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Babcock & Wilcox of Ohio, Inc.

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ESC-225/98
October 6, 1998

98-TC/10-06

Mr. Robert Folker, Acting Director
Miamisburg Environmental Management Project
U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Dewain Eckman

SUBJECT: Contract No. DE-AC24-97OH20044
ACTION MEMORANDUM FOR PRS 304

REFERENCE: Statement of Work Requirement C.7.1e -- Regulator Reports

Dear Mr. Folker:

Attached are the Public Review Draft of the Action Memorandum for PRS 304 "Excavated Materials Disposal Area, Rader's Hill" and the newspaper notice announcing the public review of this document.

The release of these documents to USEPA, OEPA, ODH, and the public reading room have been authorized by Art Kleinrath of MEMP.

Page 2 ACTION MEMORANDUM FOR PRS 304

Please advise if additional copies are required. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,



Linda R. Bauer, Ph.D.
Department Manager, Environmental Safeguards & Compliance

LRB/nmg

Enclosures as stated

cc: Tim Fischer, USEPA, (1) w/attachment
Jeff Raines, TechLaw, (1) w/attachment
Brian Nickel, OEPA, (1) w/attachment
Lisa Anderson, OEPA, (1) w/attachment
Ruth Vandergrift, ODH, (1) w/attachment
Terrence Tracy, DOE/HQ, (1) w/attachment
Oba Vincent, DOE/MEMP, (1) w/attachment
Art Kleinrath, DOE/MEMP, (1) w/attachment
John Price, B&W, (1) w/attachment
Public Reading Room, (5) w/attachment
DCC, w/o attachment

MOUND



Environmental
Restoration
Program

**MOUND PLANT
POTENTIAL RELEASE
SITE PACKAGE**

Notice of Public Review Period



The Action Memorandum for PRS 304 is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted October 1, 1998 through October 31, 1998.

**Potential Release Site 304:
Excavated Materials Disposal Area
Rader's Hill**

Questions can be referred to Paul Lucas at (937) 865-4578.

ACTION MEMORANDUM

PRS 304 REMOVAL ACTION

**MOUND PLANT
MIAMISBURG, OHIO**

SEPTEMBER 1998

Public Review Draft

(Revision 0)



Department of Energy



Babcock & Wilcox of Ohio

ACTION MEMORANDUM

PRS 304 REMOVAL ACTION

**MOUND PLANT
MIAMISBURG, OHIO**

September 1998

PREPARED BY:

Babcock & Wilcox of Ohio, Inc.
P.O. Box 3030
Miamisburg, Ohio 45343-3000

for the

U.S. DEPARTMENT OF ENERGY

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ACRONYMS

AEC	Atomic Energy Commission
AM	Action Memorandum
AM/EE/CA	Action Memorandum/Engineering Evaluation/Cost Analysis
ARARs	Applicable or Relevant and Appropriate Requirements
BGS	Below Ground Surface
BVA	Buried Valley Aquifer
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
D&D	Decontamination and Decommissioning
DOE	Department of Energy
EE/CA	Engineering Evaluation/Cost Analysis
EPA	Environmental Protection Agency
ER	Environmental Restoration
FFA	Federal Facilities Agreement
FSP	Field Sampling Plan
ID	Identification
LSA	Low Specific Activity
mrem	millirem
MSL	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NTS	Nevada Test Site

ACRONYMS (cont.)

OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
PRS	Potential Release Site
RCRA	Resource Conservation and Recovery Act
RESRAD	Residual Radioactive Material Program (Software)
RI/FS	Remedial Investigation/Feasibility Study
RSE	Removal Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
SW	Semi-Works
TRU	Transuranic
USEPA	United States Environmental Protection Agency

1. PURPOSE

The U.S. Department of Energy (DOE) is the designated lead agency under the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) and removal actions at the Mound Plant are implemented as federal-lead actions with DOE funds instead of the funds available to the EPA under CERCLA (i.e., non-Superfund). DOE provides the On-Scene Coordinator (OSC). Non-Superfund, federal-lead removal actions are not subject to United States Environmental Protection Agency (USEPA) limitations on the OSC (\$50,000 authority) and are not subject to National Oil and Hazardous Substances Pollution Contingency Plan (NCP) limitations on removal actions (i.e., \$2,000,000 in cost and 12 months in duration).

This Action Memorandum (AM) has been completed to document the evaluation of site conditions, to propose the action described herein and to allow public input.

2. SITE CONDITIONS AND BACKGROUND

2.1 SITE DESCRIPTION

This section describes the physical site location, site characteristics, release of contaminants into the environment and the site's National Priorities List (NPL) status.

2.1.1 Physical Location

The Mound Plant is a 306-acre site on the southern border of the city of Miamisburg in Montgomery County, Ohio. The site is approximately 10 miles south-southwest of Dayton and 45 miles north of Cincinnati. This removal action is proposed for the Potential Release Site 304 (also known as the Excavated Materials Disposal Area and as Rader's Hill). The location of PRS 304 is shown in Figure 2.1.

2.1.2 Site Characteristics

PRS 304 contains the overburden soils excavated during the decontamination and decommissioning of the Waste Transfer Line (PRS 300) and from Area 12 (PRS 273). Soils from these areas were segregated according to thorium concentration. Soils with thorium concentrations greater than 5 pCi/g were boxed and shipped off-site for disposal; those soils with less than 5 pCi/g of thorium were placed in the area of PRS 304/313. A hot spot of thorium contamination was recently discovered during routine radiological surveys. The DOE is obligated to remove hot spots by its implementing rules and regulations for the Atomic Energy Act. The applicable DOE order is 5400.5. This hot spot removal is not inconsistent with the final remedy.

2.1.3 Release or Threatened Release into the Environment

The potential release of radionuclides prompted this removal action.

2.1.4 National Priorities List Status

The USEPA placed the Mound Plant in Miamisburg, Ohio on the NPL by publication in the Federal Register on November 21, 1989.

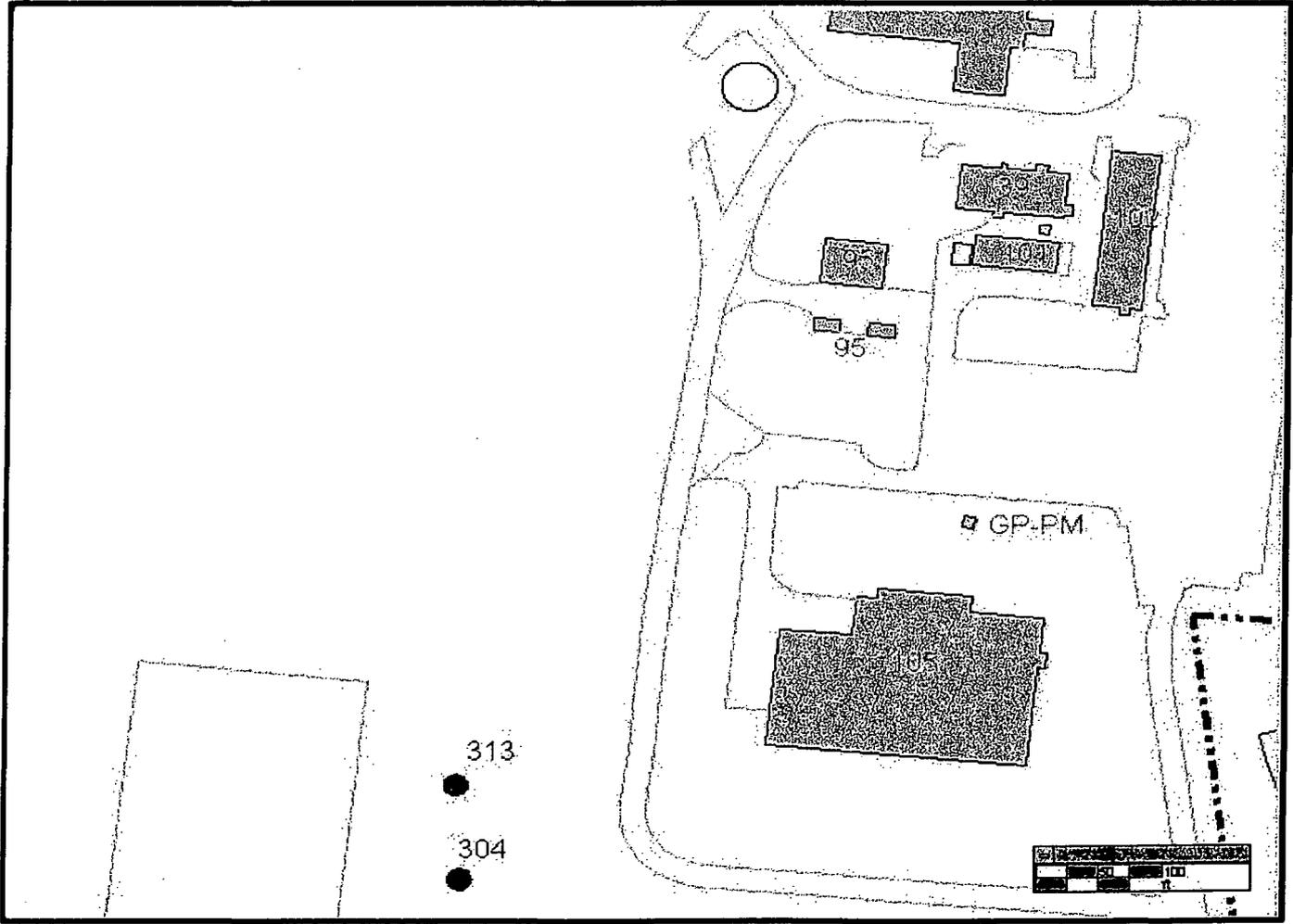
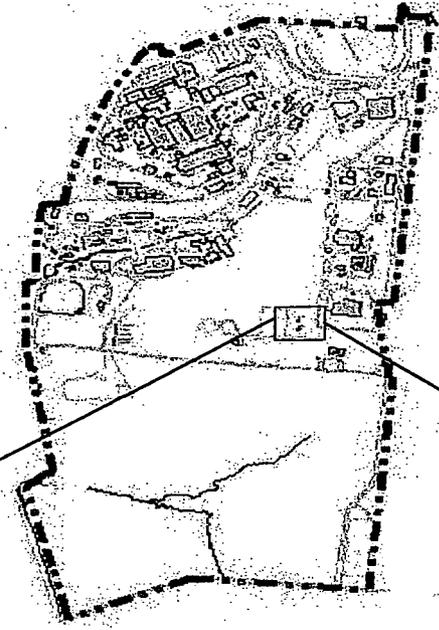


Figure 2.1 Location of PRS 304

2.2 OTHER ACTIONS TO DATE

The Mound Plant initiated a CERCLA program in 1989, now guided by the agreement between the DOE, Ohio Environmental Protection Agency (OEPA), and USEPA. A Federal Facilities Agreement (FFA) under CERCLA Section 120 was executed between DOE and US EPA Region V on October 12, 1990. It was revised on July 15, 1993 (EPA Administrative Docket No. OH 890-008984) to include OEPA as a signatory. The general purposes of this agreement are to:

- Ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and appropriate remedial action taken as necessary to protect the public health, welfare, and the environment.
- Establish a procedural framework and schedule for developing, implementing, maintaining, and monitoring appropriate response actions at the site in accordance with CERCLA, Superfund Amendments and Reauthorization Act (SARA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Superfund guidance and policy, and Resource Conservation and Recovery Act (RCRA) guidance and policy.
- Facilitate cooperation, exchange of information, and participation of the parties in such actions.

On February 19, 1997, the core team consisting of representatives of DOE/MEMP, USEPA, and OEPA recommended No Further Assessment for PRS 304/313 on the basis of available analytical results (Appendix A). This recommendation was available for public review and comment from May 8, 1997 to June 16, 1997. Routine radiological surveys, with a Field Instrument for Detecting Low Energy Radiation (FIDLER), in September 1998 identified a hot spot with surface dimensions of approximately 6 feet by 10 feet. Two soil samples were collected from the area of elevated readings, and average 36 pCi/g ²³²Thorium. The size and activity of the hot spot exceeds DOE's action limits for hot spot removal, derived from guidance in DOE Order 5400.5

2.2.1 Previous Removal Actions

No previous removal actions have been performed at these locations.

2.2.2 Current Actions

Currently, no action is underway at PRS 304.

2.3 STATE AND LOCAL AUTHORITIES' ROLES

2.3.1 State and Local Action to Date

In 1989, as a result of Mound Plant's placement onto the NPL, DOE and USEPA entered into a Federal Facilities Agreement (FFA) which specified the manner in which the CERCLA program was to be implemented at Mound. In 1993, the FFA was amended to include the OEPA. DOE remains the lead agency.

2.3.2 Potential for Continued State and Local Response

OEPA will continue its oversight role until all the terms of the FFA have been completed.

3. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

3.1 THREATS TO PUBLIC HEALTH OR WELFARE

The potential release of radionuclides may create a potential threat to the public health or welfare.

3.2 THREATS TO THE ENVIRONMENT

The potential release of radionuclides may create a potential threat to the environment.

3.2.1 Removal Site Evaluation

The Removal Site Evaluation (RSE) requirements, as outlined under EPA's NCP regulations in 40 CFR 300.415, are presented throughout this AM. An evaluation by public health agencies has not been performed for this area, and, therefore, is not included in this AM.

The NCP identifies eight factors that must be considered in determining the appropriateness of a removal action [40 CFR 300.415(b)(2)]. These criteria are evaluated in Table 3.1.

**Table 3.1 Evaluation of Removal Action Appropriateness Criteria
[40 CFR 300.415(b)(2)]**

Criteria		Evaluation
(i)	"...potential exposure to nearby human populations, animals, or the food chain..."	There is potential exposure to nearby human populations, animals, or the food chain from the radionuclide when present institutional controls are relaxed.
(ii)	"Actual or potential contamination of drinking water supplies..."	There is potential contamination of on-site drinking water supplies from the radionuclides. The contaminants could migrate to the ground water that is the source for the plant drinking water.
(iii)	"Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"	Not applicable. This removal action does not address hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage.
(iv)	"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;"	Not applicable. This removal action does not address high levels of hazardous substances on pollutants or contaminants.
(v)	"Weather conditions that may cause hazardous substances to migrate or be released;"	This site is exposed to weather conditions. Rain might cause the associated hazardous substances to migrate.
(vi)	"Threat of fire or explosion;"	Not applicable.
(vii)	"The availability of other appropriate federal or state response mechanisms to respond to the release;" and	There are no other appropriate federal or state mechanisms to respond. The Federal Facilities Agreement (FFA) established a combined state and federal mechanism to respond under CERCLA. DOE is the designated lead agency at Mound under CERCLA
(viii)	"Other situations or factors that may pose threats to public health or welfare or the environment."	Not applicable.

4. ENDANGERMENT DETERMINATION

There is a potential or threat of release of pollutants or contaminants from this site that could pose an endangerment to public health or welfare or to the environment. To eliminate the possibility of endangerment, as the site transfers from DOE ownership and control, DOE has determined that removal of the contaminants is appropriate.

5. PROPOSED ACTION AND ESTIMATED COSTS

5.1 PROPOSED ACTION

The proposed action is the excavation and disposal of contaminated soils. Since the proposed action is within the site boundaries, it is not expected to have a disproportionate impact on low income or minority populations.

5.1.1 Proposed Action Description

The proposed action is described as follows:

- **Project Planning**

This step includes among other objectives: identifying the locations/PRSSs, identifying disposal site and method for contaminated soil, identifying real or near-real time monitoring techniques for contaminant of concern, obtain DOE field work authorization, and train personnel as appropriate.

- **Public Notification**

A notice of the availability of this Action Memorandum for 30 day public review will be published in a local newspaper concurrent with the start of field work. No closure of the clean-up will be done until all comments received during the public comment period have been considered.

- **Site Preparation**

This step includes among other activities: review activities and safety issues with workforce, obtain appropriate permits, establish control of access and egress to construction site, locate and clearly mark underground utilities, making provisions for excavation equipment, making provisions for containment (as needed) for contaminated material, and making provisions for monitoring equipment.

- **Excavation**

This step includes among other activities: excavation of soil by hand or small equipment. Progression and extent of excavation will be determined in the field. All excavated soil with contaminant concentrations greater than the cleanup objective will be disposed of at a licensed low level waste disposal facility. Any excavated soil with contaminant concentrations less

than the cleanup objective will be used as fill in the area of excavation.

- **Verification**

This step includes among other activities: sampling and analysis of soil at edges of excavation to determine the residual contaminant concentration. This process will be guided by a Verification Sampling and Analysis Plan. The clean-up objectives are identified in Table 5.1. These values represent total values (i.e., including background) as reported in the verification sample results.

- **Site Restoration**

Equipment, materials, waste containers, and boundaries will be removed. The site will be back-filled and compacted to original contours and elevation. The area will be seeded as needed.

- **Documentation of Completion**

Completion of the Contingent Removal Action will be documented by an On-Scene Coordinator (OSC) report.

5.1.1.1 Rationale, Technical Feasibility, and Effectiveness

The removal action chosen is necessary for the removal of known contamination and to ensure that migration of the contamination does not occur.

Table 5.1 Clean-Up Objectives

Contaminant	Objective
^{238}Pu	Not to exceed 55 pCi/g
^{232}Th	Not to exceed 3 pCi/g

5.1.1.2 Monitoring

Health and safety monitoring will be performed throughout the removal action according to standard Mound procedures. Sampling and analysis of excavated soil will be described in more detail in the Work Plan for this removal action.

5.1.1.3 Uncertainties

The major uncertainties are the concentration levels of the contaminants and the extent of contamination (primarily depth).

5.1.1.4 Institutional Controls

DOE will remain in control of PRS 304 during the removal action.

5.1.1.5 Post-Removal Site Control

Initially, post removal site control will be provided by DOE/Mound. The Mound Plant is to be sold to Miamisburg Mound Community Improvement Corporation (MMCIC). The institutional and site controls needed at the time of the site transfer in order to ensure future protection of human health and the environment will be included in the Record of Decision.

5.1.1.6 Cross-Media Relationships and Potential Adverse Impacts

The potential cross-media impact associated with the removal action is the potential for unintended release of contaminated materials into the atmosphere. Careful monitoring and control will be implemented during the removal action.

No potential adverse impacts of the removal action have been identified.

5.1.2 Contribution to Future Remedial Actions

To facilitate further assessments and removal actions in or near the site of this removal action, the exact dimensions of the excavation and the levels of contamination identified and removed will be documented. The On-Scene Coordinator Report will document the removal action with photographs, drawings, and other information collected during the field work.

The information obtained, as a result of this removal, will be used in determining the availability of the Mound site for final disposition and will be subject to review in the subsequent risk evaluation.

5.1.3 Description of Alternative Technologies

Alternative technologies frequently evaluated for CERCLA remediation include institutional controls, containment, collection, treatment, and disposal. Based on the prevailing conditions, the following alternatives (in addition to the proposed alternative of dismantlement) were developed.

1. No Action
2. Institutional Controls

The performance capabilities of each alternative with respect to the specific criteria is discussed below.

5.1.3.1 No Action

The "No Action" approach was eliminated. The On-Scene Coordinator determined that a Removal Action is warranted.

5.1.3.2 Institutional Controls

Existing Mound Plant institutional controls effectively minimize the potential for contact of the subject contamination with the general public. However, institutional controls for excavation will be difficult to monitor and enforce after ownership title is transferred. Thus, institutional controls were eliminated from further consideration. A Removal Action is warranted.

5.1.4 Engineering Evaluation/Cost Analysis (EE/CA)

Since there is less than six months planning time for the removal action, an EE/CA is not required.

5.1.5 Applicable, or Relevant and Appropriate Requirements (ARARs)

Mound ARARs for the ER Program have been identified (DOE 1998). CERCLA regulations require that removal actions comply with ARARs.

The following have been identified as applicable, or relevant and appropriate to this removal action:

- 49 CFR 172, 173: DOT hazardous material transportation and employee training requirements.

5.1.5.1 Air Quality

- 40 CFR Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
- Ohio Administrative Code (OAC) 3745-15-07(A): Air Pollution Nuisances Prohibited.
- OAC 3745-17-02 (A,B,C): Particulate Ambient Air Quality Standards
- OAC 3745-17-05: Particulate Non-Degradation Policy
- OAC 3745-17-08: (A1), (A2), (B),(D): Emission Restrictions for Fugitive Dust

5.1.5.2 To Be Considered

- EPA/230/02-89/042: Methods for Evaluating the Attainment of Cleanup Standards.
- DOE Order 5400.5: Radiation Protection of the Public and the Environment

5.1.5.3 Worker Safety

- 29 CFR Part 1910: Occupational Safety and Health Act (OSHA) - General Industry Standards
- 29 CFR Part 1926: Occupational Safety and Health Act (OSHA) - Safety and Health Standards
- 29 CFR Part 1904: Occupational Safety and Health Act (OSHA) - Record keeping, Reporting, and Related Regulations

5.1.6 Other Standards and Requirements

Other standards or requirements related to the actual implementation of the response action may be identified subsequently during the design phase and will be incorporated into the Work Plan for this removal action.

5.1.7 Project Schedule

The schedule established for planning and implementing the removal action is summarized in Table 5.2.

Table 5.2 Schedule Summary

Activity	Start Date	Completion Date
Project Planning	9/28/98	10/4/98
Public Notification	10/01/98	10/31/98
Site Preparation	9/28/98	10/4/98
Excavation	10/6/98	10/6/98
OSC Report	10/4/98	10/8/98

5.2 ESTIMATED COSTS

The cost estimate to perform the removal action is shown in Table 5.3. Costs include the construction activities, all engineering and construction management, waste disposal, and site restoration.

TABLE 5.3 REMOVAL ACTION COST ESTIMATE

ESTIMATE TOTALS	
Action Memorandum	\$ 500
Planning	1,000
Removal Field Work	10,000
OSC Report	2,500
TOTAL (1998 dollars)	\$ 14,000

6. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

There is the potential for the contaminants to migrate.

7. OUTSTANDING POLICY ISSUES

There are currently no outstanding policy issues affecting performance of this removal action.

8. ENFORCEMENT

The core team consisting of DOE, USEPA, and OEPA has agreed on the need to perform the removal. The work described in this document does not create a waiver of any rights under the Federal Facility Agreement, nor is it intended to create a waiver of any rights under the Federal Facility Agreement. The DOE is the sole party responsible for implementing this clean-up. Therefore, DOE is undertaking the role of lead agency, per CERCLA and the NCP, for the performance of this removal action. The funding for this removal action will be through DOE budget authorization and no Superfund monies will be required.

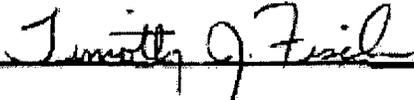
9. RECOMMENDATION

This decision document represents the selected removal action for the PRS 304, Rader's Hill site, developed in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal and we recommend initiation of the response action.

Approved:

 10/1/98
Art Kleinrath, On-Scene Coordinator DOE/MEMP Date

 9/30/98
Timothy J. Flecher, Remedial Project Manager USEPA Date

 10/1/98
Brian K. Nickel, Project Manager OEPA Date

10. REFERENCES

USEPA 1990. Superfund Removal Procedures Action Memorandum Guidance. Office of Emergency and Remedial Response. U.S. Environmental Protection Agency. December 1990.

DOE 1998 List of Ohio Administrative Code and Ohio Revised Code ARARs, Letter from Nickel to Kleinrath, August 19, 1998.

APPENDIX A

September 30, 1998
Mound Plant
Contract #DE-AC24-87OH20044

Action Memorandum
PRS 304
Public Review Draft, Rev. 0



The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

July 17, 1997

Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Building 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team consisting of the U.S. Department of Energy Miamisburg Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) appreciates the input provided by the public stakeholders of the Mound facility. The public stakeholders have significantly contributed to the forward progress that has been made on the entire release block strategy for establishing the safety of the Mound property prior to its return to public use after remediation and residual risk evaluation.

Attached please find responses to your June 16, 1997 comments on PRS packages 110, 113-117, 235, 304/313, 354, and 356, as well as the "Residual Risk Evaluation - Release Block H, April, 1997, Revision 0." Document revisions in accordance with the attached responses are expected to be completed in August, 1997.

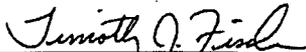
Should the responses require additional detail, please contact Art Kleinrath at (937) 865-3587 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP:


Arthur W. Kleinrath, Remedial Project Manager

USEPA:


Timothy J. Fischer, Remedial Project Manager

OHIO EPA:


Brian K. Nickel, Project Manager

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