

3731

**RADON MEASUREMENTS FOR OPERABLE UNIT
1**

09/18/92



Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6357

3731

SEP 18 1992
DOE-2724-92

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HR-12
230 South Dearborn Street
Chicago, Illinois 60604

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402

Dear Mr. Saric and Mr. Mitchell:

RADON MEASUREMENTS FOR OPERABLE UNIT 1

Reference: Letter, L. Jensen to R. E. Tiller, "Waste Pit and Clearwell,"
dated August 28, 1992

In the referenced letter from the United States Environmental Protection Agency (U.S. EPA) concerning radon measurements from the Waste Pits and the Clearwell, the following was confirmed:

- the radon flux measurements from Waste Pits 1, 2 and 3 are acceptable;
- no flux measurements are required for the Clearwell; and
- a plan for Waste Pit 4, which includes 20 "Big Louies" and vent pipe monitoring, would be acceptable to U.S. EPA. This plan was submitted to U.S. EPA on June 25, 1992.

With respect to Waste Pit 5, an agreement in principle was reached with U.S. EPA during our May 27, 1992 telephone conference call. As mutually agreed, radon flux measurements for Pit 5 will not be required if the removal action is conducted on schedule. The Department of Energy, Fernald Field Office (DOE-FN) recognizes that strict adherence to the schedule is crucial.

Enclosed is a current level IV schedule for the removal action. The attachment shows that the removal action is on schedule, and indicates which

actions have been completed as of September 1, 1992. Additional pertinent information on the Waste Pit 5 situation is presented below:

- Since the refilling of the pit to its historical level was accomplished in July 1992, water has been added by rainfall, augmented by spray hoses. Approximately 95% of the contents of the waste pit are now covered by water. Pictures of Waste Pit 5 which were taken on September 1, 1992 are enclosed. These pictures document the current level of the water in the pit.
- The estimated radon flux from Waste Pit 5 stated in the Removal Action Work Plan is considered a "worst case" number. The actual flux is thought to be much lower. Radon results from the Air Monitoring Stations for the periods before, during, and after the Waste Pit 5 Liner Repair Maintenance Action have been evaluated. These results indicate that there was virtually no change in the ambient radon levels during the maintenance action. Therefore, DOE has concluded that the contribution of Waste Pit 5 to ambient levels of radon is not significant. Enclosed is a map of the radon sampling locations and a tabular summary of the average monthly ambient radon levels at these monitor locations.
- The August 27, 1992 U.S. EPA letter implies that the flux measurement procedure used for Waste Pits 1, 2 and 3 could be used for Waste Pit 5. As discussed in our June 25, 1992 letter, Waste Pit 5 is not a capped pit, and the exposed surface consists of the waste. Worker access to the pit is severely restricted due to concerns with both personnel exposure and health and safety. A new procedure would have to be developed to ensure worker safety during radon flux measurements on the surface of Waste Pit 5.

U.S. EPA and DOE-FN have previously discussed the reduction in radon flux which will be achieved by completing the Waste Pit 5 Removal Action. Additional information on Waste Pit 5 has been presented above. In summary, DOE-FN wishes to reaffirm the agreement that no radon flux measurements are required for Pit 5 unless we fail to meet the removal action schedule.

If you or your staff have any questions, please contact Rod Warner at FTS/Commercial (513) 738-8916.

Sincerely,

for 
Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Warner

Enclosures: As Stated

cc w/encs.:

L. Jensen, USEPA-V, AT-18HJ
AR Coordinator, WEMCO

cc w/o encs.:

J. J. Fiore, EM-42, TREV
K. A. Hayes, EM-424, TREV
B. Barwick, USEPA-V, 5CS-TUB-3
J. Kwasniewski, OEPA-Columbus
P. Harris, OEPA-Dayton
M. Proffitt, OEPA-Dayton
T. Schneider, OEPA-Dayton
F. Bell, ASTDR
T. W. Hahne, PRC
L. August, GeoTrans
R. L. Glenn, Parsons
D. J. Carr, WEMCO
L. S. Farmer, WEMCO
J. P. Hopper, WEMCO
J. D. Wood, ASI/IT
J. E. Razor, ASI/IT

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1991												1992												1993											
				J	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
CONTROL EXPOSED MATERIAL IN PIT 5 (RA#18)																																							
MILESTONES																																							
1R5CE01M2M	0		27FEB92A	◆ SUBMIT WORK PLAN TO DOE																																			
1R5CE01M2J	0		13MAR92A	◆ DOE APPROVE WORK PLAN																																			
1R5CE01M2K	0		26MAR92A	◆ SUBMIT WORK PLAN TO USEPA																																			
1R5CE01M3N	0		20APR92A	◆ NEPA APPROVED BY DOE																																			
1R5CE01M3E	0	1JUN92A		◆ START TITLE 1/11																																			
1R5CE01M3H	0		31AUG92A	◆ CFC																																			
1R5CE01M4C	0		14SEP92	◆ ISSUE RCA TO RUST																																			
1R5CE01M4F	0		3FEB93	◆ CONSTRUCTION END																																			
1R5CE01M4L	0		12MAY93	◆ PROJECT COMPLETE																																			
SUMMARY ACTIVITIES																																							
1R5CE02H50	0	18AUG91A	17JAN92A	ALTERNATIVES STUDY																																			
1R5CE02H40	0	17JAN92A	31AUG92A	NEPA																																			
1R5CE02H41	0	30JAN92A	20APR92A	DESIGN																																			
1R5CE02H15	0	1JUN92A	17JUL92A	WORK PLAN																																			
1R5CE02H16	53	31JUL92A	13NOV92	Subcontract Bid & Award																																			
1R5CE02H39	53	24AUG92A	13NOV92	Site Preparation																																			
1R5CE02H20	55	16NOV92	3FEB93	Subcontractor Dredging																																			
ENGINEERING EVALUATION/COST ASSESSMENT																																							
1R5CE15101	0	30JAN92A	27FEB92A	PREPARE & SUBMIT DRAFT NEPA DOCUMENTS TO DOE																																			
1R5CE15104	0	28FEB92A	20APR92A	DOE (FEMP) NEPA REVIEW																																			
<div style="display: flex; justify-content: space-between;"> <div> <p>Target Date 1 JUL 92</p> <p>Proc Date 10 SEP 92</p> <p>Design Date 1 SEP 92</p> <p>Project Start 1 AUG 91</p> <p>Project Finish 31 DEC 93</p> </div> <div> <p>Activity Activity Description</p> </div> <div> <p>Activity Activity Description</p> </div> </div>																																							
<p>WESTINGHOUSE ENV. MGMT. CO.</p> <p>CONTROL EXPOSED MATERIAL IN PIT 5</p> <p>Level IV Detail Schedule</p>																																							
<p>Westinghouse Env. Mgmt. Co.</p> <p>Date</p> <p>Revision</p> <p>Checked</p> <p>Approved</p>																																							

ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1991												1992												1993											
				J	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
				CONTROL EXPOSED MATERIAL IN PIT 5 (RA#18) REMOVAL SITE EVALUATION																																			
1R5CE21101	0	18AUG91A	18SEP91A	PREPARE RFP & ISSUE																																			
1R5CE21120	0	18AUG91A	17JAN92A	ALTERNATIVES STUDY DRAFT (ASD)ISE																																			
1R5CE21105	0	19SEP91A	7FEB92A	A/E PREPARE PROPOSAL																																			
1R5CE21125	0	17JAN92A	17JAN92A	MMCO/DOE REVIEW																																			
1R5CE21110	0	9FEB92A	10MAR92A	TECHNICAL EVALUATION OF PROPOSAL																																			
1R5CE21115	0	12MAR92A	31MAR92A	APPROVAL OF PO																																			
				WORK PLAN																																			
1R5CE22101	0	17JAN92A	27FEB92A	MMCO DEVELOP WORK PLAN																																			
1R5CE22102	0	26FEB92A	13MAR92A	DOE Site Review & Comment on Work Plan																																			
1R5CE22120	0	27FEB92A	13MAR92A	Doe HQ Review & Approve Work Plan																																			
1R5CE22110	0	17MAR92A	26MAR92A	Incorporate DOE Comments & Resubmit																																			
1R5CE22103	0	27MAR92A	20MAY92A	EPA REVIEW WORK PLAN																																			
1R5CE22104	0	21MAY92A	8JUL92A	INCORPORATE EPA COMMENTS																																			
1R5CE22105	0	9JUL92A	31AUG92A	EPA REV & APPR REVISED WORK PLAN																																			
				TITLE I/II DESIGN																																			
1R5CE25101	0	18AUG91A	18SEP91A	PREPARE & SEND TITLE I/II RFP TO A/E																																			
1R5CE25102	0	19SEP91A	7FEB92A	A/E PREPARES & SUBMITS TITLE I/II PROPOSAL																																			
1R5CE25103	0	10FEB92A	10MAR92A	A/E TITLE I/II NEGOTIATIONS & AUTHORIZATION																																			
1R5CE25105	0	1JUN92A	1JUN92A	DESIGN KICKOFF																																			
1R5CE25130	0	1JUN92A	30JUL92A	90% DESIGN, SPECS & COST ESTIMATE																																			

Date		Checked		Approved	

Westinghouse Env. Mgmt. Co.
REVISION

Sheet 3 of 4
WESTINGHOUSE ENV. MGMT. CO.
CONTROL EXPOSED MATERIAL IN PIT 5
Level IV Detail Schedule

Activity Bar/Activity Dates
Critical Activity
Program Bar
Milestone/Flag Activity
O/P

Target Date 1JUL92
Plan Date 10SEP92
Data Date 1SEP92
Project Start 1AUG91
Project Finish 31DEC91

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ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1991												1992												1993											
				J	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
CONTROL EXPOSED MATERIAL IN PIT 5 (RAM#18)																																							
TITLE I/II DESIGN																																							
1R5CE25133	0	1JUN92A	17JUL92A	<input checked="" type="checkbox"/> Prepare Site Prep Design Package <input checked="" type="checkbox"/> 90% DESIGN, SPEC & ESTIMATE REVIEW <input checked="" type="checkbox"/> CFC REVIEW & APPROVAL																																			
1R5CE25135	0	31JUL92A	14AUG92A																																				
1R5CE25145	0	17AUG92A	31AUG92A																																				
RUST FIELD/REMOVAL																																							
1R5CE74100	9	24AUG92A	14SEP92	<input checked="" type="checkbox"/> Davis-Bacon Determination <input checked="" type="checkbox"/> Request for Rust Direct Hire <input type="checkbox"/> Prepare & Issue RCA <input type="checkbox"/> Start Mobilization of Field Forces <input type="checkbox"/> Obtain CERP Permit <input type="checkbox"/> Obtain CESHWS Permit <input type="checkbox"/> Rust Prepare CAP <input type="checkbox"/> Obtain RWP Permit <input type="checkbox"/> Site Preparation- Field Work <input type="checkbox"/> Issue CWO <input type="checkbox"/> Training of Field Personnel																																			
1R5CE74102	9	24AUG92A	14SEP92																																				
1R5CE74104	3	10SEP92	14SEP92																																				
1R5CE74110	10	14SEP92	25SEP92																																				
1R5CE74114	10	14SEP92	25SEP92																																				
1R5CE74116	10	14SEP92	25SEP92																																				
1R5CE74106	10	15SEP92	28SEP92																																				
1R5CE74118	3	25SEP92	29SEP92																																				
1R5CE74120	35	28SEP92	13NOV92																																				
1R5CE74108	5	29SEP92	5OCT92																																				
1R5CE74112	3	13OCT92	15OCT92																																				
SUBCONTRACTOR REMOVAL/REMEDICATION																																							
1R5CE81100	0	31JUL92A	31AUG92A	<input checked="" type="checkbox"/> Rust Issue Draft Solicitation for Bid Package <input type="checkbox"/> Obtain Solicitation for Bidders <input type="checkbox"/> Rust Issue Final Solicitation <input type="checkbox"/> Rust Obtain Solicitations																																			
1R5CE81101	28	1SEP92	9OCT92																																				
1R5CE81102	5	12OCT92	16OCT92																																				
1R5CE81103	10	19OCT92	30OCT92																																				

DATE	REVISION	CHECKED	APPROVED

Westinghouse Env. Mgmt. Co.

WESTINGHOUSE ENV. MGMT. CO.
CONTROL EXPOSED MATERIAL IN PIT 5
Level IV Detail Schedule

Sheet 1 of 4

Target Date	13JUL92
Plot Date	15SEP92
Project Start	1AUG92
Project Finish	11DEC92

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ACTIVITY ID	REM DUR	EARLY START	EARLY FINISH	1991												1992												1993											
				J	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
				CONTROL EXPOSED MATERIAL IN PIT 5 (RA#18)																																			
				SUBCONTRACTOR REMOVAL/REMEDICATION																																			
				SUBCONTRACTOR DREDGING																																			
				FINAL REPORT/VERIFICATION																																			
1R5CE81104	5	2NOV92	6NOV92	<input type="checkbox"/> Evaluate Bids <input type="checkbox"/> Award Contract																																			
1R5CE81105	5	9NOV92	13NOV92	<input type="checkbox"/> Subcontractor Training <input type="checkbox"/> Site Mobilization <input type="checkbox"/> Dredging Operation <input type="checkbox"/> Equipment Decontamination <input type="checkbox"/> Subcontractor Demobilization																																			
1R5CE82100	10	16NOV92	30NOV92	Prepare & Issue Removal Action Final Report <input type="checkbox"/> PM/PE PREPARES & ISSUES CCN <input type="checkbox"/> PB&A PREPARES & ISSUES CC&CS <input type="checkbox"/> PB&A CLOSES JOB ORDER <input type="checkbox"/>																																			
1R5CE82105	5	16NOV92	20NOV92																																				
1R5CE82110	30	23NOV92	6JAN93																																				
1R5CE82115	10	7JAN93	20JAN93																																				
1R5CE82120	10	21JAN93	3FEB93																																				
1R5CE86100	30	4FEB93	17MAR93																																				
1R5CE86101	10	18MAR93	31MAR93																																				
1R5CE86102	10	15APR93	28APR93																																				
1R5CE86103	10	29APR93	12MAY93																																				

Activity Bar/Early Date
 Critical Activity
 Milestone/Task Activity

Target Date: 1 JUL92
 Plot Date: 10 SEP92
 Data Date: 15 SEP92
 Project Start: 1 AUG91
 Project Finish: 3 DEC93

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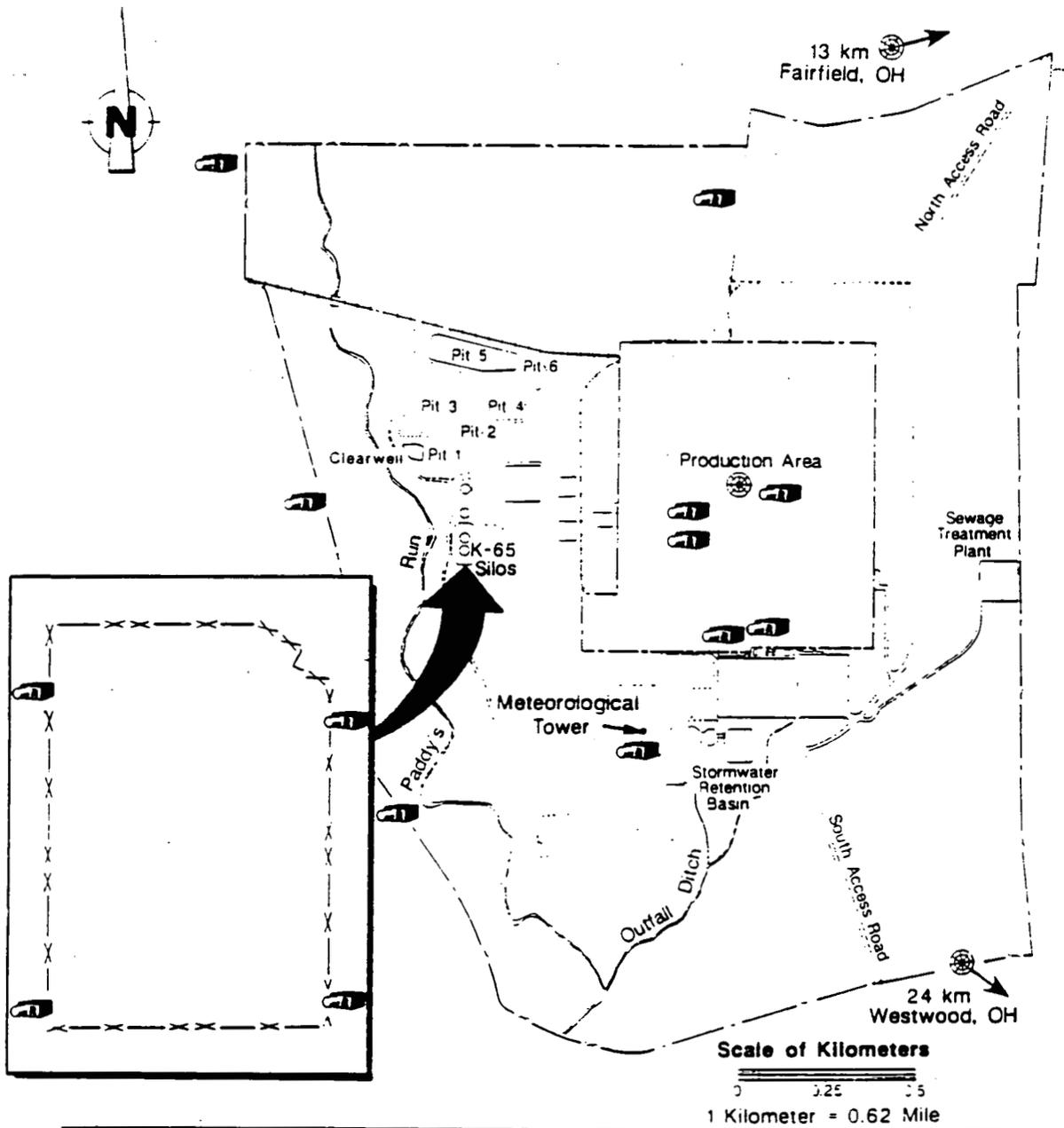
WESTINGHOUSE ENV. MGMT. CO.
 CONTROL EXPOSED MATERIAL IN PIT 5
 Level IV Detail Schedule

Sheet 4 of 4

DATE: _____
 REVISION: _____
 CHECKED: _____
 APPROVED: _____

Westinghouse Env. Mgmt. Co.

Figure 1: Real-Time Radon Monitoring Locations



LEGEND

-  Onsite Locations
-  Plant Perimeter
-  Distance from Center of Production Area to Monitoring Locations off Map
-  Production Area Perimeter

TABLE 1 SUMMARY OF RADON DATA

Locale	K-65 NW	K-65 SW	K-65 NE	K-65 SE	AMS 5	AMS 6	Pilot Plant	Back ground	AMS 1	AMS 7	Plant 2/3	Plant 5	Admin	Invivo	Met tower
Date															
9/91	5.1	4.2	8.8	7.5	1.2	1.0	1.3	0.8	0.8	1.1	1.0	1.0	1.0	0.9	1.5
10/91	6.3	8.4	15.2	22.4	1.4	1.2	1.8	0.9	0.8	1.6	1.3	1.2	1.2	1.2	1.7
11/91	69.2	7.3	13.9	13.6	0.9	0.8	1.2	0.7	0.7	0.9	0.8	0.8	0.9	0.8	1.1
12/91	1.0	1.3	1.2	1.4	0.6	0.6	0.8	0.6	0.6	0.6	0.5	0.7	0.7	0.6	0.8
1/92	0.9	1.2	1.0	1.2	0.5	0.6	0.8	0.6	0.6	0.5	0.5	0.7	0.5	0.5	0.6
2/92	0.9	1.2	1.1	1.3	0.5	0.6	0.7	0.6	0.5	0.5	0.5	0.6	0.6	0.5	N/A
3/92	1.0	1.1	1.5	0.8	1.0	1.1	1.5	0.8	0.5	0.6	0.5	0.6	0.5	0.5	0.8
4/92	0.8	1.1	2.0	0.6	0.5	0.6	0.7	0.5	0.5	0.5	0.5	0.4	0.8	0.4	N/A
5/92	1.3	1.2	1.7	0.8	0.7	0.7	0.8	0.6	0.5	0.6	0.6	0.5	0.9	0.5	N/A
6/92	1.4	1.2	1.1	0.9	0.8	0.8	0.8	0.6	0.6	0.8	0.7	0.5	0.6	0.6	N/A
7/92	0.9	1.0	1.1	0.6	0.5	1.5	0.6	0.5	0.5	0.6	0.5	0.4	0.5	0.4	0.5
8/92	1.3	1.5	2.1	1.1	0.8	0.8	0.8	0.6	1.0	1.1	0.9	0.6	0.7	0.7	0.8

1 All data is given as a monthly average of Radon in pCi/l.

2 N/A = no data available.

3 Shaded areas are for the period of time Pit 5 was uncovered.

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