



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

JUL 21 2000

FERNALD 3176

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FILE:

REPLY TO THE ATTENTION OF: SRF-5J

LIBRARY:

Mr. Johnny W. Reising  
United States Department of Energy  
Fernald Area Office  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705

Subject: Disapproval of the Remedial Design Package for the Silo 3 Project

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the *Remedial Design Package for the Silo 3 Project* (RDP) as part of its oversight activities for Operable Unit 4 at the Fernald Environmental Management Project. The RDP, which is dated May 2000, was prepared by Rocky Mountain Remediation Services, subcontractor to Fluor Fernald, for the U.S. Department of Energy. The document provides design and management information for removing, treating, and disposing of Silo 3 materials.

U.S. EPA's review of the RDP focused on assessing its technical adequacy and completeness. While this RDP includes descriptions of the various transportation and disposal options as well as a current preference, it does not specify the transportation and disposal option that will be implemented, nor does it specify the disposal facility and mode of transportation selection process. Also, U.S. EPA found that the document is missing a number of process and instrumentation drawings and contains several discrepancies. Therefore, U.S. EPA disapproves the RDP. Please contact me at (312) 886-4591 if you have any questions.

Sincerely,

Gene Jablonowski  
Remedial Project Manager  
Federal Facilities Section  
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO  
Bill Murphie, U.S. DOE-HDQ  
John Bradburne, Fluor Fernald  
Terry Hagen, Fluor Fernald  
Tim Poff, Fluor Fernald

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ENCLOSURE

TECHNICAL REVIEW COMMENTS ON "SILO 3 REMEDIAL DESIGN"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

(Two Pages)

## TECHNICAL REVIEW COMMENTS ON "SILO 3 REMEDIAL DESIGN"

## FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

## GENERAL COMMENTS

Commenting Organization: U.S. EPA

Original General Comment #: 1

Section #: Not Applicable (NA) Page #: NA

Line #: NA

Comment: The document should include process and instrumentation drawings (P&ID) showing how the entire treatment process will be controlled and monitored. The text often refers to these missing drawings. Without the P&IDs, evaluation of the Silo 3 remedial design is difficult. In addition, the flow diagrams included do not show how each system's operating pressures and flow rates are maintained. The document should include this information for the proposed control system.

Commenting Organization: U.S. EPA

Section #: NA

Page #: NA

Line #: NA

Original General Comment #: 2

Comment #: The document omits text. For example, the first paragraphs on pages 5 and 6 of Section 5.0 are obviously incomplete. The document should be carefully reviewed and revised to include the missing text.

## SPECIFIC COMMENTS

## PROCESS DESCRIPTION - SECTION 2.1

Commenting Organization: U.S. EPA

Section #: 2.3

Page #: 4

Line #: NA

Original Specific Comment #: 1

Comment: The text states that the conveyance system air blower (11-BL-001) will discharge air through a chilled water coil. Following the chiller, the air stream is split, with one stream going back to the silo and the other stream going into heating, ventilation, and air conditioning (HVAC) System 75. Appendix A, Drawing No. 55-2000, indicates that System 75 is an off-gas baghouse and not an HVAC system as stated in the text. This discrepancy should be resolved.

## PROCESS CONTROL PLAN - SECTION 2.3

Commenting Organization: U.S. EPA

Section #: 1.4.1

Page #: 8

Line #: NA

Original Specific Comment #: 2

Comment: The text in the table indicates that the emergency shutdown sequence will not be initiated until the silo air pressure reaches +0.5 inch water gauge. However, the "Operational Environmental Control Plan" notes that the silo headspace is known to contain elevated radon concentrations of more than 200,000 picocuries per liter. The shutdown set point should be lowered to approximately zero to minimize the possibility of a significant radon release from the silo. Similar considerations apply to other locations that could emit large quantities of radon.

Commenting Organization: U.S. EPA  
Section #: 1.4.1                      Pages #: 8 through 10                      Line #: NA  
Original Specific Comment #: 3  
Comment: A number of P&IDs are referenced in the "Key Regulatory Parameters" tables; however, none of these drawings have been included in this document. The document should be revised to include all P&ID drawings referenced in the document.

#### TRANSPORTATION AND DISPOSAL PLAN - SECTION 2.4

Commenting Organization: U.S. EPA  
Section #: 1.2                      Page #: 1-2                      Line #: NA  
Original Specific Comment #: 4  
Comment: While this Transportation and Disposal Plan includes descriptions of the various transportation and disposal options, it does not specify the transportation and disposal option that will be implemented, nor does it specify the process for selecting the disposal facility and mode of transportation. The "Project Approach" section should describe the process that Fluor Fernald will follow for the timely selection of the disposal facility and mode of transportation, and ensure that shipment and disposal can be performed promptly as stabilized material is generated.

#### SAMPLING AND ANALYSIS PLAN - SECTION 3.0

Commenting Organization: U.S. EPA  
Section #: 2.2.6                      Page #: 2-6                      Line #: NA  
Original Specific Comment #: 5  
Comment: The text states that the daily sample from an expected output of approximately 120 drums will be composited from grab samples taken from the 40th, 80th, and 120th (or last of the day) drums. However, such composite samples will be biased toward the conditions and performance of later parts of each day's run. The proper sampling practice would be to select a random integer "n" between 1 and 40 each day. The grab samples would then be collected from the nth, nth + 40, and nth + 80 drums. If experience shows that a day's output is usually less than 110 drums or more than 130 drums, the number "40" should be adjusted appropriately. A sample selected this way would be more representative of each day's run. The text and Figures 2-1 and 2-2 should be modified accordingly.