA No. 17, Improved Storage of Soil and Debris**

**Current Month:**

October 1995 activities included the resolution of final internal comments of the draft final report/closeout documentation for the two completed field activities (Third St. Soil and Rubble Pile and the Removal/Containerization of the SMP residues). The draft Final Report was submitted to the U.S. and Ohio EPAs within the new draft Revision 3 of the RvA 17 Work Plan on October 10, 1995.

**Planned Activities:**

- Await comments from the U.S. and Ohio EPAs on the draft Revision 3 of the RvA 17 Work Plan.

**RA No. 19, Plant 7 Dismantling**

**Current Month:**

Processing of the Plant 7 steel is complete as of October 25, 1995 at ALARON's decontamination facility for unrestricted reuse of the 761 tons of structural steel to achieve free release in the range of 40% to 50%. About 450 tons have been free released to date. The steel staged for spin blast and chemical decontamination processing was processed through the descaler. This reduced the amount of secondary waste. The descaler/torit were purged and decontaminated by October 30, 1995 and the processing area decontamination is in process.

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**RA No. 19, Plant 7 Dismantling (continued)**

ALARON shipped 29 roll off boxes and 4 large white metal boxes of the primary waste that cannot be processed back to FERMCO.

Preparation of the ALARON draft Final Report is in process.

Processing is complete for the Plant 7 lead at SEG's Central Volume Reduction Facility for unrestricted reuse of about 7 tons of lead. About 6 tons were free released.

**Planned Activities:**

- Decontamination of the ALARON processing area by November 10, 1995.
- Ship 6 large white metal boxes and 1 roll off box of primary waste from ALARON to FEMP by November 3, 1995.
- ALARON to submit draft final report by November 8, 1995.
- Ship 2 large white metal boxes of primary waste from ALARON to FEMP by November 17, 1995.
- Ship 3 van trailers and 2 large white metal boxes of secondary/tertiary waste from ALARON to FEMP by November 17, 1995.
- Continue consolidation of containers of primary waste at Plant 7 Pad.
- SEG to submit draft final report by November 3, 1995.

**RA No. 20, Stabilization of UNH Inventories**

**Current Month:**

As of the end of October 1995, the following items remained to be completed:

- Completion of Tank D1-7 processing
- Processing of the last batch of Nitric Acid
- Rinsing of dilution/neutralization Tank F1-25 and F1-26
- Rinsing of Tanks D1-7 and D1-11
- Rinsing of piping pieces removed during isolation of the UNH storage tanks

During October, two additional sodium carbonate enhanced rinses (total 4 to date) were performed on Tank D1-7. The resulting aqueous layers were transferred to Tank D1-11.

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

While the sodium carbonate rinses continued to reduce the uranium level in the Tank D1-7 organics, the 200 ppm desired residual level was not achieved. Also, the aqueous layers subsequent to the first transfer, tended to appear more as an emulsion, causing organic material to be transferred also. The project was stopped at this point, i.e., prior to transferring any of the organic material to F1-25 or F1-26, to evaluate methods to break the emulsion and minimize organics from being moved forward in the processing. Laboratory studies are currently being performed to determine the best path forward.

Preparation for rinsing of the piping pieces removed during isolation of the UNH storage tanks is also underway. However, the Thorium Nitrate solidification project is using most of the hourly workforce dedicated to the projects and this effort is proceeding slowly.

**Planned Activities:**

- Perform laboratory studies on Tank D1-7 and D1-11 material described above and continue rinsing of removed piping pieces.

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

**Current Month:**

The asbestos abatement work was scheduled in Plant 6 and will be completed by December 28, 1995.

The six maintenance work orders in the Boiler Plant were completed the week of October 9, 1995.

The asbestos floor tile removal in the cafeteria continues.

**Planned Activities:**

- Continue to remove asbestos floor tile from the cafeteria.

**RA No. 28, Contamination at the Fire Training Facility**

**Current Month:**

Responses to OEPA's comments on the Fire Training Facility Final Report were submitted to OEPA on October 19, 1995.

**Planned Activities:**

- None to report.

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*Removal Actions*

**RA No. 30, Seepage Control and Removal of Sediment at the South Field and Inactive Flyash Pile**

**Current Month:**

Construction of the seepage control was completed on August 16, 1995, corresponding with the construction schedule, operation and maintenance will continue. As-built drawings were completed September 29, 1995. The final report was issued to DOE on October 25, 1995.

**Planned Activities:**

- Review and incorporate DOE comments on the final Removal Action report.

<b>KEY MILESTONES</b>	<b>STATUS</b>	<b>DUE DATE</b>
Submit RSE	Completed	October 11, 1994
Submit work plan to DOE	Completed	December 22, 1994
Submit work plan to EPAs	Completed	January 20, 1995
Complete Removal Action	Began Construction April 25, 1995	August 16, 1995

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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.

**1.2 Remedial Investigation**

**Status:**

Complete.

**1.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**1.4 Treatability Studies**

**Status:**

Dewatering Excavation Evaluation Program (DEEP) Phase IV, Dry Excavations, began October 17, 1995, with the construction of the ramp and 30-foot diameter pad in Waste Pit 1. The material excavated was found to be dry (<17% moisture), containing little debris, and strong enough to support excavation equipment. The Waste Pit 3 ramp and pad excavation was initiated October 25, 1995. The waste was found to be wet and of such a low strength, excavation equipment couldn't be supported on it. The excavation is currently being closed and will be completed by November 1, 1995. Decontamination and Decommission of equipment for the project will take about a month, with the final report to be completed in December 1995.

**Issues/Corrective Actions:**

None to report.

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**1.5 Record of Decision**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**1.6 RD Work Plan**

The Remedial Design (RD) Work Plan identifies the design deliverables, and presents the schedule for their submittal to U.S. EPA (in coordination with OEPA) for the implementation of the selected remedy described in the OU 1 Record of Decision.

**Status:**

A Final RD Work Plan was submitted to the U.S. and Ohio EPAs on July 7, 1995. The RD Work Plan identifies the following preliminary design deliverables: Plant Facilities Design Criteria Package, Plant Facilities Engineering, Equipment Specifications, Site Improvement Plan, Construction Schedule, Excavation Plan, Site Restoration Plan, and Transportation and Disposal Plan. Final internal reviews and revisions were completed in October 1995 and the Preliminary Design deliverables were submitted to the EPAs on October 23, 1995. Comments on these deliverables are due from the EPAs by December 26, 1995.

In a letter to the U.S. and Ohio EPAs dated August 18, 1995, providing a proposal for integration of site-wide remedial planning, DOE requested that the OU 1 Site Restoration Plan be deleted as an OU 1 remedial design deliverable. The letter also stated that the scope of this deliverable would be addressed in a site-wide plan as discussed in the proposal enclosed therein. In letters of September 8, and September 15, 1995, OEPA and U.S. EPA, respectively, expressed support of this proposal for site-wide integration, although both agencies stated that additional detail is needed and should be reflected in the respective PD/RA planning documents. In a letter dated October 12, 1995, DOE responded by stating that change pages would be issued for the OU 1 RD Work Plan upon approval of the OU 5 RD Work Plan, explicitly clarifying the scope of activity required by the OU 1 ROD that will be provided for in the OU 5 Remedial Design process. Change pages will also be issued at that time to describe the integrated Decontamination and Decommission concept with OU 3, providing a schedule for submittal of associated Implementation Plans.

Planning efforts were initiated in October 1995 for a planned public meeting on November 14, 1995, for the purpose of reviewing, with the public, key components of the OU 1 remedial design, as reflected in the Preliminary Design package.

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**1.6 RD Work Plan (continued)**

**Issues/Corrective Actions:**

None to report.

**1.7 RA Work Plan**

The Remedial Action (RA) Work Plan provides the basis for implementation of the Remedial Design Work Plan and includes, but is not limited to, the following: Sampling and Analysis Plan, Quality Assurance Project Plan, Health & Safety/Contingency Plan, Operations and Maintenance Plan, and a plan for meeting permitting requirements.

**Status:**

The Remedial Action Work Plan is scheduled for submittal to the U.S. and Ohio EPAs by October 22, 1996, as stated in the Remedial Design Deliverable Schedule submitted as part of the RD Work Plan.

**Issues/Corrective Actions:**

None to report.

**1.8 Planned Activities for November 1995:**

- Complete the Decontamination and Decommission of all DEEP equipment related to field activities in November 1995.
- A public workshop is planned for November 14, 1995, to review, with the public, key components of the OU 1 remedial design, as reflected in the Preliminary Design package.

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**2.0 Operable Unit 2**

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

**2.1 RI/FS Work Plan Addendum**

**Status:**

Complete.

**2.1.1 RI Field Investigation**

**Status:**

Complete.

**2.2 Remedial Investigation**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 2 REMEDIAL INVESTIGATION REPORT**

**PRIMARY MILESTONES**

SCOPE	SUBMIT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	FINAL DUE DATE TO EPA <sub>s</sub>	ACTUAL DATE SUBMITTED
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.	2/18/94 C	4/22/94	1/21/95	1/20/95

C = Consent Agreement Date

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*Remedial Investigations/Feasibility Studies*

**2.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 2 FEASIBILITY STUDY/PP REPORT**

**PRIMARY MILESTONES**

SCOPE	SUBMIT DRAFT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	SUBMIT FINAL DRAFT TO EPA <sub>s</sub>	ACTUAL FINAL SUBMITTAL TO EPA <sub>s</sub>
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.	4/29/94 C	7/5/94 C	8/24/94 C	3/1/95

C = Consent Agreement Date

**2.4 Treatability Studies**

**Status:**

None to report.

**Issues/Corrective Actions:**

None to report.

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*Remedial Investigations/Feasibility Studies*

**2.5 RD/RA Work Plan**

**Status:**

The Operable Unit 2 Draft Remedial Design Work Plan report was submitted to the U.S. EPA for review and approval and the OEPA for review on August 4, 1995. The document was transmitted three days ahead of schedule. Conditional Approval was received from U.S. EPA on September 18, 1995. Responses and change pages were sent to the EPA on October 17, 1995.

**Planned Activities for November 1995:**

- Address any comments on change pages and respond to request.

**2.6 Record of Decision**

**Status:**

The Record of Decision (ROD) was signed by DOE and submitted to the EPAs on May 12, 1995. Formal approval was received June 8, 1995 and the Final Operable Unit 2 ROD was submitted to the EPAs and general distribution was completed.

**2.7 Pre-Design Field Investigation**

**Status:**

A draft Predesign Investigation Report was submitted to DOE for review on June 12, 1995. DOE comments were incorporated into the report and the document was transmitted to the U.S. and Ohio EPAs ahead of schedule on July 28, 1995. The OEPA comments to the document were received September 11, 1995 and U.S. EPA approved the report on September 14, 1995. Responses to Ohio EPA comments were incorporated and resubmitted on October 10, 1995.

**Planned Activities for November 1995:**

- None to report.

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***Remedial Investigations/Feasibility Studies***

**2.8 Geotechnical Field Investigation**

**Status:**

All field investigative activities related to the Phase III of the Site-Wide Disposal Facility Field Investigation have been completed. Ninety percent of laboratory results was received from PARSONS on September 6, 1995.

A draft Geotechnical Work Plan for on-site clay borrow material, off-site material sources and the OU 2 waste units was conditionally approved by OEPA on August 30, 1995 and approved by U.S. EPA on August 31, 1995. Field work began on September 5, 1995. Field investigation activities were completed on October 16, 1995.

**Planned Activities for November 1995:**

- Issue the Final Geotechnical Sampling and Testing Plan for On-Site Clay Borrow Areas, Off-site Material Sources and OU 2 Waste Units.

**2.9 Disposal Facility**

**Status:**

The preliminary design package was completed and submitted to DOE on October 30, 1995 for review and comment. Included in this package was: Preliminary Calculations (3 volumes), Preliminary Technical Specifications, Preliminary Design Criteria, and Design Drawings.

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3.0 Operable Unit 3

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

3.1 Remedial Investigation/Feasibility Study Report

Status:

A streamlined and combined Draft RI/FS Report and the Proposed Plan was submitted to the U.S. and Ohio EPAs and DOE on September 11, 1995. DOE and FERMCO are awaiting comments from the EPAs, scheduled by the ACA to be received not later than 80 days after draft document submission.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 3 REMEDIAL INVESTIGATION/FEASIBILITY STUDY

PRIMARY MILESTONES

Table with 4 columns: SCOPE, SUBMIT TO EPA, RECEIVE FROM EPA, SUBMIT TO EPA FINAL. Row 1: Details the nature and extent of contaminants within the OU 3 study area... 09/11/95 C, 12/05/95 C, 01/24/96 C

C = Consent Agreement Date
F = Forecast Date

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***Remedial Investigations/Feasibility Studies***

**3.2 Engineering Studies**

**Status:**

The Draft Record of Decision is under development based on the initial submittal of the Draft RI/FS Report to the U.S. and Ohio EPAs on September 11, 1995.

**Issues/Corrective Actions:**

None to report.

**3.3 Engineering Studies**

**Status:**

The EET Decontamination of Transite Engineering Study final report was issued internally in October 1995. The Transite Characterization Engineering Study draft final report was received and reviewed internally in October 1995. Technical comments have been forwarded for resolution and incorporation into the report. The report is expected to be issued in November 1995.

A decision has been made to complete Phase I and discontinue phases planned for the future on the Ultrasonic Decontamination of Strategic Metals project. A summary report on work finished to date is being prepared.

The FEMP is supporting DOE Morgantown Energy Technology Center (DOE-METC) on a Program Research and Development Announcement (PRDA). This project is an EM-50 funded project in which KAI Tech. Inc. is developing a process that will destroy asbestos and remove radiological and heavy metal contaminants.

The Electro Hydraulic Scabbling demonstration under another PRDA in Plant 6 was completed.

**Issues/Corrective Actions:**

None to report.

**3.4 Interim Remedial Action**

**Status:**

**Prioritization and Sequencing Report** - On October 23, 1995 a response was submitted to USEPA's to update the OU 3 Remedial Design Prioritization and Sequencing Report (PSR) schedule for structural Decontamination and Decommission to reflect the accelerated planning schedule (i.e., the \$276 Million Case). The submittal committed to provide USEPA with FY-96 enforceable milestones once the annual budget has been determined.

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**3.4 Interim Remedial Action (continued)**

**Dismantlement of MAWS Equipment** - Work is proceeding towards the arrival of Lockheed staff to dismantle the soil washing equipment in Plant 9. A project-specific Health and Safety Plan was prepared and a dedicated trailer for the ten Lockheed personnel was identified. Electrical power isolation is currently being performed for these systems. Field dismantlement activities should commence by mid-November 1995.

**Issues/Corrective Actions:**

Contractual issues with Lockheed have already resulted in delays to field dismantlement. Efforts underway currently are focused on allowing field activities to go forward in November 1995.

**3.5 Planned Activities for November 1995:**

- Issue the Final report for the Transite Characterization Engineering Study.
- Issue draft summary report for the Ultrasonic Cleaning of Strategic Metals Engineering Study for internal review.
- Respond to comments received and incorporate revisions to the OU 3 RI/FS Report.
- Initiate development of an approach for incorporation into the RI/FS Report the sitewide strategy for disposal of RCRA listed and characteristic wastes within the on-property disposal facility.
- Continue coordination activities between OU 3 Engineering, Construction, OU 2 Engineering, and the disposal cell Architectural and Engineering Firm.
- Coordinate remedial action activities between the Feasibility Study group, Radiological Engineering, and Construction. Issues to be addressed are a safe and effective method of decontaminating enriched equipment; storage of construction debris, including both containerized and non-containerized configurations; and determination of contamination limits for the removal of the exterior shell of buildings and structures to be Decontaminated and Decommissioned through implosion.
- Submittal of the Draft OU 3 Record of Decision for internal FERMCO review.
- Submittal of the Draft OU 3 Record of Decision for DOE-FN review and approval. This activity is aggressively scheduled for November 30, 1995.

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***Remedial Investigations/Feasibility Studies***

**4.0 Operable Unit 4**

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

**4.1 RVFS Work Plan**

**Status:**

Complete.

**4.2 Remedial Investigation**

**Status:**

Complete.

**4.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**4.4 Treatability Studies**

**4.4.1 Bench Scale Treatability Studies**

**Status:**

Complete.

**4.4.2 Pilot Plant Treatability Studies**

**Status:**

The Phase I and Draft Final Phase II Work Plan was submitted to the DOE-FN on August 18, 1995. Currently addressing DOE-FN comments on the Phase I and Draft Final Phase II Work Plan.

**Issues/Corrective Actions:**

None to report.

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**4.5 Record of Decision**

**Status:**

Complete.

**4.6 RD Work Plan**

**Status:**

Complete.

**4.7 Planned Activities for November 1995:**

- Continue construction of the Phase I Pilot Plant facility.
- Address comments on the Phase I Work Plan.
- Address comments on the Phase II Work Plan.

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**5.0 Operable Unit 5**

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

**5.1 Remedial Investigation**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 5 REMEDIAL INVESTIGATION REPORT**

**PRIMARY MILESTONES**

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

C = Consent Agreement Date  
A = Actual Date

**5.2 Feasibility Study/Proposed Plan (FS/PP)**

**Status:**

The Feasibility Study Report was completed on July 21, 1995.

**Issues/Corrective Actions:**

None to report.

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OPERABLE UNIT 5 FEASIBILITY STUDY/PROPOSED PLAN

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPAs	RECEIVE FROM EPAs	SUBMIT TO EPAs 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.	11/15/94 C 11/15/94 A	01/16/95 C	02/14/95 C

C = Consent Agreement Date  
A = Actual Date

**5.3 RCRA Monitoring**

**Status:**

Data from the RCRA groundwater program is currently being reviewed.

**Issues/Corrective Actions:**

None to report.

**5.4 Treatability Studies**

Complete.

**5.5 Record of Decision (ROD)**

**Status:**

The draft ROD was submitted to the U.S. and Ohio EPAs on August 2, 1995. Comments were received from the agencies September 22, 1995, making October 23, 1995 the date that responses and a draft final ROD were due for resubmittal. On October 20, 1995 DOE requested an extension to resolve certain issues raised by the agencies. A meeting was held on October 26 to come to discuss outstanding issues. Due on or before November 13, 1995, the ROD is being revised and reviewed internally.

**Issues/Corrective Actions:**

None to report.

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***Remedial Investigations/Feasibility Studies***

**5.6 Other Studies/Reports**

**Status:**

On September 19, 1995, the U.S. EPA approved the OU 5 K<sub>1</sub> Sampling and Analysis Results Report pending transmittal of change pages. These change papers were sent to the U.S. and Ohio EPAs on October 18, 1995.

**Issues/Corrective Actions:**

None to report.

**5.7 RD/RA Activities**

**Status:**

Initiated draft of the Remedial Design (RD) Work Plan. The RD Work Plan is due 60 days after the ROD is finalized by the regulatory agencies.

**Issues/Corrective Actions:**

None to report.

**5.8 Planned Activities for November 1995:**

- Finalize responses to agency comments on the draft ROD and resubmit a draft final document by November 13, 1995 to the EPAs.
- Prepare the Injection Test Report for submittal to the U.S. and Ohio EPAs before the end of November 1995.
- Continue preparation of the draft Remedial Design Work Plan.
- Begin work on the draft Site-Wide Environmental Monitoring Plan (part of the RD Work Plan).
- Continue preparation of the Groundwater Reinjection - Great Miami Aquifer Remediation Strategy Report.

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6.0 Community Relations

**Status:**

In support of DOE Headquarters initiatives to investigate alternative sources of radium which could provide the medical community with needed isotopes for cancer research, FERMCO has placed a subcontract with the University of Cincinnati (UC) to provide initial support activities. UC's scope of work involves conducting a worldwide search for alternative radium sources and developing an inventory which details the radium's form, mass, and activity concentration data. UC's final report is due to the DOE Fernald Area Office (DOE-FN) by November 15, 1995. DOE is also considering additional work to study potential processes for extracting the radium from vitrified K-65 waste. Several elected officials from throughout Butler County have endorsed the concept of extracting radium from Fernald's two K-65 silos prior to treatment by vitrification. The endorsement came in the form of a resolution passed unanimously by the executive board of the Butler County Emergency Management Agency.

On October 4, 1995, the monthly meeting for the Fernald Envoy Program was conducted. About 50 envoys attended and were briefed on:

- The DOE Assistant Deputy Director for Environmental Management presented information pertaining to the 10 year cleanup plan for the Fernald site. The 10 year accelerated cleanup plan is currently being pursued by DOE/FERMCO based upon funding. Current estimates include DOE receiving \$276 million annually for the next 10 years to cleanup the site.
- A survey was distributed to all envoys requesting their opinions as to whether envoys should perform additional roles. Following evaluation of survey results, it has been recommended that Envoys adopt two new internal roles. The first role will be to serve as an Internal Advisory Committee. The second role consists of Envoys facilitating employee communications.

With the new fiscal year beginning on October 1, 1995 Fernald is working under a continuing resolution and has received an installment of \$27.3 million (of its \$261.3 million FY 1996 budget) to last through November 13, 1995. The next installment, or a major portion of the FY 1996 funding should Congress approve an appropriation, is expected in early November 1995. DOE has taken appropriate measures to limit expenses until Congress approves the budget. One such measure is Fernald's recent suspension of waste shipments to the Nevada Test Site during the first quarter of FY1996. The FY1996 waste shipping goal will not be affected by this delay. However, limitation of funds may place constraints on executing remedial activities.

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**6.0 Community Relations (continued)**

Installation of pipelines in support of the public water supply project is scheduled for completion in early December 1995. Construction of a 500,000-gallon reservoir is expected to be completed shortly after the first of the year. Service connection to homeowners receiving a free tap will begin in early 1996; all connections are expected to be completed by late spring 1996. The entire public water supply system is anticipated to be operational in late spring 1996. On October 5, 1995 DOE provided a driving tour showing progress to date. Attending were two local involved stakeholders and representatives from FERMCO, OEPA, Hamilton County Department of Public Works, and Hamilton County Board of Health.

On October 6, 1995, DOE mailed notifications to approximately 800 DOE Key Stakeholders announcing the approved Site Treatment Plan for Fernald was available for public review at the Public Environmental Information Center (PEIC). The Compliance Orders issued by Ohio EPA and the site-specific responsiveness summary for the Proposed STP prepared by Ohio EPA are also available at the PEIC.

In an effort to enhance Fernald's Mutual-aid Agreement and Emergency Response capabilities with the local townships, FERMCO hosted a preliminary meeting to discuss forming a joint fire district. The townships directly involved are Ross, Morgan, Crosby and Colerain. The concept is to pool resources and manpower, not replace the individual fire departments or life squads. As an example, Fernald is completely staffed during the day but has only a limited crew during the evenings, which happens to be the opposite for the local communities. DOE is in full agreement with this concept and discussions are continuing.

The week of October 16 - 22, 1995 was declared as National Radon Week to increase public awareness about radon and its health risks. DOE supported National Radon Week by taking steps to raise Fernald employees' awareness about radon, such as what it is, where it is found, and how it can be detected.

On October 25, a public workshop was held at the Plantation to discuss the status of the on-site disposal facility. About 60 people attended. The project manager from GeoSyntec, the architectural and engineering firm contracted to design the disposal facility, gave a presentation on the history and capabilities of his company. The rest of the meeting was devoted to taking comments and concerns from the public, which were recorded on flipcharts, and will be addressed in a follow-up letter. The six areas of interest previously developed from alignment sessions between DOE/FERMCO/OEPA were: (1) Safety, (2) Compliance Regulations, (3) Quality, (4) Stakeholder Satisfaction, (5) Schedule/Milestones, (6) Cost Effectiveness. The public's responses concurred with all six with emphasis on Quality (don't let it leak) and Safety (long-time monitoring, don't exceed Waste Acceptance Criteria, and protection prior to capping). The public stressed they want to remain informed and involved during the construction and filling of the facility.

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*Remedial Investigations/Feasibility Studies*

**6.0 Community Relations (continued)**

The U.S. Department of Energy issued a notice in the Federal Register on September 22, 1995 announcing a 90-day public comment period on the FEMP Draft Waste Management Programmatic Environmental Impact Statement (PEIS). From mid-October to mid-November 1995, DOE Headquarters will conduct a series of 10 video conferences for its major sites. These video conferences allowed DOE to reach more sites in a cost effective manner and provide an opportunity for the public to:

- interact with senior level management at DOE-HQ,
- question key technical staff at Headquarters about the document and its national impacts, and
- Submit comments on the PEIS.

The Fernald video conference was held on October 26, 1995 from 2 - 4 p.m. at the site. Eleven members of the public registered to give comment at the hearing including representatives from the Fernald Citizens Task Force and FRESH. Tim Harms from DOE-HQ facilitated the hearing and several comments were submitted.

On October 26, 1995 the Fernald Residents for Environmental Safety and Health (FRESH) held their monthly meeting. About 20 people attended the meeting. The featured guest speaker was Daryl Kimball representing the Physicians for Social Responsibility. He presented his group's position against nuclear proliferation reporting some progress has been made, but there are still thousands of nuclear weapons. His concern now is that nations with nuclear capabilities will trade or sell the technology to non-nuclear nations. The DOE representative's presentation included:

- Vitrification Pilot Plant schedule delay,
- plan for Nuclear Material Disposition, and
- Removal Action 17 -- Improved Storage of Soils and Debris -- has been revised. The changes are consistent with public comments received during the OU 3 IROD public comment period.

Scheduled to speak at the November FRESH meeting is DOE's Operable Unit 4 Team Leader to discuss the delay of the startup of the vitrification pilot plant.

**Issues/Corrective Action:**

None to report.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

***Remedial Investigations/Feasibility Studies***

**6.1 Planned Activities for November 1995:**

- DOE will hold a workshop to discuss the Remedial Design activities for Operable Unit 1 on November 14, 1995 at the Plantation in Harrison, Ohio starting at 7:00 p.m.
- The regular monthly meeting of the Fernald Residents for Environmental Safety and Health will be held on Thursday, November 16, 1995 (moved up one week due to Thanksgiving). The meeting will be held at the Venice Presbyterian Church at 7:00 p.m.
- Roy Eckart, health physicist from University of Cincinnati heading up the radium research project, will submit a draft report to DOE on November 3, 1995 and a final report on the technical issues on November 15, 1995.
- No meetings will be held in October and November 1995 for the Fernald Citizens Task Force. The next meeting is scheduled for 6:00 p.m. on Thursday, December 7, 1995. Agenda items include: selecting new members; review of the work plan; and discussion of the radium issue.

**000038**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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**PERIOD ENDING OCTOBER 31, 1995**

**ENCLOSURE A**

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

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

**ENCLOSURE A**

**Introduction**

The accompanying Effluent Radiation Reports provide, in accordance with the requirements of Section XXIII.B of the Consent Agreement As Amended under CERCLA Sections 120 and 106 (a), data on the daily waste water flows, radionuclide concentrations, and loadings released to the Great Miami River and an estimate of runoff and radionuclide concentrations to Paddy's Run during October 1995.

**Summary - October 1995**

The total quantity of uranium discharged from the FEMP to the Great Miami River via Manhole 175 (Outfall 11o00004001) was 2.43 kilograms. The average uranium concentration for the previous 12 months was 0.18 mg/L. This is 20.2% of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

The total quantity of uranium discharged from the FEMP to the Great Miami River via South Plume/Stormwater Retention Basin/BDN-ETS (Outfall SP3) was 12.46 kilograms. The average uranium concentration for the previous 12 months was 0.053 mg/L. This is 6.0% of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

There were no discharges from the Storm Water Retention Basin Spillway (Outfall 11o00004002) to Paddy's Run via the Storm Sewer Outfall Ditch in October 1995.

Based on 4.28 inches of rainfall in October 1995, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 12.16 kilograms.

**7256**

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

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: OCTOBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	Calculated Total U-238 (pCi/l) (1)
1	0.083	18	41	12	0.004	4
2	0.173	14	48	16	0.010	5
3	0.207	17	38	19	0.015	6
4	0.161	7	40	21	0.013	7
5	0.273	31	320	43	0.044	15
6	0.677	310	210	510	1.307	172
7	0.399	290	160	470	0.710	159
8	0.068	66	110	85	0.022	29
9	0.207	60	89	110	0.086	37
10	0.143	38	110	60	0.032	20
11	0.180	9	44	28	0.019	9
12	0.169	16	46	38	0.024	13
13	0.124	9	36	15	0.007	5
14	0.109	11	36	19	0.008	6
15	0.052	10	35	15	0.003	5
16	0.121	***	***	28	0.013	9
17	0.146	***	***	12	0.007	4
18	0.185	***	***	16	0.011	5
19	0.178	***	***	16	0.011	5
20	0.157	***	***	8	0.005	3
21	0.117	***	***	11	0.005	4
22	0.119	***	***	19	0.009	6
23	0.166	***	***	15	0.009	5
24	0.162	***	***	14	0.009	5
25	0.136	***	***	14	0.007	5
26	0.137	***	***	16	0.008	5
27	0.136	***	***	9	0.004	3
28	0.130	***	***	8	0.004	3
29	0.090	***	***	13	0.004	4
30	0.134	***	***	22	0.011	7
31	0.155	***	***	19	0.011	6
<b>Total</b>	<b>5.295</b>				<b>2.43</b>	

\*\* Analytical results not yet available.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE A**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 001 Total Discharge

DATE: OCTOBER 1995

	Flow (MGD)	Total Alpha (pCi/l)(2)	Total Beta (pCi/l)(2)	Total U (ug/l)(2)	Total U (kgs)	Calculated Total U-238 (pCi/l)(1)(2)
Avg.	0.171	70	73	121	0.078	41
Max.	0.677	310	320	510	1.307	172
Min.	0.052	***	***	8	0.003	3

The average uranium concentration for the previous twelve months was 0.18 mg/l. This is 20.2 percent of the Derived Concentration Guide(DOE Order 5400.5) for ingested water.

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

(2) Average values presented are flow-weighted.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

**ENCLOSURE A**

**EFFLUENT RADIATION REPORT**

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

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

**DATE:** OCTOBER 1995

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

Based on 4.28 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 12.16 kgs.

**000043**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE  
AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**PERIOD ENDING OCTOBER 31, 1995**

**ENCLOSURE B**

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

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**ENCLOSURE B**

**INTRODUCTION**

Enclosure B describes actions undertaken at the FEMP during the period October 1, through October 31, 1995 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 AS AMENDED (CERCLA)**

1. Initial Remedial Measures

*Section C*

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

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

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

3. Reports and Record Keeping

*Section B*

The RI/FS Monthly Technical Progress Report for September 1995 was transmitted to the U.S. EPA and OEPA on October 19, 1995, 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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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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**Period Ending October 31, 1995**

**ENCLOSURE B**

**CLEAN AIR ACT (CAA)**

*Section E*

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

**RADIATION DISCHARGE INFORMATION**

*Section A*

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

**REPORTING REQUIREMENTS**

*Section B*

The Federal Facility Compliance Agreement Monthly Progress Report for September 1995, was transmitted to the U.S. EPA and OEPA on October 19, 1995 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.

**000046**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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Period Ending October 31, 1995

**ENCLOSURE B**

**TABLE 1**

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

<b>ACTION</b>	<b>DESCRIPTION</b>	<b>COMPLETION TIME AFTER FFCA SIGNED</b>	<b>FY1995 STATUS</b>
<b>CERCLA</b>			
1.	INITIAL REMEDIAL MEASURES		
1.C	Implement radon control plan approved by the U.S. EPA.	----	No longer applicable. Progress on actions to address radon emissions from the K-65 Silos are being reported separately under Section IX-Removal Actions of the Consent Agreement/FFCA Monthly Progress Report.
2.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY		No action required.
2.A	RI/FS work is to be conducted in accordance with the U.S. EPA guidelines.	N/A	
2.B	--No Action Required--	----	Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA sections 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for September 1995 was transmitted to the U.S. EPA and OEPA on October 19, 1995.

**000047**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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Period Ending October 31, 1995

**ENCLOSURE B**

**TABLE 1**

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

<b>ACTION</b>	<b>DESCRIPTION</b>	<b>COMPLETION TIME AFTER FFCA SIGNED</b>	<b>FY1995 STATUS</b>
<b>CLEAN AIR ACT</b>			
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 was prepared by the Effluent Monitoring and Control Section of the ES&H Division. The report was transmitted to DOE on July 15, 1994.
C.	Provide annual reports to the U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY1993 was transmitted to the U.S. EPA on June 29, 1995.
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	No stacks related to production were operating in 1994 or to this date in 1995.  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	The following test were conducted in May 1995:  May 9            Test contractor tests Laundry stack (6 hour test)  May 10          Test contractor test EIMCO stack (3 hour test)  The results of the stack tests were sent to the U.S. EPA at the address listed in the FFCA. These reports were returned, address unknown. Contact with U.S. EPA will be initiated to determine; 1) Does the U.S. EPA want these reports and if so then, 2) Where should they be mailed.
E.1	Maintain records of monthly particulate matter emissions.	----	Ongoing.

**000048**

**7258**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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**ENCLOSURE 3**

**TABLE 1**

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

ACTION	DESCRIPTION	COMPLETION TIME AFTER FFCA SIGNED	FY1995 STATUS
<b>RCRA</b>			
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.
<b>REPORTING REQUIREMENTS</b>			
B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	September's CA/FFCA Monthly Progress Report was transmitted to the U.S. EPA and OEPA on October 19, 1995.

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

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

**000050**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

**ENCLOSURE C**

**Introduction**

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

Enclosure C fulfills those requirements by describing steps taken at the FEMP during the period October 1, through October 31, 1995, 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).

**000051**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

FFA Part, Paragraph(s)	Description of Commitment	FFA Due Date	Status of Commitment
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.
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.
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.	Completed.
Part V, 23	Evaluate performance of the removal action and determine whether or not additional actions are needed prior to final remediation.	None specified.	Completed.
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 July 1995.
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 June 25, 1992. A letter was received from the U.S. EPA on October 16, 1992 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.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

<b>FFA Part, Paragraph(s)</b>	<b>Description of Commitment</b>	<b>FFA Due Date</b>	<b>Status of Commitment</b>
Part V, 26	Include direct measurement data from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	See above.
Part V, 27	Estimate radon-222 emissions from Silo 3 based upon characterization data; include the estimated radon-222 emission data from Silo 3 in the RI/FS that includes Silo 3 under the CERCLA Consent Agreement.	None specified.	Completed.
Part V, 28	Submit documentation or estimates of current radon-222 emissions from existing but newly discovered sources that contain radium-226 in sufficient concentrations to emit radon-222 in excess of NESHAP Subpart Q prior to final remediation.	Within 30 days of discovery.	No new sources identified.
Part V, 30	Submit methodology for direct measurement or other appropriate means of characterization of the relevant emissions pursuant to paragraph 29 of the FFA.	Within 45 days of the U.S. EPA response pursuant to paragraph 29.	None required.
Part V, 31	Submit results of measurements pursuant to paragraph 30.	Within 30 days of U.S. EPA approval of characterization method.	None required.
Part VI, 31	Submit monthly report on steps undertaken to implement Part V of the FFA-CARE and the data obtained in the preceding month.	20th day of succeeding month.	The progress report being submitted herewith as an integral part of the CERCLA Consent Agreement Monthly Progress Report.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending October 31, 1995**

**ENCLOSURE C**

**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, and
- 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, and
- K-65 Monitoring Data (K-65 NW, K-65 SW, K-65 NE, K-65 SE).

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

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

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

MONTH: OCTOBER  
YEAR: 1995

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

**K-65 SILO REPORT  
RADON CONCENTRATIONS  
(Daily Summary of Recorded Headspace Concentrations)**

REPORT GENERATED: 11/07/95

Daily Statistics	SILO 1				SILO 2			
	Average	Maximum	Minimum	Std. Dev.	Average	Maximum	Minimum	Std. Dev.
10/01/95	1.24E+06	2.00E+06	6.39E+05	4.17E+05	4.43E+06	4.66E+06	4.18E+06	1.64E+05
10/02/95	1.62E+06	2.86E+06	2.67E+05	9.67E+05	4.53E+06	4.70E+06	4.36E+06	9.62E+04
10/03/95	1.98E+06	2.84E+06	3.05E+05	7.46E+05	4.68E+06	4.72E+06	4.64E+06	2.54E+04
10/04/95	5.90E+05	1.70E+06	3.04E+04	4.47E+05	4.57E+06	4.75E+06	4.30E+06	1.57E+05
10/05/95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
10/06/95	5.56E+05	1.54E+06	9.13E+04	4.34E+05	4.15E+06	4.56E+06	3.74E+06	2.87E+05
10/07/95	2.38E+05	4.78E+05	5.34E+04	1.18E+05	4.38E+06	4.58E+06	4.17E+06	1.37E+05
10/08/95	1.22E+06	2.72E+06	3.38E+05	7.43E+05	4.62E+06	4.81E+06	4.48E+06	8.86E+04
10/09/95	1.42E+06	2.64E+06	4.74E+05	6.67E+05	4.82E+06	5.00E+06	4.71E+06	4.28E+05
10/10/95	1.37E+06	2.72E+06	4.90E+05	7.21E+05	4.82E+06	5.13E+06	4.57E+06	1.32E+05
10/11/95	1.50E+06	2.84E+06	3.07E+05	9.35E+05	4.87E+06	5.02E+06	4.70E+06	9.85E+04
10/12/95	2.50E+06	3.05E+06	1.44E+06	5.72E+05	4.81E+06	5.03E+06	4.63E+06	1.25E+05
10/13/95	2.00E+06	2.96E+06	8.16E+05	7.14E+05	4.99E+06	5.17E+06	4.63E+06	1.51E+05
10/14/95	1.31E+06	3.11E+06	8.16E+04	8.91E+05	4.82E+06	5.10E+06	4.30E+06	2.18E+05
10/15/95	5.58E+05	9.97E+05	2.70E+05	1.81E+05	4.87E+06	5.05E+06	4.59E+06	1.61E+05
10/16/95	6.17E+05	1.07E+06	1.91E+05	2.10E+05	4.97E+06	5.11E+06	4.80E+06	7.64E+04
10/17/95	1.39E+06	2.98E+06	6.17E+05	6.70E+05	5.10E+06	5.35E+06	4.64E+06	1.33E+05
10/18/95	1.38E+06	2.67E+06	5.18E+05	6.99E+05	5.19E+06	5.33E+06	4.92E+06	1.02E+05
10/19/95	7.87E+05	2.23E+06	2.26E+05	6.31E+05	5.02E+06	5.38E+06	4.42E+06	2.69E+05
10/20/95	6.03E+05	1.57E+06	2.81E+05	2.89E+05	4.74E+06	5.05E+06	4.38E+06	2.08E+05
10/21/95	9.70E+05	1.95E+06	2.50E+05	4.95E+05	5.09E+06	5.26E+06	4.68E+06	1.54E+05
10/22/95	1.53E+06	2.92E+06	4.37E+05	8.05E+05	5.18E+06	5.36E+06	4.26E+06	2.47E+05
10/23/95	6.05E+05	1.92E+06	1.41E+04	6.07E+05	4.68E+06	5.21E+06	4.13E+06	3.41E+05
10/24/95	1.53E+06	2.69E+06	5.29E+05	7.54E+05	5.25E+06	5.44E+06	4.79E+06	1.22E+05
10/25/95	2.03E+06	2.94E+06	1.28E+06	5.01E+05	5.40E+06	5.54E+06	5.15E+06	1.10E+05
10/26/95	1.60E+06	3.19E+06	2.99E+05	9.78E+05	5.23E+06	5.48E+06	4.60E+06	1.97E+05
10/27/95	4.18E+05	1.35E+06	2.03E+04	4.08E+05	4.85E+06	5.31E+06	4.37E+06	3.16E+05
10/29/95	5.45E+05	1.42E+06	7.44E+04	4.02E+05	4.87E+06	5.15E+06	4.61E+06	1.50E+05
10/30/95	1.82E+06	2.86E+06	1.03E+06	5.01E+05	5.13E+06	5.31E+06	4.68E+06	1.19E+05
10/31/95	1.75E+06	2.79E+06	3.27E+05	7.36E+05	5.14E+06	5.26E+06	4.63E+06	1.35E+05

**Grab Samples of Headspace**

Date:	SILO 1	SILO 2
	Concentration	Concentration
10/02/95	2.20E+06	3.48E+06
10/06/95	4.67E+05	3.03E+06
10/09/95	6.94E+05	3.52E+06
10/12/95	1.83E+06	3.73E+06
10/16/95	2.83E+05	3.61E+06
10/19/95	4.27E+05	2.74E+06
10/23/95	2.17E+06	3.65E+06
10/26/95	3.82E+06	3.25E+06
10/30/95	3.93E+05	3.79E+06

- Notes: 1. All values reported in pCi/L.  
2. Continuous data reported to three significant digits to remain consistent with the calibration data.  
\*\*\* Indicates partial or complete data loss due power failure.

G:\WP9C\FCCA\OCT\ENCC1-OC.WG3

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

Period Ending October 31, 1995

**ENCLOSURE C**

MONTH: OCTOBER  
YEAR: 1995

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

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

Daily Averages	AMS #5	AMS #6	PILOT PLANT WAREHOUSE	BKGD-1 (Fairfield)	BKGD-2 (Miami town)
	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
10/01/95	1.3	0.9	1.1	0.6	1.0
10/02/95	2.1	1.4	1.5	0.9	1.5
10/03/95	1.9	1.3	1.4	N/A (b)	2.3
10/04/95	1.0	0.8	1.0	N/A (b)	2.0
10/05/95	0.9	0.7	0.8	N/A (b)	2.4 (a)
10/06/95	0.9	0.6	0.8	N/A (b)	N/A (a)
10/07/95	0.8	0.6	N/A (b)	N/A (b)	N/A (a)
10/08/95	1.2	0.9	N/A (b)	N/A (b)	N/A (a)
10/09/95	1.5	1.2	N/A (b)	0.7	N/A (a)
10/10/95	1.9	1.3	N/A (b)	1.0	N/A (a)
10/11/95	1.9	1.4	N/A (b)	0.9	N/A (a)
10/12/95	2.3	1.6	N/A (b)	0.9	N/A (a)
10/13/95	2.1	1.6	0.7 (b)	1.1	N/A (a)
10/14/95	0.8	0.6	0.8	0.5	N/A (a)
10/15/95	1.0	0.7	0.8 (b)	0.5	N/A (a)
10/16/95	1.8	1.1	0.9 (b)	0.8	N/A (b)
10/17/95	1.9	1.3	1.5	0.8	0.8 (b)
10/18/95	1.7	1.2	1.4	0.6	1.1
10/19/95	2.2	1.5	1.7	0.8	1.1
10/20/95	0.8	0.6	0.8	0.5	0.7
10/21/95	0.7	0.5	0.8	0.4	0.6
10/22/95	1.2	0.7	0.9	0.6	0.9
10/23/95	1.5	1.2	1.3	0.6	1.0
10/24/95	0.7	0.5	0.7	0.4	0.6
10/25/95	1.3	0.9	1.1	0.6	0.9
10/26/95	1.8	1.4	1.6	0.9	1.0
10/27/95	0.9	0.6	0.8	0.5	0.7
10/28/95	0.8	0.7	0.8	0.5	0.8
10/29/95	0.8	0.6	0.8	0.5	0.7
10/30/95	1.4	1.1	1.2	0.8	1.0
10/31/95	1.3	1.0	1.2	0.6	0.9

Monthly Statistics of Daily Averages:	AMS #5	AMS #6	PILOT PLANT WAREHOUSE	BKGD-1 (Fairfield)	BKGD-2 (Miami town)
	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
AVERAGE:	1.4	1.0	0.9	0.5	1.2
MAXIMUM:	2.3	1.6	1.7	1.1	5.1
MINIMUM:	0.7	0.5	0.0	0.0	0.1
MEDIAN:	1.3	0.9	0.8	0.6	0.9
STD. DEV:	0.5	0.3	0.5	0.3	1.1

STANDARD LEGEND: 1. "(a)" indicates censored data due to erroneous readings from the monitoring equipment.  
2. "(b)" indicates partial or complete data loss due to monitor malfunction.  
3. "(c)" indicates partial or complete data loss due programming error in monitor.

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

72256

Period Ending October 31, 1995

**ENCLOSURE C**

MONTH: OCTOBER  
YEAR: 1995

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

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

Daily Averages	K65-NW	K65-SW	K65-NE	K65-SE
	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
10/01/95	1.4	1.7	3.3	2.5
10/02/95	2.1	2.5	7.1	4.9
10/03/95	3.0	2.3	7.5	5.8
10/04/95	1.6	2.9	4.3	2.6
10/05/95	1.0	3.5	0.9	0.9
10/06/95	1.6	1.4	1.8	1.0
10/07/95	0.9	0.7	1.8	1.0
10/08/95	2.3	2.2	7.8	2.9
10/09/95	2.4	1.8	10.4	8.0
10/10/95	2.0	2.2	13.2	5.4
10/11/95	2.2	2.0	7.9	4.9
10/12/95	2.7	2.7	16.6	8.4
10/13/95	2.8	2.5	20.4	11.6
10/14/95	1.0	0.8	4.0	2.1
10/15/95	1.1	1.1	3.9	1.7
10/16/95	1.9	1.8	6.6	3.5
10/17/95	3.2	2.2	5.9	3.8
10/18/95	2.0	1.8	7.9	5.7
10/19/95	2.8	2.1	9.0	5.6
10/20/95	1.3	1.0	1.9	0.9
10/21/95	0.8	0.6	1.9	0.6
10/22/95	1.3	1.1	3.2	1.7
10/23/95	2.3	1.6	2.3	2.1
10/24/95	0.8	0.5	2.5	1.0
10/25/95	3.0	2.3	12.3	4.3
10/26/95	2.4	2.3	19.4	10.6
10/27/95	2.3	0.6	1.1	0.7
10/28/95	0.9	0.8	3.1	1.4
10/29/95	0.8	0.6	2.9	1.7
10/30/95	2.6	2.9	8.7	5.7
10/31/95	3.0	1.9	4.5	3.5

Monthly Statistics	K65-NW	K65-SW	K65-NE	K65-SE
of Daily Averages:	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
AVERAGE:	1.9	1.8	6.6	3.8
MAXIMUM:	3.2	3.5	20.4	11.6
MINIMUM:	0.8	0.5	0.9	0.6
MEDIAN:	2.0	1.8	4.5	2.9
STD. DEV	0.8	0.8	5.2	2.9

STANDARD LEGEND: 1. "(a)" indicates censored data due to erroneous readings from the monitoring equipment.  
2. "(b)" indicates partial or complete data loss due to monitor malfunction.  
3. "(c)" indicates partial or complete data loss due programming error in monitor.

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

**PERIOD ENDING OCTOBER 31, 1995**

**ENCLOSURE D**

**EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER**

000059

7256

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

**Period Ending October 31, 1995**

**ENCLOSURE D**

**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."

7256

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

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

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

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

DATE: SEPTEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
2	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
3	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
4	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
5	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
6	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
7	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
8	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
9	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
10	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
11	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
12	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
13	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
14	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
15	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
16	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
17	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
18	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
19	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
20	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
21	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
22	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
23	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
24	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
25	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
26	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
27	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
28	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
29	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0
30	0.000	0.0	0.0	0.0	0.0000	0.0	0.0	0.0

Total                      0.000                      0.0000

\*\*\* Analytical results not yet available.

000061

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

**7256**

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project  
 LOCATION: [SP1] IAWWT - T108  
 DATE: SEPTEMBER 1995

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

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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.

**000062**

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

7256

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

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

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

DATE: SEPTEMBER 1995

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	0.165	3.2	9.7	4.0	0.0025 <	2.0	8.0	9.3
2	0.183	4.2	12.0	7.1	0.0049 <	2.0	8.0	10.0
3	0.174	2.8	11.0	4.9	0.0032 <	2.0	10.0	10.0
4	0.180	4.6	9.4	5.3	0.0036	2.0	9.8	10.1
5	0.172	7.5	9.6	8.4	0.0055 <	2.0	8.3	10.0
6	0.194	7.4	8.7	10.3	0.0076 <	2.0	8.0	8.3
7	0.188	7.6	7.7	9.9	0.0070 <	2.0	8.0	8.1
8	0.063	7.2	9.2	10.5	0.0025 <	2.0	8.0	8.0
9	0.000							
10	0.000							
11	0.000							
12	0.000							
13	0.000							
14	0.000							
15	0.000							
16	0.000							
17	0.000							
18	0.000							
19	0.000							
20	0.000							
21	0.110	2.1	6.8	3.2	0.0013	8.0	7.9	8.9
22	0.184	2.1	7.1	2.6	0.0018	4.4	8.6	9.0
23	0.182	2.7	9.1	3.8	0.0026	4.0	9.0	9.7
24	0.182	3.2	8.4	3.3	0.0023	7.6	9.7	9.9
25	0.175	3.1	7.4	3.7	0.0025	11.2	9.9	10.2
26	0.184	4.5	7.9	7.6	0.0053	3.8	8.2	10.2
27	0.211	3.9	6.7	6.0	0.0048 <	2.0	8.0	10.2
28	0.226	8.5	8.6	11.3	0.0097 <	2.0	8.0	8.1
29	0.197	9.1	7.9	11.2	0.0084 <	2.0	8.0	8.0
30	0.206	6.4	7.6	11.9	0.0093 <	2.0	8.0	8.0

Total 3.176

0.0847

\*\*\* Analytical results not yet available.

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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**

**7256**

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T109

DATE: SEPTEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.106	5.1	8.6	7.0	0.0047
Max.	0.226	9.1	12.0	11.9	0.0097
Min.	0.000	2.1	6.7	2.6	0.0013

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

(2) Average values presented are flow-weighted.

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

**E-2250**

Period Ending October 31, 1995

**ENCLOSURE D**

**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:** SEPTEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)
1	0.925	91	170	200	0.70
2	0.916	140	250	210	0.73
3	0.920	140	260	210	0.73
4	0.988	120	220	210	0.79
5	0.000				
6	0.000				
7	0.000				
8	0.000				
9	0.132	140	300	200	0.10
10	0.000				
11	0.000				
12	0.000				
13	0.000				
14	0.000				
15	0.000				
16	0.155	150	110	240	0.14
17	0.517	150	92	240	0.47
18	0.585	170	110	260	0.58
19	0.514	200	120	300	0.58
20	0.513	180	96	290	0.56
21	0.780	180	97	290	0.86
22	1.017	210	140	310	1.19
23	0.944	200	160	300	1.07
24	0.951	180	130	250	0.90
25	0.931	180	120	260	0.92
26	0.000				
27	0.000				
28	0.000				
29	0.000				
30	0.000				
	<hr/> 10.788				<hr/> 10.32

**000065**

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

**7256**

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (606) SWRB

DATE: SEPTEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.360	163	160	253	0.69
Max.	1.017	210	300	310	1.19
Min.	0.000	91	92	200	0.10

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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.

**000066**

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

**7256**

Period Ending October 31, 1995

**ENCLOSURE D**

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: SEPTEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)
1	0.180	400	6000	720	0.49
2	0.170	390	6500	730	0.47
3	0.184	440	5900	740	0.52
4	0.194	320	7300	730	0.54
5	0.209	380	6100	720	0.57
6	0.167	360	7900	710	0.45
7	0.196	410	7900	700	0.52
8	0.051	390	7000	680	0.13
9	0.000				
10	0.000				
11	0.000				
12	0.000				
13	0.000				
14	0.000				
15	0.000				
16	0.000				
17	0.111	493	8777	923	0.39
18	0.125	310	5800	1200	0.57
19	0.177	390	8300	700	0.47
20	0.188	370	9800	740	0.52
21	0.177	420	10100	790	0.53
22	0.179	420	10800	850	0.58
23	0.178	550	10200	1200	0.81
24	0.179	430	9700	910	0.62
25	0.179	660	10000	1200	0.81
26	0.178	640	10900	1100	0.74
27	0.184	850	11000	1600	1.11
28	0.173	760	11000	1300	0.85
29	0.147	530	11000	1000	0.56
30	0.128	1400	18000	1900	0.92
<b>Total</b>	<b>3.652</b>				<b>13.15</b>

\*\*\* No sample collected; monthly average values used for calculations.

**000067**

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

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (605) BDN/VETS

DATE: SEPTEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.122	508	9044	952	0.60
Max.	0.209	1400	18000	1900	1.11
Min.	0.000	310	5800	680	0.13

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.

000058

7256

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

Period Ending October 31, 1995

**ENCLOSURE D**

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: SEPTEMBER 1995

Day	C-BOD5 (mg/l)	TSS (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)	Chromium (ug/l)	Copper (ug/l)	Nickel (ug/l)	Hex-Chrom (ug/l)
1								
2								
3								
4								
5	3.75							
6		2	0.28	61.3	6.9	14.0	17.0	6.0
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18		19	0.14	39.2	7.5	14.0	17.0	6.0
19	7.33							
20								
21								
22								
23								
24		6	0.10	55.0	7.4	14.2	17.0	6.0
25								
26	24.00							
27								
28								
29								
30								
31								

000069

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

Period Ending October 31, 1995

ENCLOSURE D

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: SEPTEMBER 1995

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

000070

7256

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

Period Ending October 31, 1995

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

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

**LOCATION:** Valve House  
South Groundwater Contamination Plume

**DATE:** SEPTEMBER 1995

Day	Flow (MGD)	Total U (ug/l)	Total U (kgs)
1	2.030	16.8	0.13
2	1.851	5.2	0.04
3	1.881	16.3	0.12
4	2.039	19.1	0.15
5	2.138	15.7	0.13
6	1.917	17.9	0.13
7	1.990	16.7	0.13
8	1.831	16.1	0.11
9	1.903	22.8	0.16
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	1.021	16.0	0.06
20	1.495	21.0	0.12
21	1.409	22.4	0.12
22	1.459	20.2	0.11
23	1.495	19.8	0.11
24	1.377	21.9	0.11
25	1.675	17.9	0.11
26	1.901	15.3	0.11
27	2.243	20.2	0.17
28	1.776	19.7	0.13
29	1.981	14.7	0.11
30	1.992	16.3	0.12
Total	37.404		2.49

000071

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

7256

Period Ending October 31, 1995

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: South Plume

DATE: SEPTEMBER 1995

	Flow (MGD)	Total U (ug/l)(2)	Total U (kgs)
Avg.	1.247	17.6	0.12
Max.	2.243	22.8	0.17
Min.	0.000	5.2	0.04

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

(2) Average values presented are flow-weighted.

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

7256

Period Ending October 31, 1995

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP3] Valve House

DATE: SEPTEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	1.702	17	216	29	0.25
Max.	3.221	27	520	37	0.44
Min.	0.000	10	31	15	0.04

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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.

000074

7250

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

Period Ending October 31, 1995

**ENCLOSURE D**

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

DATE: SEPTEMBER 1995

Day	DO (mg/l)	IRON (mg/l)	MANGANESE (mg/l)
1			
2			
3			
4			
5			
6			
7	8.0	0.05	< 0.1
8			
9			
10			
11			
12			
13			
14	7.2	0.18	< 0.1
15			
16			
17			
18			
19			
20			
21	8.7	0.06	< 0.1
22			
23			
24			
25			
26			
27			
28	7.2	0.15	0.1
29			
30			
31			

000075