



Department of Energy



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NOV 30 2005

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0033-06

Mr. Thomas Schneider, Project Manager
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

**RESPONSE TO COMMENTS FOR THE OPERABLE UNIT 4 COMPLEX SILOS 1&2
REMEDICATION FACILITY IMPLEMENTATION PLAN FOR ABOVE-GRADE
DECONTAMINATION AND DISMANTLEMENT**

Reference: Letter, J. A. Saric to J. W. Reising, "Re: OU4 Silo 1 and 2 Remediation Facility Implementation Plan," dated November 1, 2005

In response to the referenced letter, the United States Environmental Protection Agency's (US EPA) comments relating to the Operable Unit 4 (OU4) Complex Silos 1&2 Remediation Facility Implementation Plan for Above-Grade Decontamination and Dismantlement (D&D) have been addressed.

This letter transmits the response to comments along with the OU4 Complex Silos 1&2 Remediation Facility Implementation Plan Page Change Notice 2 (PCN2). Please remove the existing implementation plan pages affected by this change and replace them with the enclosure.

If you have any questions or require additional information, please contact Ed Skintik at (513) 246-1369 or me at (513) 648-3139.

Sincerely,

Johnny W. Reising
Director

Mr. James A. Saric
Mr. Tom Schneider

cc:

w/enclosures:

E. Skintik, OH/FCP

G. Jablonowski, USEPA-V, SR-6J

T. Schneider, OEPA-Dayton (three copies of enclosures)

C. Connell, ATSDR

M. Cullerton, Tetra Tech

M. Shupe, HIS GeoTrans

R. Vandergrift, ODH

AR Coordinator, Fluor Fernald, Inc./MS78

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C. Carr, OH/FCP

J. Fry, Fluor Fernald, Inc./MS14

F. Johnston, Fluor Fernald, Inc./MS52-5

C. Murphy, Fluor Fernald, Inc./MS01

P. O'Neill, Fluor Fernald, Inc./MS14

D. Sizemore, Fluor Fernald, Inc./MS01

ECDC Fluor Fernald Inc./MS52-7 Project Number 40900.2.1

Response: Section 2.2, Paragraph 2 has been changed to read: "Just prior to D&D, the Silos 1&2 Remediation Facility will be surveyed so that debris disposition can be established based on the survey results and the radiological characterization information for Silos 1&2 Remediation Facility will be issued with a submittal letter to the regulatory agencies."

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.2

Pages #: 6

Line #: NA

Original Specific Comment #: 2

Comment: The text states that standard technology will be used to prevent or minimize generation of airborne contamination. The text should be revised to summarize the standard technology that will be used or to refer to another document where this information is available.

Response: The second sentence of Subsection 2.2, Paragraph 5 has been changed to read: "Standard technology such as dust suppression (ex: misting with water) and general housekeeping will be used to prevent or minimize generation of airborne contamination."

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.2

Page #: 6

Line #: NA

Original Specific Comment #: 3

Comment: The text states that the results of an asbestos-containing material (ACM) evaluation will be forthcoming. The text should be revised to state how ACM will be segregated from other debris and weather ACM will be disposed of in the On-Site Disposal Facility or off site.

Response: The following text has been added as the last sentence to Subsection 2.2, Paragraph 7: "If necessary, ACM will be segregated from other debris and shipped to an offsite disposal facility."

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.3.2

Page #: 7

Line #: NA

Original Specific Comment #: 4

Comment: The text states that, 200,000 gallons of decontamination washwater may be generated during D&D activities. The text should be revised to state whether decontamination activities that will generate these washwaters will take place within the Silos 1 and 2 Remediation Facility footprint or at another location.

Response: The following text has been added to Subsection 2.3.2, Paragraph 2 as the second sentence: "Decontamination activities that will generate these washwaters will take place both within the Silos 1&2 Remediation Facility footprint and within an established containment area."

Commenting Organization: U.S. EPA
Section #: 2.4 Page #: 10
Original Specific Comment #: 5

Commentor: Saric
Line #: NA

Comment: The text states that environmental monitoring will include supplemental radiological air monitoring and wastewater monitoring. The text should be revised to describe how dust emissions will be monitored and controlled.

Response: The second sentence of Subsection 2.2, Paragraph 5 has been changed to read: "Standard technology such as dust suppression (ex: misting with water) and general housekeeping will be used to prevent or minimize generation of airborne contamination."

Dust emissions will be monitored in accordance with the information contained in Subsection 2.4, Paragraphs 2 and 3 under the "Radiological Air Monitoring" heading found on Page 11 of the implementation plan.

Commenting Organization: U.S. EPA
Section #: 2.4 Page #: 11
Original Specific Comment #: 6

Commentor: Saric
Line #: NA

Comment: The text states that Silos Radiological Engineering will prepare an air sampling plan for submittal to the regulatory agencies. The air sampling plan for the Silos 1&2 Remediation Facility should be submitted to the regulatory agencies prior to the start of D&D activities. The text should be revised to state that the air monitoring plan for the Silos 1&2 Remediation Facility will be submitted to the regulatory agencies prior to the start of D&D activities.

Response: The last sentence of Subsection 2.4, Paragraph 9 has been changed to read: "Prior to the start of D&D activities, the Silos 1&2 Remediation Facility Demolition ALARA and Air Sampling Plan will be provided to the regulatory agencies." Note: As Paragraph 9 carries over from Page 11, the last sentence of Paragraph 9 is found on Page 12.

Commenting Organization: U.S. EPA
Appendix #: D Page #: 4
Original Specific Comment #: 7

Commentor: Saric
Line #: NA

Comment: Photographs for the Carbon Bed Facility are labeled as "94B - Carbon Bed Facility." The photographs should be labeled as "94D - Carbon Bed Facility."

Response: The Appendix D, Page 4 photographs have been changed to read: "94D - Carbon Bed Facility."

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**OPERABLE UNIT FOUR COMPLEX SILO 1&2
REMEDICATION FACILITY
IMPLEMENTATION PLAN**

DOCUMENT NUMBER 40900-PL-0004 (REV. 0) PCN2

PAGE CHANGES

INCLUDES:

COVER PAGE/RECORD OF REVISION

PAGE 1/2

PAGE 5/6

PAGE 7/8

PAGE 9/10

PAGE 11/12

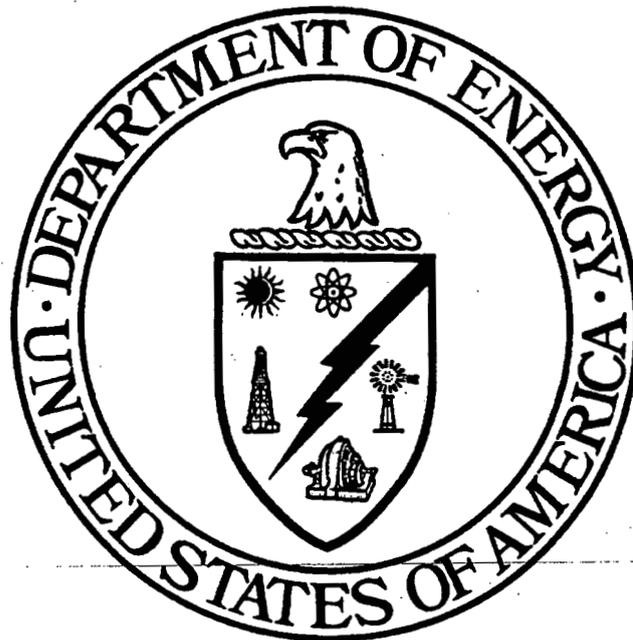
PAGE 35/36

APPENDIX D PAGE 3/4

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OPERABLE UNIT 3

OPERABLE UNIT 4 (OU4) COMPLEX SILOS 1&2 REMEDIATION FACILITY IMPLEMENTATION PLAN FOR ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT



DECEMBER 2005

FERNALD CLOSURE PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

FINAL

DOCUMENT CONTROL NO. 40900-PL-0004 (REV. 0) PCN2

RECORD OF ISSUE/REVISION

<u>DATE</u>	<u>REVISION NO.</u>	<u>DESCRIPTION AND AUTHORITY</u>
9/30/05	Rev. 0	Issued Final Implementation Plan
9/30/05	Rev. 0, PCN1	Figure 4-1 has been changed to indicate April 12, 2006 as the "Notice to Proceed" date. Accordingly, the other dates have been changed.
12/1/05	Rev. 0 PCN2	<p>The following text has been added as Subsection 1.2, Paragraph 3: "D&D of the building foundation concrete slabs and excavation/removal of these slabs along with removal of any contaminated soil within the Silos 1&2 Remediation Facility footprint will be done by the Fluor Fernald Soils Group in accordance with the most recent revision of the Excavation Plan for Area 7 Support and Silos Process Areas (DOE 2005).</p> <p>The third sentence of Subsection 2.3.4, Paragraph 2 has been changed to read: "The majority of above-grade Category E (concrete) debris disposition will be managed by the Fluor Fernald Soils Group together with the at-/below grade debris as done in all previous D&D activities." The ninth sentence of Subsection 2.3.4, Paragraph 2 has been changed to read: "All other debris not exhibiting volumetric contamination will be subjected to evaluation for free release to an approved sanitary landfill in accordance with the criteria defined in DOE Order 5400.5 "Radiation Protection of the Public and the Environment (DOE 1993b)." Table 2-1 under the "Container" row and "Cat. E" column has been changed to read: "N/A". Table 2-1 under the "Disposition" row and "Cat. E" column has been changed to read: "Fluor Fernald Soils Group".</p> <p>Section 2.2, Paragraph 2 has been changed to read: "Just prior to D&D, the Silos 1&2 Remediation Facility will be surveyed so that debris disposition can be established based on survey results and the radiological characterization information for Silos 1&2 Remediation Facility will be issued with a submittal letter to the regulatory agencies.</p> <p>The second sentence of Subsection 2.2, Paragraph 5 has been changed to read: "Standard technology such as dust suppression (ex: misting with water) and general housekeeping will be used to prevent or minimize generation of airborne contamination."</p> <p>The following text has been added as the last sentence to Subsection 2.2, Paragraph 7: "If necessary, ACM will be segregated from other debris and shipped to an offsite disposal facility."</p> <p>The last sentence of Subsection 2.4, Paragraph 9 has been changed to read: "Prior to the start of D&D activities, the Silos 1&2 Remediation Facility Demolition ALARA and Air Sampling Plan will be provided to the regulatory agencies.</p> <p>The Appendix D, Page 4 photographs have been changed to read: "94D-Carbon Bed Facility."</p>

1.0 INTRODUCTION

1.1 Project Statement

This implementation plan represents the sole remedial design deliverable developed for the Operable Unit 4 (OU4) Complex Silos 1&2 Remediation Facility decontamination and dismantlement (D&D) project, which has been prepared for regulatory agency approval pursuant to the Operable Unit 3 (OU3) Integrated Remedial Design/Remedial Action (RD/RA) Work Plan (DOE 1997). This document presents a summary of the remedial design documentation prepared for the D&D of Silos 1&2 Remediation Facility from the OU4 Complex. This D&D project is being implemented pursuant to the authority stipulated in the OU3 Record of Decision for Final Remedial Action (OU3 Final ROD) (DOE 1996a), which covers D&D, waste treatment, and disposition.

The purpose of this document is to summarize the OU4 Complex Silos 1&2 Remediation Facility D&D design in the format and content stipulated by the OU3 Integrated RD/RA Work Plan and established by previously approved D&D implementation plans. This document elaborates, as applicable, on programmatic strategies developed for the Fluor Fernald self-perform D&D scope of work and project specifications (contained in Appendix B of this document).

1.2 Scope of Work

The OU4 Complex Silos 1&2 Remediation Facility D&D project includes the following major activities:

- preparatory action/facility shutdown
- surface decontamination;
- above-grade building dismantlement;
- environmental monitoring; and
- material management.

Preparatory action: Inventory Removal and Safe Shutdown are not in the scope of this D&D project; however, Facility Shutdown shall be performed and pertinent information has been summarized in Sections 2 and 3. The following components are included in the OU4 Complex Silos 1&2 Remediation Facility D&D project:

- Building 94A – Silos Operations/Maintenance Building
- Building 94B – Silos 1&2 Remediation Building
- Building 94C – Silos 1&2 Transfer Tank Area (TTA)
- Building 94D – Silos 1&2 Carbon Bed Facility
- Building 94E – Silos 1&2 Radon Control System (RCS)
- Building 94G – Silos 1&2 Electrical Building
- Building 94J – AWR Continuous Emissions Monitoring (CEM) Building
- Building 94L – Silos 1&2 Continuous Emissions Monitoring (CEM) Building
- Building 94R – Silos 1&2 High Pressure Pump/Breathing Air Utility Building
- Building 94S – Silos Small Lab Building

- Building 94T – Silos Test Stand
- Building 94Y – Silos Maintenance Shop

D&D of the building foundation concrete slabs and excavation/removal of these slabs along with removal of any contaminated soil within the Silos 1&2 Remediation Facility footprint will be done by the Fluor Fernald Soils Group in accordance with the most recent revision of the Excavation Plan for Area 7 Support and Silos Process Areas (DOE 2005).

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Requirements for above-grade D&D of the Silos 1&2 Remediation Facility were developed using the performance specifications that were originally included in Appendix B of the OU3 Integrated RD/RA Work Plan. Appendix B of this Implementation Plan contains project-specific applications of these performance specifications that incorporate process improvements and lessons-learned from previous D&D projects at the Fernald Closure Project (FCP).

Department of Energy (DOE) will provide notification to the regulatory agencies of any significant changes to the design prior to implementation. Should the regulatory agencies have any concerns regarding any significant design change, DOE will properly address those concerns as soon as practicable and, if necessary, perform one or more of the following: amend the implementation plan, amend the OU3 Integrated RD/RA Work Plan, present an explanation of significant difference to the OU3 ROD, and/or amend the RODs. Significant changes to the design are those that require formal design modification that would impact the implementation strategies presented in this document. If necessary, affected activities may be suspended until the revision has been completed and approved. This course of action adheres to the commitments made in Section 4.2.2 of the OU3 Integrated RD/RA Work Plan for design changes.

1.3 Plan Organization

This implementation plan is comprised of five sections and four appendices. Section 1 contains the remedial action project statement, scope of work, an overview of this implementation plan, and a brief description of the Silos 1&2 Remediation Facility. Section 2 describes the overall approach to implementing this above-grade D&D project, as applied from the OU3 Integrated RD/RA Work Plan. That approach includes the projected sequence for remediation of structures, a plan for materials management, environmental monitoring activities, and the project-specific applications of implementation strategies for above-grade remediation. Section 3 presents pertinent building history and applicable building-specific details of the applicable remedial tasks. Section 4 presents the schedule for remediation and project reporting. Section 5 describes the Fluor Fernald self-perform D&D strategy and FCP project management approach.

Appendix A contains a discussion of potential environmental and occupational sampling for this project, based on the assumptions in the Sampling and Analysis Plan (SAP) contained in Appendix D of the OU3 Integrated RD/RA Work Plan, and on the remediation requirements presented in this plan. Appendix B provides the project performance specifications. Appendix C provides copies of available drawings and sketches that show floor plans and elevations of buildings/components. Appendix D contains selected photographs of notable features of the Silos 1&2 Remediation Facility.

2.0 GENERAL PROJECT REMEDIATION APPROACH

The overall approach to the above-grade D&D of the Silos 1&2 Remediation Facility is based on the project-specific applications of the programmatic elements and tasks that were described in Section 3 of the OU3 Integrated RD/RA Work Plan. Section 2 of the implementation plan summarizes the project-specific applications of those elements.

2.1 Sequencing of Remediation

The remediation sequence for components in the OU4 Complex Silos 1&2 Remediation Facility D&D project covers the period of: 1) premobilization, which includes the preparation, review and approval of the Fluor Fernald self-perform work control documents, health and safety documents, etc; 2) mobilization, which includes establishing project support facilities and controls; 3) actual D&D field activities for each building; and 4) demobilization, which includes securing the area and decontaminating/removing Fluor Fernald self-perform equipment. The actual sequence of building D&D will be determined by the Fluor Fernald self-perform project schedule which includes the operational sequence for shut-down of facilities. It is anticipated that the sequence for dismantlement may be the following:

1. Building 94T – Silos Test Stand
2. Building 94S – Silos Small Lab Building
3. Building 94R – Silos 1&2 High Pressure Pump/Breathing Air Utility Building
4. Building 94C – Silos 1&2 Transfer Tank Area
5. Building 94A – Silos Operations/Maintenance Building
6. Building 94Y – Silos Maintenance Building
7. Building 94G – Silos 1&2 Electrical Building
8. Building 94D – Silos 1&2 Carbon Bed Facility
9. Building 94E – Silos 1&2 Radon Control System (RCS)
10. Building 94J – AWR Continuous Emissions Monitoring (CEM) Building
11. Building 94L – Silos 1&2 Continuous Emissions Monitoring (CEM) Building
12. Building 94B – Silos 1&2 Remediation Facility

2.2 Characterization of the Silos 1&2 Remediation Facility

The Silos 1&2 Remediation Facility buildings are new structures. Building 94 (VITPP) was briefly operated to demonstrate the ability to make gems from surrogate material and shutdown after the melter failed resulting in RCRA contaminated systems and components. This plant was modified in 1998 to remove RCRA contaminated plant components and to decommission the facility. In 2001, partial demolition of the facility was completed removing additional structures, systems and components. At this time, the facility was renovated for its existing use as the Silos Operations and Maintenance facility.

Just prior to D&D, the Silos 1&2 Remediation Facility will be surveyed so that debris disposition can be established based on the survey results and the radiological characterization information for Silos 1&2 Remediation Facility will be issued with a submittal letter to the regulatory agencies.

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D&D debris that has come in direct contact with the Silos 1&2 material will be evaluated for disposition in accordance with the criteria outlined in Section 3.3.1 of the OU3 Integrated RD/RA Work Plan.

D&D debris that has not come in direct contact with Silos 1&2 material (ex: structural steel, non-process pipe & equipment and structural concrete) will be evaluated for disposition in accordance with the criteria outlined in Section 3.3.1 of the OU3 Integrated RD/RA Work Plan. It is anticipated that this material will be released for off-site disposal. Changing radiological conditions could alter the waste disposition of this D&D debris.

The most significant radiological concerns are the health and safety of the workers during dismantlement of Building 94B (Silos 1&2 Remediation Facility) and Building 94C (Silos 1&2 Transfer Tank Area). Standard technology such as dust suppression (ex: misting with water) and general housekeeping will be used to prevent or minimize generation of airborne contamination. Buildings 94B and 94C may have residual Radium-226 contamination. This condition may require thorough surface cleaning to remove any loose contamination and the use of additional high efficiency particulate air (HEPA) filtration ventilation devices and vacuums, which amounts to approximately two times the typical number of HEPA air filtration devices and approximately one and one-half time the typical number of HEPA vacuums.

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Specific uses of the radiological survey data to be obtained prior to the D&D activities will support the following efforts:

- Developing the safety assessment documentation to support the proposed activities.
- Enhancing the project-specific health and safety requirements and determining potential concerns for worker protection based on the suggested D&D techniques.
- Documenting expected contamination levels for self-performing the work.
- Determining personnel monitoring requirements.
- Identifying specific systems or equipment that will require radiological engineered controls prior to dismantlement.
- Air modeling for and assessment of potential radiological air emissions.
- Identifying potential gross radiological contamination that will need to be removed/fixed prior to exposing affected material surfaces to the environment.

Due to support facility construction in recent years, it is anticipated that there will be no friable asbestos containing materials (ACM) present in the OU4 Complex Silos 1&2 Remediation Facility D&D Project. Prior to demolition activities, the Silos 1&2 Remediation Facility will be evaluated by a State of Ohio-Certified Asbestos Hazard Evaluation Specialist for asbestos containing materials (ACM). Results of the evaluation will be used to determine asbestos abatement requirements for the Silos 1&2 Remediation Facility D&D activity. The results of this evaluation will be forthcoming and therefore are not available to be presented in this implementation plan. If required, sampling criteria for asbestos abatement activities will be established just prior to the OU4 Silos 1&2 Remediation Facility D&D project activities. If necessary, ACM will be segregated from other debris and shipped to an offsite disposal facility.

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2.3 Materials Management

Project-specific material management strategies for the OU4 Complex Silos 1&2 Remediation Facility D&D project are based on the overall material management strategies that were presented in Section 3.3 of the OU3 Integrated RD/RA Work Plan and the project-specific requirements presented in Specification Section 01120. Management of primary and secondary waste materials estimated to be generated during the OU4 Complex Silos 1&2 Remediation Facility D&D project is discussed in this section.

Waste minimization will be accomplished, in part, by ensuring that equipment and material are unpacked prior to entering the FCP controlled area whenever possible. This administrative control will limit the amount of trash that could become contaminated and limit quantities of any hazardous material brought into the project area.

2.3.1 Primary Materials Management

Primary materials refer to the debris that will be generated by the dismantlement of the Silos 1&2 Remediation Facility. During the remedial design, a Project Waste Identification and Disposition form (PWID - see Section 3.3.1 of the OU3 Integrated RD/RA Work Plan for description) was developed which identifies all debris to be generated along with quantities, characterization, container requirements, and disposition location. In support of the PWID, each waste stream has been characterized and documented in a Material Evaluation Form (MEF). In order to provide the sizing, segregation, and containerization requirements outlined in the OU3 Integrated RD/RA Work Plan, a Material Segregation and Containerization Criteria form (MSCC - see Section 3.3.1 and Appendix A of the work plan for description and example, respectively) was developed.

Pursuant to DOE's commitment to evaluating potential opportunities for recycle/reuse, as described in Section 3.3.6.1 of the OU3 Integrated RD/RA Work Plan, an evaluation of potential recycling for accessible metals will be performed prior to the start of Silos 1&2 Remediation Facility D&D activities.

Specification Section 01120 identifies debris/waste-handling requirements. Debris handling requirements are defined by the following classifications: 1) non-process debris; 2) process debris and 3) suspect process debris. Details regarding the handling of each of these types of debris are described in Article 3.2 of Specification Section 01120. All debris is required to be sized, segregated, and containerized in accordance with the MSCC. When debris is generated, a representative from the Waste Acceptance Organization will be present to ensure that debris is segregated according to the proper categories identified on the MSCC.

2.3.2 Secondary Waste Management

Management of secondary wastes includes handling, sampling, storage and disposition of secondary waste materials generated during remediation. Secondary waste includes vacuumed particulate, filters, personal protective equipment (PPE), spent consumables and washwaters.

Depending on the DOE-approved methods for equipment/systems dismantlement, it is possible that up to 200,000 gallons of decontamination washwaters may be generated during the D&D of the Silos 1&2 Remediation Facility and the Fluor Fernald self-perform equipment.

PCN2

Decontamination activities that will generate these washwaters will take place both within the Silos 1&2 Remediation Facility footprint and within an established containment area. This wastewater may have to be pre-treated prior to discharge to the Converted Advanced Wastewater Treatment Facility (CAWWT). Wastewater handling includes sampling and analysis of water and sludges for constituents of concern (see Section 2.4 for wastewater monitoring), discharge of approved effluent into the FCP wastewater treatment system CAWWT and sludge removal. The need for washwater sampling is determined by the Wastewater Treatment System (WWTS) Manager if significant levels of constituents of concern are present, based on an assessment of relevant OU3 Remedial Investigation and Feasibility Study (RI/FS) (DOE 1993a) analytical data and process history. Section 2.4 further discusses wastewater monitoring strategies. The ultimate disposition of wastewater into the WWTS is managed in accordance with existing site procedure EP-005 "Controlling Aqueous Wastewater Discharges into Wastewater Treatment Systems".

2.3.3 Estimates of Material Volumes

Materials to be generated during this project have been categorized using the same classification system that was developed for and described in the OU3 RI/FS and OU3 Integrated RD/RA Work Plan, and are estimated in Tables 2-1, 2-2, and 2-3.

2.3.4 Material Handling, Treatment and Disposition

Materials generated from D&D of the Silos 1&2 Remediation Facility will be reduced in size, segregated, and containerized in accordance with the requirements identified in the MSCC form. Quantities and disposition of specific material categories were documented in the PWID form for internal use. Tables 2-1, 2-2, and 2-3 summarize the MSCC and PWID by identifying quantities, containerization and disposal requirements for each category of material. Debris size requirements are described in Sections 3.3.2.1 and 3.3.6.2 of the OU3 Integrated RD/RA Work Plan.

As stated in Section 3.3.2.2 of the OU3 Integrated RD/RA Work Plan, materials will be identified according to the OU3 debris categories identified in the MSCC. The MSCC for the Silos 1&2 Remediation Facility allows for commingling of OU3 debris categories A, B, D and incidental E into the same railcars since each of these material types conform to OSDF Impacted Material Category 2. The majority of above-grade Category E (concrete) debris disposition will be managed by the Fluor Fernald Soils Group together with the at-/below grade debris as done in all the previous D&D activities. Commingling of OU3 debris categories A, B, D and incidental E is being done to conform to the OSDF impacted material categories in order to facilitate placement. By allowing the commingling of these types of debris into the same railcar, there will be more efficient use of the railcars at the FCP. Materials will be containerized inside the project boundaries adjacent to structures being dismantled. It is currently planned that filled railcars will be covered/sealed, screened for exterior radiological contamination, inspected, tagged, and shipped to an appropriate offsite disposal destination. Should any materials be encountered that contain "visible process residues" as defined in Specification Section 01120; they will be segregated into separate railcars for shipment to an appropriate offsite disposal destination. All other debris not exhibiting volumetric contamination will be subjected to evaluation for free release to an approved sanitary landfill in accordance with the criteria defined in DOE Order 5400.5 "Radiation Protection of the Public and the Environment" (DOE 1993b).

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TABLE 2-1 Silos 1&2 Remediation Facility Bulked Material Volume Estimates (yd³)

Component Number	OU3 Debris Categories								Totals
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F/G/H	Cat. I	Cat. J	
94A	94	189	N/A	94	958	N/A	60	3	1398
94B	283	566	N/A	283	1866	N/A	120	6	3124
94C	277	554	N/A	277	3324	N/A	150	12	4594
94D	36	72	N/A	36	206	N/A	30	3	383
94E	70	141	N/A	70	213	N/A	30	3	527
94G	68	136	N/A	68	27	N/A	30	3	332
94J	0	41	N/A	0	0	N/A	4	0	45
94L	0	20	N/A	5	0	N/A	2	1	28
94R	8	17	N/A	8	120	N/A	2	1	156
94S	0	30	N/A	30	0	N/A	0	0	60
94T	120	90	N/A	90	0	N/A	0	0	300
94Y	0	30	N/A	30	0	N/A	0	0	60
Complex Total	956	1886	N/A	991	6714	N/A	428	32	11,007
Container	Railcar	Railcar	N/A	Railcar	N/A	N/A	Railcar	Railcar	
Disposition	Offsite	Offsite	N/A	Offsite	F luor Fernald Soils Group	N/A	Offsite	Offsite	

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General Notes:

OU3 Debris Categories: Cat. A – Accessible Metals; Cat. B – Inaccessible Metals; Cat. C – Process-Related Metals; Cat. D – Painted Light Gauge Metals; Cat. E – Concrete; Cat. F – Brick; Cat. G – Non-Regulated ACM; Cat. H – Regulated ACM; Cat. I – Miscellaneous Materials; Cat. J – Special Handling.

TABLE 2-2 Silos 1&2 Remediation Facility Unbulked Material Volume Estimates (yd³)

Component Number	OU3 Debris Categories							Totals	
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F, G & H	Cat. I		Cat. J
94A	31	63	N/A	31	479	N/A	30	3	637
94B	94	188	N/A	94	933	N/A	60	6	1375
94C	92	184	N/A	92	1662	N/A	75	12	2117
94D	12	24	N/A	12	103	N/A	15	3	169
94E	23	47	N/A	23	106	N/A	15	3	217
94G	23	45	N/A	22	13	N/A	15	3	121
94J	0	13	N/A	0	0	N/A	2	0	15
94L	0	6	N/A	2	0	N/A	1	1	10
94R	3	5	N/A	3	40	N/A	1	1	53
94S	0	10	N/A	10	0	N/A	0	0	20
94T	40	30	N/A	30	0	N/A	0	0	100
94Y	0	10	N/A	10	0	N/A	0	0	20
Complex Total	318	625	N/A	329	3336	N/A	214	32	4,854

General Note:

Refer to Table 2-1 for OU3 Debris Category descriptions.

TABLE 2-3 Silos 1&2 Remediation Facility Material Weight Estimates (Tons)

Component Number	OU3 Debris Categories								Totals
	Cat. A	Cat. B	Cat. C	Cat. D	Cat. E	Cat. F, G & H	Cat. I	Cat. J	
94A	45	62	N/A	15	798	N/A	4	.5	924.5
94B	141	188	N/A	47	1555	N/A	8	1	1940
94C	138	184	N/A	46	2770	N/A	10	2	3150
94D	18	24	N/A	6	171	N/A	2	.5	221.5
94E	35	47	N/A	11	177	N/A	2	.5	272.5
94G	34	45	N/A	11	22	N/A	2	.5	114.5
94J	0	13	N/A	0	0	N/A	2	0	15
94L	0	7	N/A	2	0	N/A	1	.2	10.2
94R	3	6	N/A	3	100	N/A	1	.2	113.2
94S	0	10	N/A	10	0	N/A	0	0	20
94T	80	30	N/A	30	0	N/A	0	0	140
94Y	0	10	N/A	10	0	N/A	0	0	20
Complex Total	494	626	N/A	191	5593	N/A	32	5.4	6,941.4

General Note:

Refer to Table 2-1 for OU3 Debris Category descriptions.

Material tracking is performed using the Site-Wide Waste Information, Forecasting and Tracking System/Integrated Information Management System (SWIFTS/IIMS) through the FCP

waste acceptance organization. Project-specific reporting on material disposition will be provided by a SWIFTS/IIMS summary in the Project Completion Report. Section 3.3.2.2 (Segregation, Containerization, Tracking) of the OU3 Integrated RD/RA Work Plan describes material tracking and reporting using SWIFTS. OU3 Debris Categories A, B, D and E debris are classified as OSDF Category 2 material. Therefore, commingled Debris Categories A, B, D and E quantities will be tracked in SWIFTS/IIMS under a discreet Material Evaluation Form that corresponds to Impacted OSDF Category 2 debris in interim storage. Debris Category G (Transite) and Debris Category H (Regulated ACM) are regarded as OSDF Categories 3 and 5, respectively, and will also be handled separately. Since the volume of commingled debris will represent a combination of waste streams, proportions of OU3 debris categories within that total volume will be derived based on original estimates to identify and track waste volumes by OU3 debris category. These derived quantities will be documented in the Project Completion Report for the OU4 Complex. Other than tracking debris specifically for the purpose of OSDF placement, project-specific material tracking and reporting strategies for the OU4 Complex Silos 1&2 Remediation Facility D&D project do not differ from the strategies laid out in the OU3 Integrated RD/RA Work Plan and therefore no additional details were developed during the remedial design process.

The disposition strategy for Silos 1&2 Remediation Facility material is consistent with the requirements stated in the OU3 Final ROD and strategies presented in the OU3 Integrated RD/RA Work Plan.

2.3.5 Material Recycling/Reuse

Just prior to D&D activities, the 494 tons of accessible metals (Category A) from the Silos 1&2 Remediation Facility will be evaluated for either disposal to an offsite facility or potential recycling at an offsite facility.

2.4 Environmental Monitoring

Environmental monitoring for the OU4 Complex Silos 1&2 Remediation Facility D&D project will include supplemental radiological environmental air monitoring and wastewater monitoring. Groundwater monitoring is not needed to support this project but would be employed if necessary, as described in Section 3.6.2.3 of the OU3 Integrated RD/RA Work Plan.

Project-specific stormwater management is governed by the FCP Stormwater Pollution Prevention Plan (DOE 1996b) and any monitoring associated with that program is managed by OU5/Aquifer Restoration Project. Project-specific stormwater management includes the diversion of stormwater to appropriate site collection drains surrounding the project.

Surface Water (Wastewater) Monitoring

Section 2.3.2 of this Implementation Plan describes the wastewater management strategies that have been developed for the D&D of the Silos 1&2 Remediation Facility. The OU3 Integrated RD/RA Work Plan describes the overall strategies to be implemented for project monitoring of wastewater. Listed below are the specific references in the Work Plan:

- Section 3.2.5, Surface Decontamination: Wastewater collection and management strategies.

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- Section 3.3.3, Management of Secondary Waste: The overall strategy for managing wastewater, as one of the primary aspects of secondary waste, through the site wastewater treatment system.
- Section 3.5.2, Management of Contaminated Water: References site procedure to be used for contaminated wastewater evaluation/management.
- Sampling and Analysis Plan (SAP)/Section 2, General Sampling and Data Collection Approach: Focuses on wastewater sampling, among other aspects of sampling.
- SAP/Section 3, Specific Sampling Programs: Sampling for disposition of wastes, including wastewater. Determination of hazardous, radiological, and other waste characteristics.

Potential elevated levels of contaminants of concern may be present within the Silos 1&2 Remediation Facility. Based on an estimated 200,000 gallons of potential washwater, it is anticipated that up to ten samples will be taken to determine isotopic radiological and heavy metals concentrations prior to discharge into the Advanced Wastewater Treatment Facility. Of those ten samples, one will be a duplicate for quality assurance/quality control purposes. The purpose of the sampling is to ensure the adequacy of treatment capacity so that National Pollutant Discharge Elimination System (NPDES) permit requirements are met.

Project-specific reporting for wastewater will be provided in the project completion report. The report will include a summary of the data generated during the project. The report will include a summary of the results from sampling and analysis prior to its discharge into the WWTS.

Radiological Air Monitoring

Occupational monitoring will be performed using personal and workplace air samplers in the work areas to ensure worker protection and will also serve as an indication of the effectiveness of engineering controls. Any potential emissions that could affect the outside environment would be detected first by environmental and occupational monitoring. Section 8.1 of the OU3 RD/RA Health and Safety Plan (Appendix E of the OU3 Integrated RD/RA Work Plan) describes the occupational air-monitoring program.

Environmental radiological air monitoring during D&D of the Silos 1&2 Remediation Facility will consist of the Fernald Site Environmental Monitoring Program described in the site-wide IEMP, and discussed in Sections 3.5.1 and 3.6.2.1 of the OU3 Integrated RD/RA Work Plan. FCP boundary monitors are shown in Figure 2-1.

The supplemental radiological air-monitoring program implemented in preparation for operation of the Silos 1&2 Remediation Facility (as outlined in the Silos 1&2 Remedial Design Package) will be maintained during the Silos 1&2 Remediation Facility D&D activities. The sitewide IEMP also describes the locations of the radon monitors. The radon monitor locations for Silos operations will be removed or relocated as required for excavation and demolition of the Silos 1&2 Remediation Facility. The planned locations for the FCP radon monitors beginning in January 2006 are shown in Figure 2-2.

Prior to D&D of the Silos 1&2 Remediation Facility, Silos Radiological Engineering will prepare the Silos 1&2 Remediation Facility Demolition ALARA and Air Sampling Plan to address the isotopes of concern, sampling methods placement and analysis for the protection of personnel working in or adjacent to the described activities. Also, this

document will provide detail with respect to source terms, area and personnel monitoring, engineering/administrative controls and response to abnormal/unexpected air sampling results. Prior to the start of D&D activities, the Silos 1&2 Remediation Facility Demolition ALARA and Air Sampling Plan will be provided to the regulatory agencies.

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5.0 MANAGEMENT

The implementation of the OU4 Complex Silos 1&2 Remediation Facility D&D project will be performed through a coordinated effort by the Fluor Fernald self-perform project team, Fluor Fernald Project Management, support organizations and DOE Project Management. Section 7 of the OU3 Integrated RD/RA Work Plan provides the overall management structure applied to this remediation project. A description of project-specific management responsibilities has been highlighted for Silos 1&2 and associated structures in this section.

DOE will provide direct project oversight in two ways, both of which become a concerted effort to ensure that remedial activities are performed according to project specifications and requirements. The DOE Office of Operations Assurance has assigned a Facility Representative from the Fernald Field Office whose responsibilities will be to perform independent field oversight of all remedial activities performed under this project. This individual will be responsible for weekly coverage of all field activities and necessary reporting to the DOE-FCP Site Manager. The Facilities Representative will have the authority to stop work if conditions warrant such action. DOE-FCP will also conduct field oversight in the areas of construction, engineering, quality assurance, and health and safety. The DOE Facilities Representative and others will immediately notify the DOE Project Manager of any issues or problems that arise in an effort to seek prompt resolution.

The DOE Project Manager and the environmental management contractor, Fluor Fernald, will oversee the remedial action through its project team review and approval process and by performing the following functions:

- ensuring that the Fluor Fernald self-perform project team is provided with the proper direction and support necessary to meet the remedial action objectives for this project;
- detailing all work conditions and scope requirements;
- conducting a kick-off meeting where all project personnel will be instructed on the work control documents, pre-construction meetings, daily pre-work scope and safety briefings, and weekly project team meetings to address all concerns, schedule status, planning, progress, and deviations;
- performing quality assurance and quality audits of all remediation tasks to determine adherence to project specifications;
- verifying work is performed in compliance with approved health and safety plans and work control documents; and
- performing pre-final and final inspections.

The Fluor Fernald self-perform project team will perform D&D of the buildings & components, material sizing, segregation, and loading into containers and/or stockpiling. FCP Waste Generator Services personnel will perform transport of containers to and from the project area.

REFERENCES

U.S. Department of Energy, 1993a, *Operable Unit 3 Remedial Investigation and Feasibility Study Work Plan Addendum*, Final, prepared by Fluor Environmental Restoration Management Corporation, Cincinnati, Ohio

U. S. Department of Energy, 1993b, DOE Order 5400.5 *Radiation Protection of the Public and the Environment*.

U.S. Department of Energy, 1996a, *Operable Unit 3 Record of Decision for Final Remedial Action*, Final, prepared by Fluor Daniel Fernald Corporation, Cincinnati, Ohio

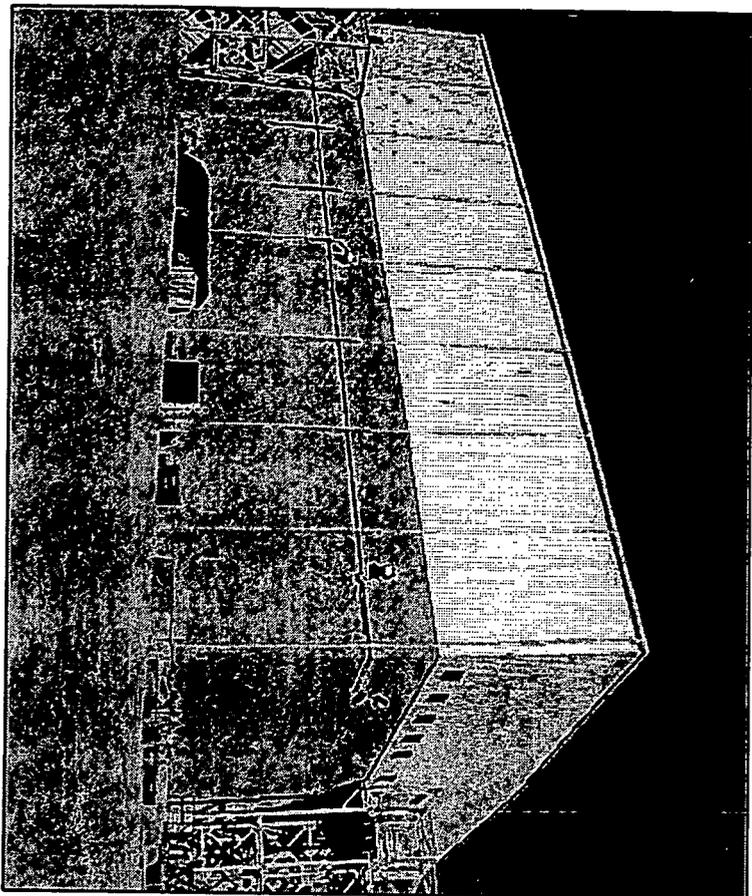
U.S. Department of Energy, 1996b, *FCP Stormwater Pollution Prevention Plan*, prepared by Fluor Daniel Fernald Corporation, Cincinnati, Ohio

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U.S. Department of Energy, 2005, *Excavation Plan for Area 7 Support and Silos Process Areas*, prepared by Fluor Fernald Corporation, Cincinnati, Ohio **PCN2**

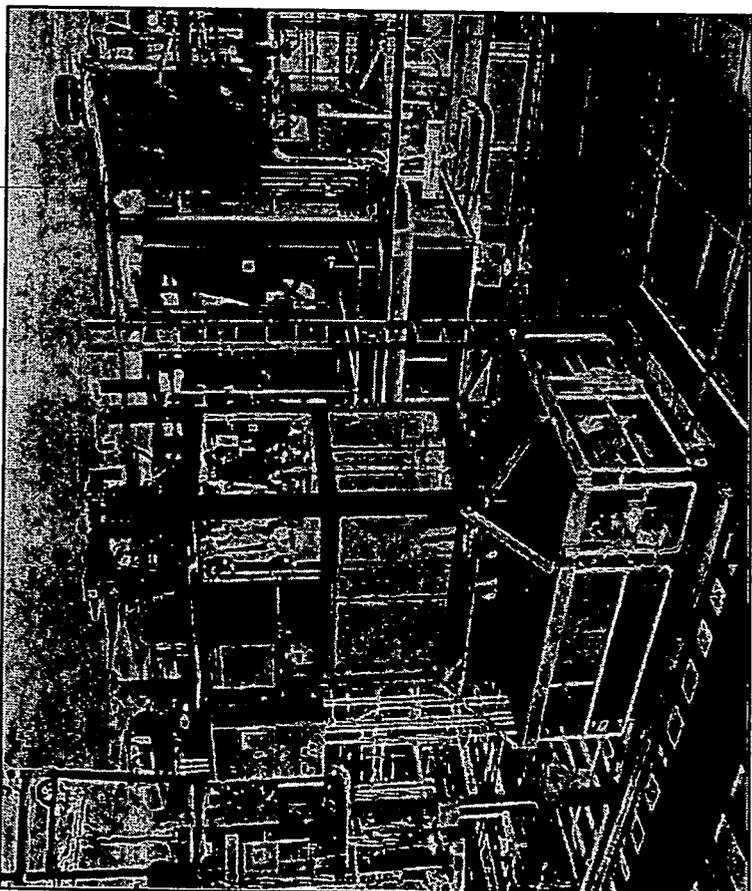
0209

94C - TRANSFER TANK AREA



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94C - TRANSFER TANK AREA



7385D-3740

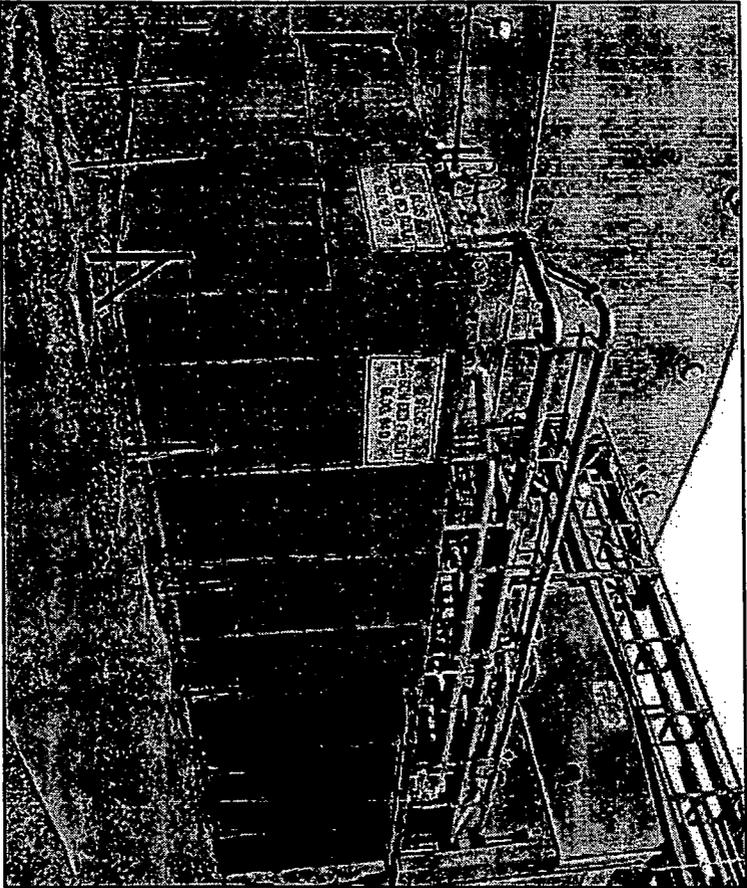
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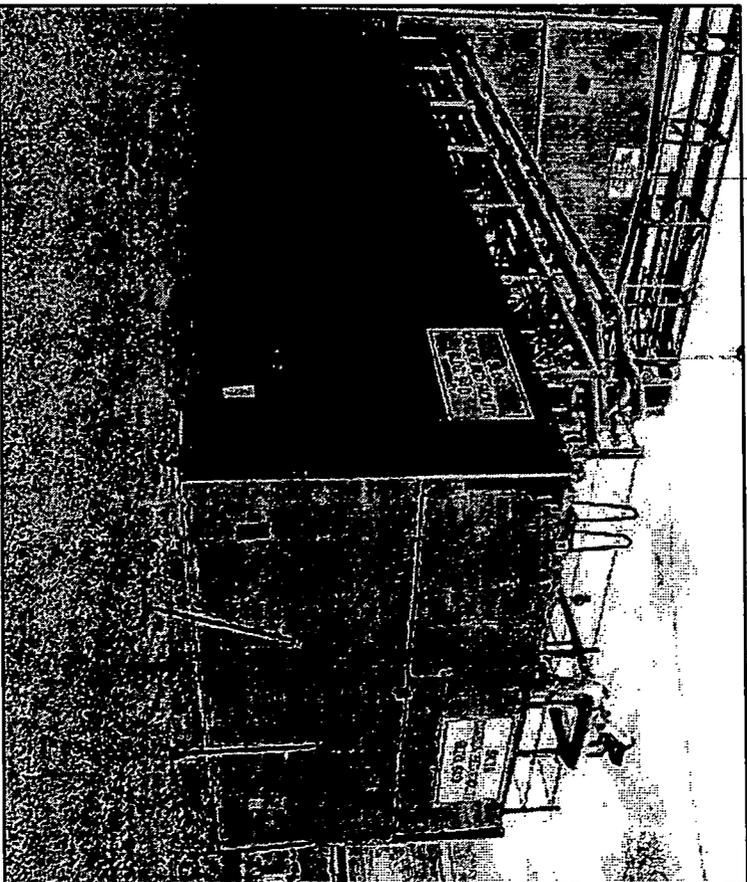
94D - CARBON BED FACILITY

94D - CARBON BED FACILITY

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