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MHR-008/98
May 28, 1998

98-TC/05-28

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

ATTENTION: Alan Spesard

SUBJECT: Contract No. DE-AC24-97OH20044
H-BUILDING DECONTAMINATION ACTION MEMORANDUM

Dear Mr. Brown:

This memo is to document the submittal of the H-Building Hot Laundry Decontamination Action Memorandum for Public Review, a DOE requirement under the Mound Streamlined Building Disposition Process. This document is the result of the incorporation of comments from the May 1998 Core Team Review. This revision contains the additions, corrections and modifications stemming from this review.

Sincerely,

Wm. Scott Hood
Project Manager, Main Hill Rad

WSH/mlr

Attachment: Action Memorandum for Removal Action, Building H Hot Laundry

cc: James R. Powers, BWO
DCC

680201-9808050012

ENVIRONMENTAL RESTORATION PROGRAM

PROPOSED

ACTION MEMORANDUM
ENGINEERING EVALUATION/COST ANALYSIS

REMOVAL ACTION
BUILDING H HOT LAUNDRY

MOUND PLANT
MIAMISBURG, OHIO

May, 1998

PREPARED BY:

Babcock & Wilcox of Ohio, Inc.
P.O. Box 3030
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for the

U.S. DEPARTMENT OF ENERGY

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ACRONYMS

AEC	Atomic Energy Commission
AM	Action Memorandum
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
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

ACRONYMS (cont.)

RCRA	Resource Conservation and Recovery Act
RESRAD	Residual Radioactive Material Program
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), U.S. Environmental Protection Agency (USEPA) and the Ohio Environmental Protection Agency (OEPA) have agreed on an approach for decommissioning surplus DOE facilities consistent with the requirements of the ***Policy on Decommissioning of Department of Energy Facilities*** under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) dated May 22, 1995. According to this approach, decommissioning activities will be conducted as CERCLA removal actions, unless the circumstances at the facility make it inappropriate (DOE 1995). The DOE is the designated lead agency and removal actions at the Mound Plant are implemented as non-Superfund, federal-lead actions. 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), Engineering Evaluation/Cost Analysis (EE/CA) has been completed to document the evaluation of site conditions and to propose the removal action described herein.

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 south 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. The specific location of the proposed removal action is the Hot Laundry area of Building H. This location is identified in Figure 2.1.

2.1.2 Site Characteristics

H Building was constructed in 1948 as one of the original group of buildings at Mound. It housed the laundry facilities for both uncontaminated (cold) and contaminated (hot) clothing. Process water generated from the laundry was collected in a holding tank on the "hot" side of the building, then drained through a pipe to a lift station at SW Building. In 1993, washable clothes used for "hot" work were replaced with disposable clothing which allowed the waste water from the laundry to be diverted to the sanitary disposal plant, Building 57. In addition to the laundry, the building previously held a small maintenance shop. The maintenance shop has been removed and is currently used by the bioassay and gamma spectroscopy laboratories, also housed in the building, as a storage area. The credit union and a set of change rooms are currently located in H Building, as well. H Building is known to be contaminated with radioactive materials.

H Building is a one-story structure with a penthouse. The walls are constructed of reinforced concrete block with a brick face exterior, the roof is made of a metal with a built-up membrane. H Building contains 17,334 square feet. The building is bordered by a sidewalk on the north, east and south sides. It shares a corridor with B Building on its west side. Adjacent building are A Building to the north, E Building to the south, M Building to the east and B Building to the west.

H Building is currently scheduled to be decontaminated and transitioned over to Miamisburg Mound Community Improvement Corporation (MMCIC). This is planned to happen in two distinct phases. This Action Memorandum covers the work in Phase I. Phase I covers only the decontamination of the Hot Laundry and repair of any asbestos hazards while Phase II will cover the removal of any property

or equipment not to be turned over to MMCIC. Phase II will also cover any decontamination outside the walls of Building H but within the buildings 15 foot perimeter.

The washers and dryers that are currently in use were never contaminated and are located inside a non-RMMA (Radiological Material Management Area) and therefore do not require radiological surveys. There were characterizations performed on the drain lines in this area, with the results being negative. The disposition of the washers and dryers is being handled via the Mound Reportable Excess Automated Property System (REAPS) program.

2.1.3 Current Conditions

The laundry, credit union, male and female change rooms, and the bioassay and gamma spectroscopy laboratories are all currently housed in H Building. All material, equipment and systems necessary to maintain these will remain operable until their mission is discontinued or moved to another facility. Surplus materials, excess equipment and abandoned systems will be removed from the building.

Steam for heating is provided to H Building via an underground concrete trench of utility piping running from the powerhouse, P Building. Ventilation is provided to the building by a roof mounted HVAC system. Potable water and sanitary services are provided by means of the Mound Plant underground domestic water lines and an on-site sanitary and storm water sewer treatment plant, Building 57. The wastewater currently generated in the building is laundry or sanitary water.

The building contains two sumps, one in the corridor which is used to collect steam condensate. It will remain in place. The other, a double contained sump, is located in H-133 of the laundry and is no longer used. This sump and its associated piping will be removed as a part of this project.

Radiological Characterization

Building H has undergone an indepth radiological characterization effort to perpare for the Phase I of the decontaminatin process. The characterization identified several areas of fixed and loose contamination. A summary of those findings can be seen in Table 2.1, **Radiological Characterization Summary, Building H.** Figure 2.2, **H- Building Laundry Drains and Associated Plumbing,** shows the existing floor plan of the Building H Laundry along with the existing drain system. The only drains that have the potential for being contaminated are in rooms H-131, 132, 133 and 134.

Asbestos Survey

Asbestos sampling results indicate Asbestos Containing Material (ACM) in the pipe insulation. The walls and ceiling material were re-sampled and the results confirmed that they are free of ACM. Areas with damaged asbestos material will be repaired, as necessary. Industrial Hygiene will be working with the project until all pipe insulation is repaired or removed. Asbestos sampling results and information relative to the asbestos repair quantification and assessment summary of H building are available in the H Building Project File.

Lead Survey

Recent survey and sampling results indicate no lead in the paint, however, the cast iron drain piping contains lead seals. At least two drains inside the building are known to be radiologically contaminated . If the cast iron drain piping associated with these drains is also found to be contaminated, it will be removed and disposed of as radioactive or mixed waste. Sampling results are available in the H Building Project File.

Monitoring Requirements

Asbestos will be monitored with the frequency to be determined by the Mound Industrial Safety and Health Department.

Table 2.1 Radiological Characterization Summary
Building H

Type	RSDS	Location	Amount (dpm/100 cm2)	5400.5 Guidelines for Groups 1,3,4 (fixed + loose) (dpm/100 cm2)	NUREG 1500 Guidelines (loose) (dpm/100 cm2)	Attachment 1 Limit (fixed + loose)** (See Note 2) (dpm/100 cm2)	Comments
Highest Alpha Smear Activity	98-H-003-MR 98-H-023-MR	H-133 floor H-206 wall	27- both locations.	20	211	20	Contamination to be removed.
Highest Alpha Fixed Activity	98-H-003-MR	H-133 floor	140k	100	Note 1	100	Entire floor to be removed.
Highest Beta Smear Activity	All	All	<1000	1,000	9940	1,000	No Action Necessary
Highest Beta Fixed Activity	98-H-033-MR	Top of light fixture	9.4k	5,000	Note 1	5,000	Light to be removed.
Highest Tritium Smear Activity	All	All	<1000	1,000	Note 1	1,000	No Action Necessary
Water Sample Sump H-133	98-H-006-MR	Sump (H-133)	11.53 nCi/L Trit <2.22 dpm/cc α < 15 nCi/L α	DCG's 2000 nCi/L Trit 2 dpm/cc α (Pu)	MCL'S SEE NOTE 3	N/A	No Action Necessary
Sludge Sample H-133 Sump	98-H-040-MR	Sump (H-133)	400 pCi/g Pu238 234k pCi/g Trit	N/A	N/A	N/A	Note 4, Remove as LSA Waste

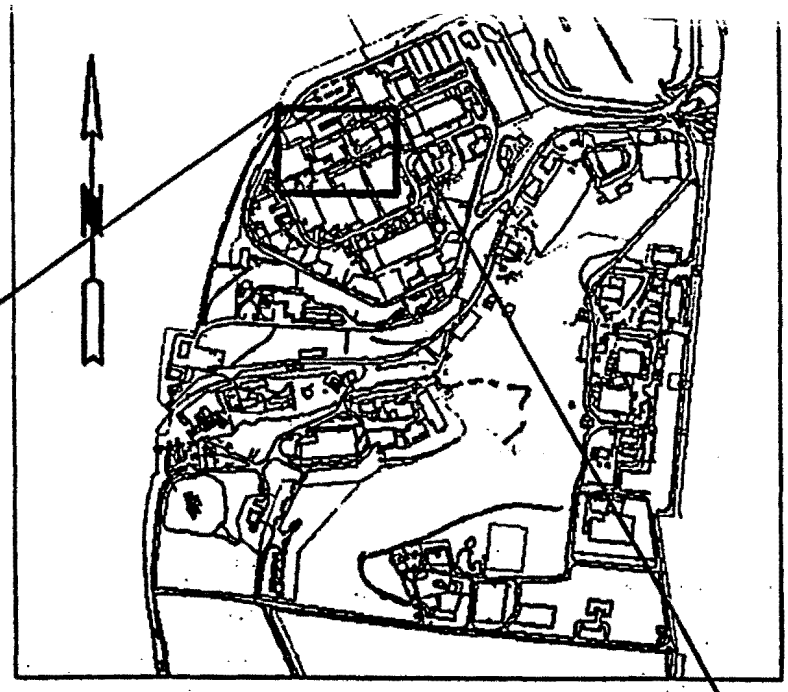
Note 1 NUREG-1500 gives guidelines for loose beta and alpha only.
Note 2 Limits are based on MD-80043, Radiological Work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste" Attachment 1.
Note 3 MCL's taken from National Primary Drinking Water Regulations 40 CFR part 141 subpart B .16. For gross alpha, 15 pCi/L
For Tritium, from Table "A" 20,000 pCi/L average annual concentration would result in a whole body dose equivalent of 4 mrem.
Note 4 Risk-Based Guideline Values, 1×10^{-5} Pu=55 pCi/g and H^3= 235,000 pCi/g

Mound Plant

H Building
Environmental Laboratories, Laundry, Change Rooms

Release Block P

On the map below:
- Building number and location shown in black
- PRS locations and numbers shown in blue
- Surrounding buildings shown in green
- Fencing shown in red
- Elevation contours shown in brown



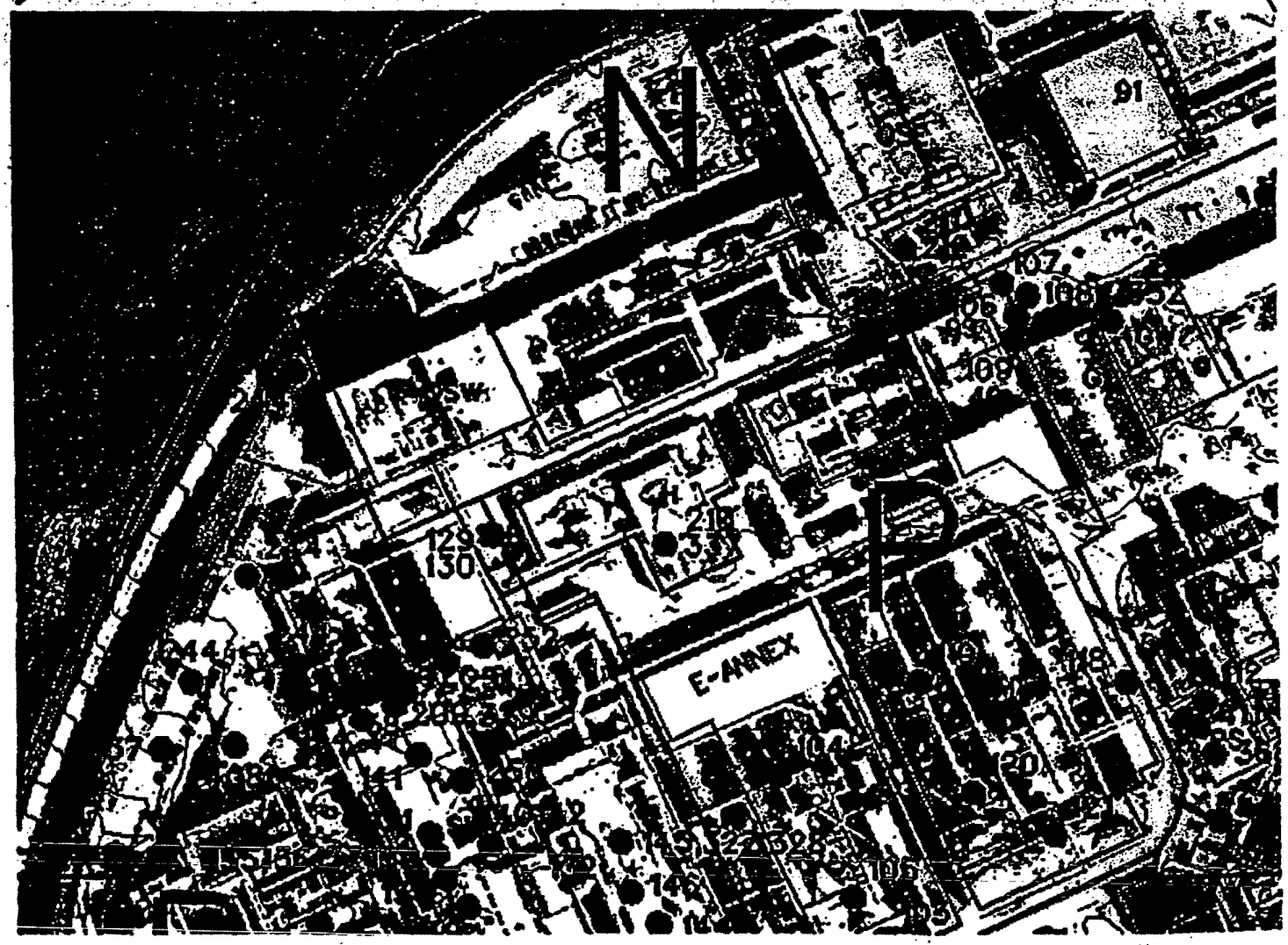
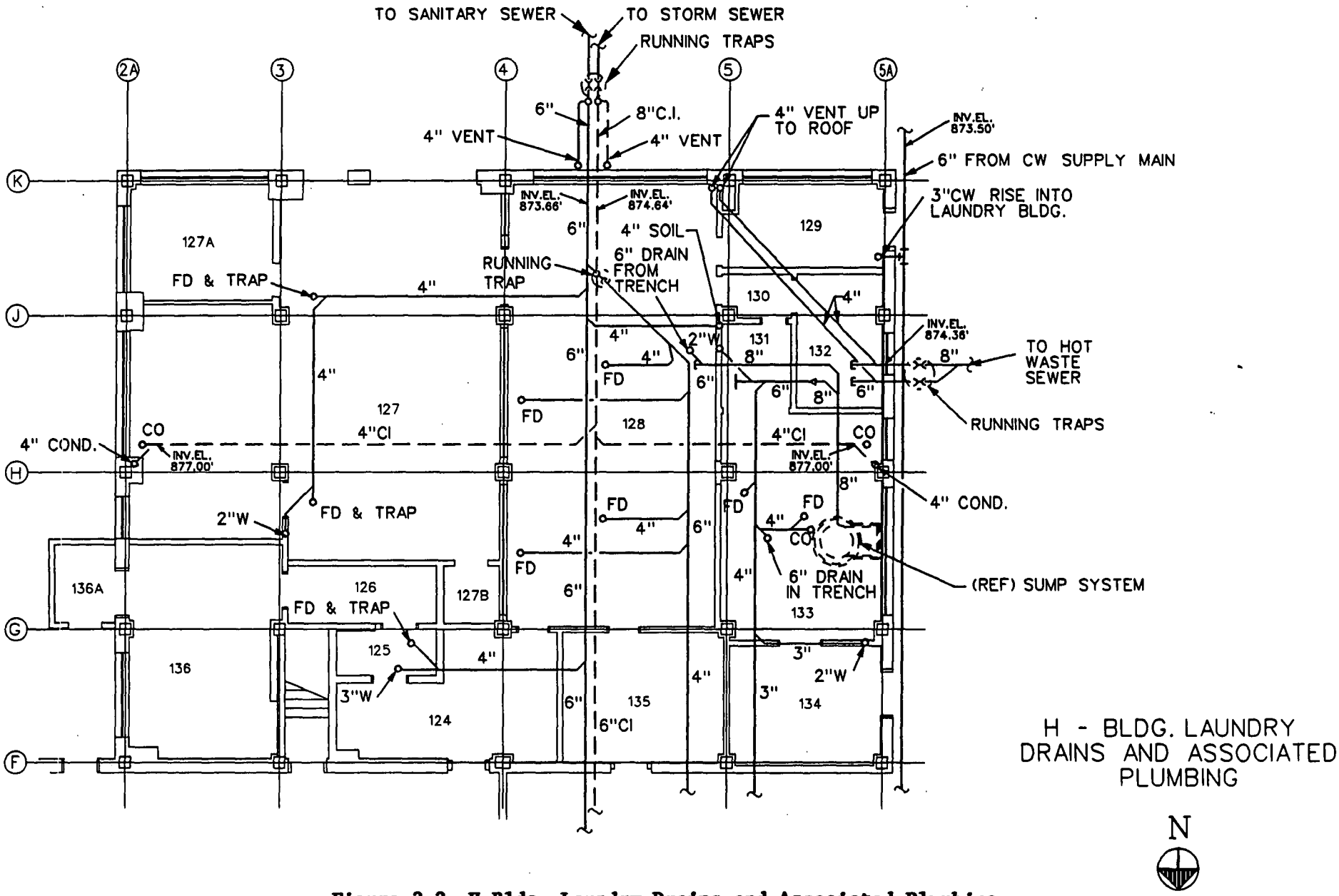


Figure 2.1 Location of H-Building



H - BLDG. LAUNDRY DRAINS AND ASSOCIATED PLUMBING

Figure 2.2 H-Bldg. Laundry Drains and Associated Plumbing

UNCL

2.1.4. Release or Threatened Release into the Environment

The hazardous materials found in H Building laundry area are Asbestos Containing Material (ACM), lead, and PCBs. There is ACM in the pipe insulation, vibration cloth and explosive light gaskets. Damaged ACM will be repaired or removed, as necessary. There are lead seals inside the cast iron drain piping joints. Contaminated drain piping associated with the laundry will be removed during decontamination activities and disposed of as radioactive waste. Equipment remaining inside the building containing refrigerants or hydraulic fluids and the florescent light ballast suspected of containing PCBs will remain in place. There are no hazardous process chemicals being used or stored in the Hot Laundry area of the building.

The radiation surveys of Building H indicate several areas of fixed and loose contamination. The primary isotope of concern is Pu-238, with traces of Am-241, Co-60 and tritium (H^3) also detected. The cleanup goal for these isotopes will be that established in DOE 5400.5 and the Regulatory Guide 1.86. The Mound Risk-Based Methodology will be used to determine the final cleanup values for the area of evaluation prior to the issuance of a Record of Decision (ROD), which supports the transfer of property. The cleanup value for soil will follow the Risk-Based Guideline values, which are 1×10^{-5} risk for Pu-238=55pCi/g, Am-241=49.5 pCi/g, Co-60=1 pCi/g and H^3=235,000 pCi/g.

The potential release of radioactive contamination has prompted this removal action.

2.1.5. National Priorities List Status

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

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 US EPA. 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 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.

2.2.1. Previous Removal Actions

No previous removal actions have been performed at Building H.

2.2.2. Current Actions

The Core Team, consisting of the DOE, USEPA and OEPA, was presented a proposal by the B&W of Ohio Main Hill Rad Project Team for the decontamination of the H Building Hot Laundry. The Core Team recommended the action proceed as a CERCLA Removal Action and that an Action Memorandum be written and submitted for approval by DOE/USEPA/OEPA and ODH, as well as a 30-day Public Comment Period before work could commence.

Asbestos piping insulation and florescent light ballasts containing PCBs will not be removed as part of the decontamination process, unless they present an immediate hazard. If these materials have to be removed they will be disposed of according to the appropriate regulations.

All materials and equipment have been removed from the Building H, Hot Laundry, except for the following: several washers and dryers being used by the Cold Laundry, some remaining furniture, windows, doors, plumbing fixtures, ceiling and floor tile, heating units and their associated duct work.

Building H has potable water, compressed air, telephone, computer network connections, fire alarm, steam, storm sewer, and sanitary sewer services. Building H also has electricity and fire sprinkler systems. All these services will be terminated and isolated outside the area to be decontaminated.

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 FFA which specified the manner in which the Mound CERCLA-based Environmental Restoration (ER) program was to be implemented. In 1993, the FFA was amended to include the OEPA. Under the ER program, DOE remains the lead agency.

3. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

3.1. THREATS TO PUBLIC HEALTH OR WELFARE

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

3.2. THREATS TO THE ENVIRONMENT

The potential release of radioactive contamination 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/EECA.

An evaluation by public health agencies has not been performed for this area, and, therefore, is not included in this AM/EECA. The determination of the need for a removal action is outlined in this section, in Table 3.1.

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..."	None.
(ii)	"Actual or potential contamination of drinking water supplies..."	There is the potential that contaminated drain lines have leaked into the ground at the floor drains in Building H. There is the potential for radioactive alpha contamination to be present in the soil near the drain lines and beneath the floor.
(iii)	"Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"	None.
(iv)	"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;"	None.
(v)	"Weather conditions that may cause hazardous substances to migrate or be released;"	None.
(vi)	"Threat of fire or explosion;"	None.
(vii)	"The availability of other appropriate federal or state response mechanisms to respond to the release;" and	There is a state mechanism and other federal mechanisms established in the form of the Federal Facilities Agreement (FFA). 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."	Building H surveys indicate some areas of fixed radiological contamination and a few areas of loose . There were no indications of stains from hazardous chemicals spills.

4. ENDANGERMENT DETERMINATION

As Building H is currently configured and access controlled, there is no known actual or threatened releases of pollutants or contaminants from this site that would pose an endangerment to public health or welfare or the environment. However, 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.

The location referred to is that of H Building. The work proposed in Phase I of the decontamination effort for Building H will be performed per Mound, OSHA, USEPA, OEPA, ODH and DOE requirements to minimize any release.
Once the decontamination is complete the risk will be eliminated. The building will be verified clean then go through the binning process and be turned over to DOE. DOE would then transition it to MMCIC.

5. PROPOSED ACTION AND ESTIMATED COSTS

5.1. PROPOSED ACTION

The proposed action is to perform Phase I of the two phases of the Building H Project in preparation to turn this building over to MMCIC. The objective of Phase I of Building H Decontamination Project is to perform a partial decontamination of Building H in accordance with all DOE, OSHA, OEPA, USEPA, ODH, and other applicable procedures, regulations and requirements. The target area of the Phase I activities is the removal of contamination and hazards that are associated with the laundry area. This includes the drain lines, duct work, filter bank and the metal stack. These items expand the scope of this project beyond the physical laundry rooms.

5.1.1. Proposed Action Description

Site Preparation

This step includes establishing work area boundarys, radiological posting, radiological barriers with the necessay containment and exhausting, access and egress routes, material and supply storage, waste container staging and placement of all necessary permits.

Building Preparation

This includes the establishing of evauation routes and assembly points, disconnect utility feeds to all abandoned equipment and systems, remove excess equipment and material, remove designated asbondoned systems, process and utility piping and conduit and repair or remove Asbestos Containing Material (ACM), as necessary.

Building Decontamination

Phase I will include the following activities:

1. Repair damaged ACM piping insulation throughout the building.
2. Remove abandoned systems, excess equipment and surplus materials.
3. Remove filter bank and associated contaminated duct work in the penthouse.
4. Remove metal stack on the roof above the penthouse.
5. Remove overhead waste water line in the breezeway.
6. Remove contaminated drains and associated piping in the floors of H-129, 130, 131, 132, 133 and 134, as necessary .
7. Remove the sump (PRS 210) and associated piping in H-133.
8. Remove soil under the sump, if contaminated.
9. Decon the walls and floors, as necessary in H-129, 130, 131, 132, 133 and 134.
10. Decontaminate areas of fixed contamination outside the Radiological Material Management Area (RMMA), i.e., the air exhaust vent covers in H-127 and 127A.

Building Decontamination

During decontamination activities, continuing inspections by the Project Supervisor will be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, walls or loosened material.

Mobilization
This activity will include the set-up of the decontamination airlocks, portable HEPA exhauster, a staging area and relocate equipment to the demolition site, waste load out area and arrange delivery of waste container(s) to site, monitoring equipment and water misters.

Stack Removal
This activity will be to perform the Hot Laundry exhaust stack removal along with its associated duct work and size reduce them for disposal.

Removal of Hot Laundry Filterbank
This activity will consist of removing filters from the filterbank and their disposal as radioactive waste, if contaminated. The survey and wipe down of previously inaccessible surfaces (empty filter area) would be performed. The filterbank duct work would then be removed, if contaminated.

Waste Water Line
This activity covers the removal of the waste water line from H-133 to the Building B Corridor.

Decontaminate Walls
The walls of the laundry area will be decontaminated as necessary via wet wiping or mechanical means.

Decontaminate Floors (Rooms 129, 130, 131 and 132)
This covers the removal of any fixed contamination on the H-129, 130, 131 and 132 floors via mechanicl means. Any excess dust material, will be removed using a HEPA filtered vacuum. Based on the radiological surveys and the earlier decontamination effort of *Environmental Extraction Technology, Inc. (EET)* the bulk of the contamination is in the grout, between the clay tile and the concrete floor. The tile will be removed and the floor and soil decontaminated and /or removed as far as necessary to release the building.

Remove H-133 Sump
Remove the sump from the floor of H-133. Note this sump represents PRS 210. If contaminated the sump and its associated piping will be size reduced and disposed of as radioactive waste.

Decontaminate Floors (Room 133 and 134)
This activity covers the removal of any contamination above the re-use release limits and its disposal as radioactive waste.

Remove and Replace Drains
This activity consists of digging out and replacement of the drains and associated piping (if contaminated) in H-129, 130, 131, 132, 133 and 134. Some piping may no longer be required, therefore, it will not be replaced. This also covers the removal of any contaminated subsoil and replacing subsoil and floors as necessary.

The H Building drain lines will only be removed if they are contaminated above the DOE 5400.5 and Regulatory Guide 1.86 release limits. Any drains to be removed will be removed up to where they penetrate the foundation. The removal of any lines or soil contamination outside the building but, within the 15 foot perimeter will be performed as part of the Phase II activities. Any contaminated soil or drains outside the 15 foot perimeter will be removed as part of the Soils Project. All excavated soil contaminated above the radiological release limits will be disposed of as radioactive waste.

Soil samples from around the drain lines outside the building wall show no contamination. When the lines inside the building are removed, radiological surveys and samples will be taken of the remaining lines within the 15 foot perimeter to determine if contamination exists.

Site Restoration
This activity includes reducing the work zone area and the placement of the area in a safe condition until the start of Phase II. Equipment, materials, waste containers, and boundaries will be removed. Any excavated area outside the building walls will be backfilled and compacted to the original contour and elevation and remain in this condition until the start of Phase II.

Verification
A Verification Plan will be developed to identify what, if any, contaminants are present. The Verification Plan will also identify the steps to determine the concentration of those contaminants to compare to appropriate risk based guideline criteria and ARARs. The On-Scene Coordinator Report will document the existence of any contamination and completion of the removal action.

Project Closure
All project documentation should be forwarded to the Project Engineer and maintained in the project file. Upon completion of the project, the project notebook or a copy of the project records should be forwarded to the document management system. This is to be accomplished in a radiologically and otherwise safe manner to

avoid future maintenance cost and eliminate potential negative impacts to personnel and the environment. Land within the project boundaries is designated for future industrial land use after decommissioning and decontamination activities are complete. The boundary of this project, Phase I and Phase II, includes the entire footprint of Building H, including a 15 foot perimeter surrounding the buildings.

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.

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 Building H.

5.1.1.3. Uncertainties

The major uncertainties are the levels and extent of radiological contamination in and beneath the Hot Laundry floor. The minor uncertainties include location of utilities in the area of the project.

5.1.1.4. Institutional Controls

The institutional controls of Building H have yet to be resolved.

5.1.1.5. Post-Removal Site Control

Post removal site control will has yet to be resolved.

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 by misting 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 in or near the site of the removal action, the exact dimensions of the excavation and the levels of contamination identified and removed will be documented. The excavation will be documented by utilizing photographs, record drawings, the OSC report, and other information collected during the removal action.

Because the Mound Plant is anticipated to be cleaned up by removal actions, this clean-up is planned to be Phase I of a two phase remediation and transition for Building H. The information obtained, as a result of this removal, will be used in determining the availability for final disposition of the Mound site 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 excavation) 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. It is not appropriate to leave radioactive contamination of the level found in the Hot Laundry in place.

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 events such as renovation, removal, or demolition will be difficult to implement, when industrial use of adjacent areas is permitted. Thus, institutional controls were eliminated from further consideration.

5.1.4. Engineering Evaluation/Cost Analysis (EE/CA)

This document serves as the action memo and the EE/CA.

5.1.5. Applicable, or Relevant and Appropriate Requirements (ARARs)

Mound ARARs for the ER Program have been identified (DOE 1993). CERCLA regulations require that removal actions comply with ARARs.

The following ARARs are of special interest to the Building H removal action:

- 49 C.F.R. 172, 173: DOT hazardous material transportation and employee training requirements.

5.1.5.1. Air Quality

- 40 C.F.R. Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
- Ohio Administrative Code (O.A.C.) 3745-15-07(A): Air Pollution Nuisances Prohibited.
- O.A.C. 3745-17-02 (A,B,C): Particulate Ambient Air Quality Standards
- O.A.C. 3745-17-05: Particulate Non-Degradation Policy
- O.A.C. 3745-17-08: (A)(1), (A)(2), (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 5400.5 and Regulatory Guide 1.86

5.1.5.3. Worker Safety

- 29 C.F.R. Part 1910: Occupational Safety and Health Act OSHA) - General Industry Standards

- 29 C.F.R. Part 1926: OSHA - Safety and Health Standards
- 29 C.F.R. Part 1904: 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 Building H decontamination.

5.1.7. Project Schedule

The schedule established for planning and implementing the removal action is shown in Figure 5.1.

5.2. ESTIMATED COSTS

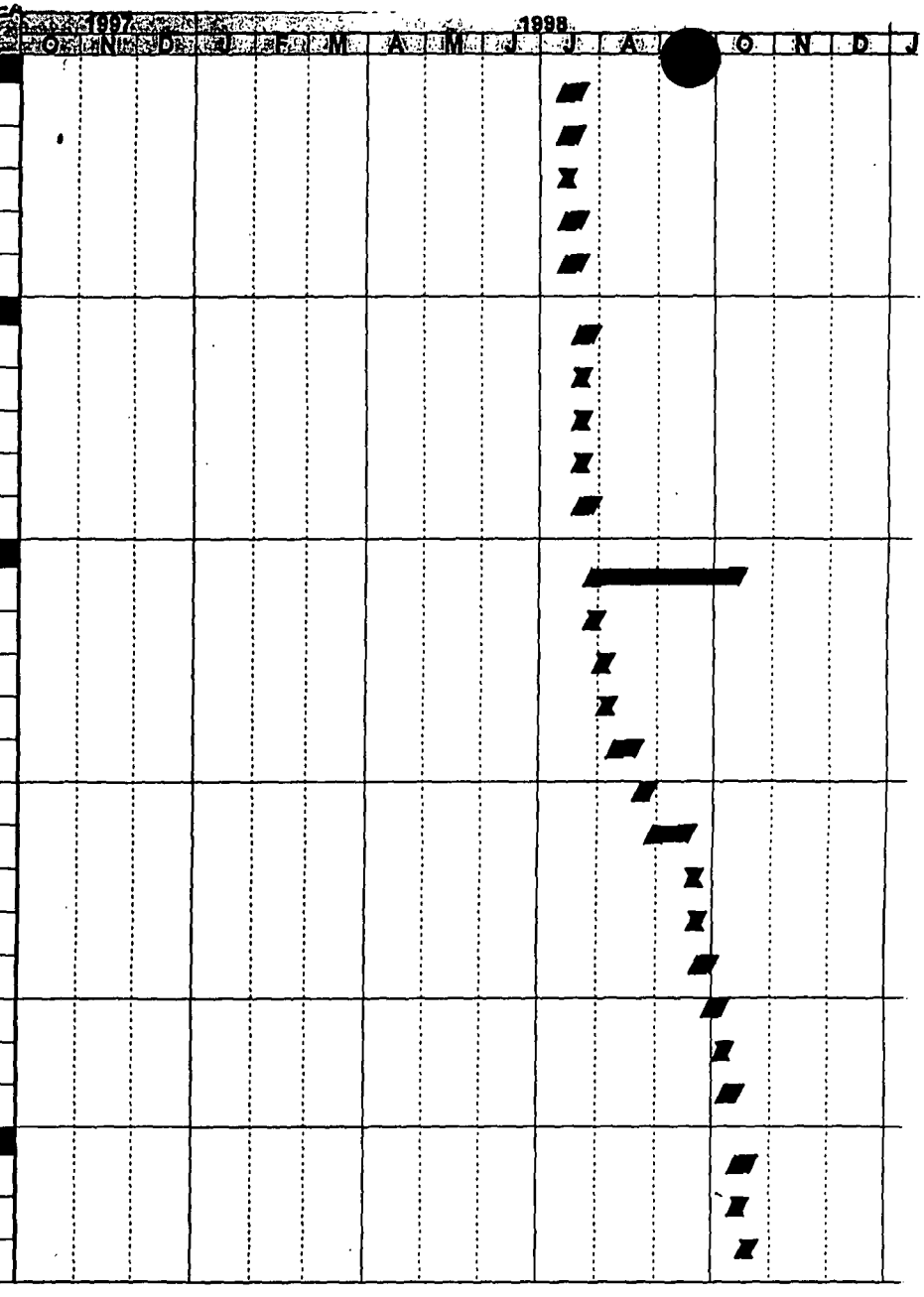
The cost estimate to perform the removal action is shown in Table 5.1. Costs include the construction activities, all engineering and construction management, waste disposal, and site restoration.

TABLE 5.1 REMOVAL ACTION COST ESTIMATE

ESTIMATE TOTALS

Work Plan and HASP	24,500.
Action Memorandum	1,500.
Core Team / Public Review	1,000.
Characterization	5,000.
Site Prep & Work Zones	10,000
Equipment & Stack Removal	50,000.
Decontamination of Hot Laundry	120,000.
Characterize soil	5,000
Remediation: floor/ soil/	15,000.
Verification	4,000.
Waste Disposal and Transportation	4,000.
OCR Report	5,000.
TOTAL (1998 dollars)	$245,000.

Activity	Activity Description	Orig Dur	Early Start	Early Finish	REA
Site Preparation					
SPHA1000	SITE PREPARATION	5*	14JUL98	21JUL98	1
SPWK1010	Coordinate with Fire Dept, Transp, Bldg Mangr	4	14JUL98*	20JUL98	1
SPWK1020	Pre-Construction Meeting	1	15JUL98	15JUL98	1
SPWK1030	Obtain Required Permits	4	15JUL98	21JUL98	1
SPWK1040	Identify & Isolate Underground Utilities	4	15JUL98	21JUL98	1
Building Preparation					
BPHA1000	BUILDING PREPARATION	4*	22JUL98	28JUL98	2
BPWK1010	Establish Work Zones	2	22JUL98	23JUL98	2
BPWK1020	Disconnect Electrical Feeds to Building	2	22JUL98	23JUL98	2
BPWK1030	Remove Excess Equipment	2	22JUL98	23JUL98	2
BPWK1040	Rem/Repair Damaged Asbestos Containing	4	22JUL98	28JUL98	2
Building Decontamination					
BDHA1000	BUILDING DECONTAMINATION	44*	29JUL98	13OCT98	3
BDWK1010	Mobilization	2	29JUL98	30JUL98	3
BDWK1020	Rem Steel Stack & Associated Duct Work	2	03AUG98	04AUG98	3
BDWK1030	Decontaminate Filter Banks	2	05AUG98	06AUG98	3
BDWK1040	Decon Walls/Cvr Walls Rm	8	10AUG98	20AUG98	3
BDWK1050	Rem Clay Bricks&Scan Flrs for Electrc Rm	4	24AUG98	27AUG98	3
BDWK1060	Decon Floors Rm 129,130,131,132,133,134	12	31AUG98	17SEP98	3
BDWK1070	Saw cut Perimtr&Amd Sprinklr Hd&Sump Rm	1	21SEP98	21SEP98	3
BDWK1071	Remove Sump & Associated Piping	1	22SEP98	22SEP98	3
BDWK1080	Rem Contraminated Concrete	4	23SEP98	29SEP98	3
BDWK1090	Rem/Rplc Drains & Associated Piping Rm	3	30SEP98	05OCT98	3
BDWK1100	Rem Contaminated Subsoil	2	06OCT98	07OCT98	3
BDWK1110	Replace Subsoil and Re-pour Floor - Phase II	3	08OCT98	13OCT98	3
Site Restoration					
SRWK1000	SITE RESTORATION	4*	14OCT98	20OCT98	4
SRWK1010	Demobilize Equipment	2	14OCT98	15OCT98	4
SRWK1020	Lock and Secure Area	2	19OCT98	20OCT98	4



Project Start	01OCT97
Project Finish	20OCT98
Data Date	01OCT97
Run Date	28MAY98

Early Bar
Progress Bar
Critical Activity

HDEM

Sheet 1 of 1

Babcock & Wilcox of Ohio

H-Building Decontamination

Fig 5.1 Planning & Implemtation Schd

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Figure 5.1 Planning and Implementation Schedule

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

Radioactive contaminants, if present in the soil, could migrate to groundwater.

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 the CERCLA and 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 Buildings H, developed in accordance with CERCLA as amended by SARA, and consistent 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:

Sam Cheng, DFR Team Leader	DOE/MEMP	6-8-98 Date
Brian K. Nickel, Project Manager	OEPA	6/12/98 Date
Timothy J. Fischer, Remedial Project Manager	USEPA	6/10/98 Date

10. REFERENCES

DOE 1995 Policy on Decommissioning Department of Energy Facilities Under CERCLA, U.S. Department of Energy, U.S. Environmental Protection Agency, May, 1995

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

Environmental Appraisal Report of the Mound Plant, March 1996

DOE 1993 Draft Comprehensive Listing of State of Ohio ARARs, Letter from Hatcher to Kleinrath, May, 1993

APPENDIX