Department of Energy

Ohio Field Office
Fernald Closure Project
175 Tri-County Parkway
Springdale, Ohio 45246

NOV 16 2006

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-0065-07

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:

REVISED RESPONSE TO COMMENTS ON THE SILOS 1 & 2 REMEDIATION FACILITY DECONTAMINATION AND DISMANTLEMENT PROJECT COMPLETION REPORT

References: 1. Letter, James Saric to Johnny Reising, "Silos 1 & 2 Remediation Facility Completion Report," dated September 13, 2006

2. Letter, Thomas Schneider to Johnny Reising, "Comments – Project Completion Report, Operable Unit 4 Complex Silos 1 & 2 Remediation Facility D&D," dated September 20, 2006

3. Letter, T. Schneider to J. Reising, "Re: Comments – Response To Ohio Environmental Protection Agency Review Comments On The Project Completion Report, Operable Unit 4 Complex Silos 1 & 2 Remediation Facility Decontamination And Dismantlement," dated October 30, 2006

Enclosed is a revised response to the Ohio Environmental Protection Agency (Ohio EPA) comments on the Silos 1 & 2 Remediation Facility Decontamination and Dismantlement (D&D) Project Completion Report. The revised response involves the Ohio EPA disapproval of the original response to comments document and their requesting a lessons learned section be included in the completion report (Reference 3).

Enclosed is a change page adding a Lessons Learned Section as requested by Ohio EPA. This change page is for Page 14 of the subject D&D Closeout Report. A revised title page and table of contents are also enclosed.

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

Sincerely,

Johnny Reising

Johnny W. Reising
Director

Enclosures:

RESPONSES TO OHIO ENVIRONMENTAL PROTECTION AGENCY REVIEW COMMENTS ON THE PROJECT COMPLETION REPORT FOR SILO 1 & 2 REMEDIATION FACILITY DECONTAMINATION AND DISMANTLEMENT AUGUST 2006

FERNALD CLOSURE PROJECT

SPECIFIC COMMENT

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Response to Comments Page #: Line #: Code: C
Original Comment#: 23
Comment: The report lacks a "Lessons Learned" section. Specific lessons learned from this project would include the soil contamination that occurred during the demolition of the Silos 1&2 Remediation Facility. Costs associated with the radium-226 contamination, subsequent remediation, and certification of affected areas should be included. Also, an explanation on how this type of release could occur after all of DOE's experience in D&D at the Fernald site needs to be documented in this report.
Response: Partially agree.
Action: While it is acknowledged that the quantity of soil eventually needing to be excavated was greater than originally thought, the quantity of soil contaminated could not have been accurately estimated since, based on previous D&D experience, the actual amount of resultant soil contamination is directly affected by many variables, including:

- The quantity of process material present.
- The physical composition of the material.
- The amount of dust suppression water and rainfall.
- The permeability of the surrounding soils.
- Traffic within the work area.

Of these variables, two specific issues are of note. First, actual D&D activities were undertaken prior to the complete removal of hold-up material. It was decided that schedule improvement could be achieved if D&D were initiated with hold-up material present. While this did result in schedule improvement, it also resulted in additional contamination of surrounding soils. Second, the amount of dust suppression water used provided a vehicle to spread the contamination further than may have otherwise been required

However, as a result of the D&D planning, appropriate controls were put in place to control the spread of contamination and confine it to the posted work area. These controls included the use of postings, PPE, clay berms, run-off control and collection basins. These controls proved to be very successful in controlling the contamination.

DOE will add a Lessons Learned Section to the Project Completion Report to identify these issues. In addition, in accordance with DOE Order 413.3 (Program and Project Management for the Acquisition of Capital Projects), after declaration of completion DOE will develop site wide lessons learned in the area of D&D specifically discussing the interface between D&D projects and the mitigation of soil contamination within a D&D footprint. DOE FCP will create a site wide lessons learned database per DOE O 413.3 during the development of the Critical Decision 4 process to capture all lessons learned.

006322

OPERABLE UNIT 3

PROJECT COMPLETION REPORT

OPERABLE UNIT 4 COMPLEX
SILOS 1&2 REMEDIATION FACILITY
DECONTAMINATION AND DISMANTLEMENT

NOVEMBER 2006

FERNALD CLOSURE PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE
DOCUMENT CONTROL NO. 40900-RP-0003 (REV.0, PCN2)

THIS PAGE INTENTIONALLY LEFT BLANK

PROJECT COMPLETION REPORT

OPERABLE UNIT 4 COMPLEX SILOS 1&2 REMEDIATION FACILITY D&D

TABLE OF CONTENTS

1.0 PROJECT SUMMARY 1

1.1 DESCRIPTION OF COMPLEX 2
1.2 PROJECT CHRONOLOGY 3

2.0 REMEDIATION APPROACH 3

2.1 PREPARATORY ACTIONS 3
2.2 COMPONENT-SPECIFIC REMEDIATION SUMMARY 4
2.2.1 Building 94A – Silos Operations/Maintenance Building 4
2.2.2 Building 94B – Silos 1&2 Remediation Facility 4
2.2.3 Building 94C – Silos 1&2 Tank Transfer Area 5
2.2.4 Building 94D – Silos 1&2 Carbon Bed Facility 5
2.2.5 Building 94E – Silos 1&2 Radon Control System 6
2.2.6 Building 94G – Silos 1&2 Electrical Building 7
2.2.7 Building 94J – AWR/CEM Building 7
2.2.8 Building 94L – Silos 1&2 CEM Building 7
2.2.9 Building 94R – Silos 1&2 High Pressure Pump/Breathing Air Building 8
2.2.10 Building 94S – Silos Small Lab Building 8
2.2.11 Building 94T – Silos AWR Test Stand 9
2.2.12 Building 94Y – Silos Maintenance Shop 9

3.0 MATERIAL MANAGEMENT 10

4.0 ENVIRONMENTAL MONITORING 11

4.1 RADIOLOGICAL AIR MONITORING 11

5.0 LESSONS LEARNED 14

LIST OF TABLES

Table 1-1 D&D Chronology 3
Table 3-1 Waste Containers For Placement In The OSDF 10
Table 3-2 Soil Pile 7 Associated Material 10
Table 3-3 Drums and White Metal Boxes for Offsite Shipment 10

LIST OF FIGURES

Figure 1-1 Silos 1&2 Remediation Facility D&D Project Area 2
Figure 4-1 FCP Sitewide Air Monitoring Locations 12

ATTACHMENTS

Attachment 1	IIMS Information (Integrated Information Management System)
Attachment 2	SWIFTS Information (Site-wide Waste Information Forecasting and Tracking System)
Attachment 3	Photos

5.0 LESSONS LEARNED

Following completion of demolition activities on all above grade structures including the Accelerated Waste Retrieval (AWR) Facility and the Silo 1 and 2 Remediation Facility a general area walkthrough was conducted to establish the starting conditions for any required soil excavation or utility removal. On the basis of this walkthrough significantly elevated concentrations of radium was discovered in the surface soils in all areas south of the K-65 trench with the highest concentrations immediately adjacent to the AWR and Remediation Facility slabs. The initial profile of the distribution of radium contamination in the silo area was determined using both the approved real time instrumentation and hand held 2 inch x 2 inch NaI detectors equipped with columnators to shield out background radiation.

The elevated concentrations of radium were likely due to a combination of two factors; 1) initiating D&D activities prior to the complete removal of hold-up material, and 2) the use of an excessive amount of dust suppression water.

It was decided to initiate D&D prior to the complete removal of hold-up material in an attempt to achieve schedule improvement. This led to the presence of more contaminated material than would have been present if all hold-up material had been removed. However, most process lines and tanks were flushed in an attempt to remove as much material as possible prior to D&D and considerable effort was expended to ensure the TTA tanks and remediation facility tanks were as clean as possible. But the material that was left in place contained radium contamination significantly above the final remediation level for soil. The FRL for radium-226 and radium-228 in soil is 1.7 pCi/g and 1.8 pCi/g respectively, which approximates background.

Dust suppression water had been used in the past in a very liberal manner during other D&D projects. Dust control is critical in minimizing exposures to workers and off-site environmental impacts. In the past, where radium had not been a contaminant of concern, the liberal application of dust control water did not result in adverse impacts to surrounding soils. Because radium has a very low soil FRL the spread of radium contaminated material, even in small amounts, through the liberal application of dust control water did have an adverse impact on the surrounding soils requiring a higher quantity of soil that had to be excavated.

The circumstances encountered at the FCP leads to several lessons learned. At sites where remediation facilities need to be constructed during the implementation phase of a remedial action, the eventual D&D of these facilities should be taken into account with consideration given to constructing the required facilities such that only impervious surfaces are within the project area. Impervious surfaces mitigate against adverse impacts to underlying soils. If soil excavation is to follow a D&D activity, it is imperative to account for the contaminants of concern encountered and any associated unique issues with surrounding soils. Future D&D projects should include an allowance in project schedules for removing all hold-up material to the maximum extent possible prior to initiating D&D activities.