RECEIVED

OCT 11 1995

OSTI

MLM-MU-89-62-0003

FOR REFERENCE
NOT TO BE TAKEN
FROM THIS ROOM

**CONSTRUCTION PROJECT DATA SHEET
FOR THE
ENVIRONMENTAL, SAFETY AND HEALTH
UPGRADES - PHASE III PROGRAM
FY 1991 LINE ITEM**

SEPTEMBER 1988

REVISED: FEBRUARY 1989

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

EG&G MOUND APPLIED TECHNOLOGIES

P.O. BOX 3000

MIAMISBURG, OHIO 45343-0987

513-865-4020

operated for the **UNITED STATES DEPARTMENT OF ENERGY**

Contract No. DE-AC04-88-DP43495

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

MASTER

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

P.O. BOX 3000 MIAMISBURG, OHIO 45343-0987 • TEL (513) 865-4020

February 3, 1989

Mr. James A. Morley, Area Manager
U. S. Department of Energy
Dayton Area Office
P. O. Box 66
Miamisburg, Ohio 45343

Dear Mr. Morley:

FY 1991/FY 1992 Budget Submission
Environmental, Safety and Health Upgrades, Phase III
Mound, Miamisburg, Ohio

Enclosed are thirteen copies of the Revised Construction Project Data Sheet (CPDS) submitted in response to a telephone request from Mr. Ron Ater, AL/BRMD. This line item has been modified since it was submitted in response to the FY 1991/FY 1992 budget call. The Suspended Solids Removal subproject has been deleted from the line item because of lack of support at AL. This subproject will be resubmitted at the next budget call.

Very truly yours,

A handwritten signature in cursive script, reading "Michael R. Hunter".

M. R. Hunter
Project Manager

A handwritten signature in cursive script, reading "R. A. Neff".

R. A. Neff
Program Manager

Approved: V. E. Castleberry / pch
V. E. Castleberry
Director, Engineering

/lm

cc: Mr. J. A. Morley (2) w/attachments

cpdsIII

Albuquerque Operations Office
FY 1991 BUDGET REQUEST
CONSTRUCTION PROJECT DATA SHEET
Atomic Energy Defense Activities
Weapons Production and Surveillance

(Tabular dollars in thousands. Narrative material in whole dollars.)

1. Title and location of project: ENVIRONMENTAL, SAFETY & HEALTH 2. Project No. 91-DA-01
UPGRADES, PHASE III
Mound Facility, Miamisburg, Ohio

3. Date Design work initiated: 1st Qtr., FY 1991

5. Previous cost estimate: \$12,450 a/
Date: 9/15/88

3a. Date physical construction starts: 1st Qtr., FY 1992

6. Current cost estimate: \$3,810 b/
Date: 9/15/88

4. Date construction ends: 1st Qtr., FY 1994

7. Financial Schedule

<u>Fiscal Year</u>	<u>Authorization</u>	<u>Appropriations</u>	<u>Obligations</u>	<u>Costs</u>
1991	\$ 2,030	\$ 2,030	\$ 2,030	\$2,030
1992	1,780	1,780	1,780	1,280
1993	0	0	0	500

a/ Included Suspended Solids Removal which is no longer included in this line item.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
 Upgrades, Phase III
 Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

8. Brief physical description of project

This line item is made up of three subprojects:

- a. Solvent Waste Handling will provide a licensed hazardous waste incinerator with its associated equipment. The incineration process will be housed in a new 800 square foot structure located adjacent to the existing Waste Disposal (WD) building. The incinerator will be fired by a 1,600,000 BTU per hour propane burner and will have the capacity to process an estimated 25,000 gallons of liquid solvent waste per year. Off gas scrubbers and mist eliminators are included. It will also provide improvements to the existing solvent waste handling facilities which include pumps and piping necessary to pump the waste to the incinerator location and a 200 square foot prefabricated building for solvent filtration.
- b. Environmental Buffer Zone consists of purchasing land along the northwest boundary of the Mound facility to create an environmental buffer zone between the adjacent properties. Acquisition of this property will provide Mound with better control of ground water monitoring facilities located within the buffer zone. Should a hazardous spill occur along the northwest border, the buffer zone will enable Mound to contain the spill on the facility's property, thus preventing damage to the property of others and will make clean up and control much easier.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

8. Brief physical description of project Cont'd

- c. Sanitary Treatment Plant Clarifier and Gas Cylinder Bank Upgrade is composed of the following two segments:

The sanitary treatment plant (STP) clarifier will provide Mound with the necessary treatment ability to continue to meet the National Pollution Discharge Elimination System (NPDES) effluent permit limits and will place a lower solids loading on the plant's sand filters. Should the work under this subproject not be performed, the Mound facility runs the risk of exceeding the NPDES permit limits and paying fines for noncompliance.

The gas cylinder bank upgrade includes modifications to the existing gas cylinder banks throughout the facility to bring them into compliance with NFPA and MRC safety standards. To bring the cylinder banks into compliance, the work will include implementing a combination of fire walls, rails, chains, platforms, and canopies, and relocation of or modifications to the manifolds and regulators. The gases involved are nitrogen, oxygen, helium, argon, propane, hydrogen, methane, acetylene, and deuterium. This segment of the project will separate the flammable gases from the oxidizers and will provide a safer method of storage.

Titles I & II design will be accomplished with the 1991 appropriations.

Safeguards and Securities (S&S) will not be impacted by this project and no S&S facilities are provided.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
 Ugrades, Phase III
 Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

9. Purpose, justification of need for, and scope of project

- a. The Solvent Waste Handling System provides a reduction in the risk of an incident arising from the present method of disposal. Presently, liquid hazardous waste is drummed and trucked to an off site incinerator which is owned and operated by a contractor. There is the risk of a transportation accident and the risk of mismanagement of the waste by the contractor. Both could, at the very least, generate serious adverse publicity for Mound. The increased cost of operating the incinerator is offset by reduced sampling cost. Presently each drum shipped must be sampled and analyzed. Larger quantities will be handled on site reducing the number of samples required. The incinerator provided by this project will eliminate these risks.
- b. Environmental Buffer Zone will provide Mound the opportunity to better control ground water monitoring. Mound property has been developed up to the current property boundary along the northwest side of the facility, leaving no buffer zone between Mound and the neighboring properties, some of which contain inhabited dwellings. Ground water monitoring facilities exist on the neighboring property; however, Mound personnel must obtain permission from the property owners before sampling or remedial actions can commence. This subproject is essential for Mound personnel to contain and remove the contamination originating from the Mound site before creating an adverse environmental condition off site.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
 Ugrades, Phase III
 Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

9. Purpose, justification of need for, and scope of project Cont'd

- c. This subproject also responds to environmental and safety concerns at the facility. The Sanitary Treatment Plant Clarifier is necessary to meet the effluent requirements imposed by the Environmental Protection Agency on the sanitary treatment plant and to prolong the life and reduce operating and maintenance costs on the sand filters. The STP clarifier is the only treatment component which has not been upgraded to keep pace with the increase in employees and building additions at the facility. Because of the increase in sanitary flow to the treatment plant, the existing clarifier is undersized to effectively provide the level of treatment required to produce an acceptable secondary effluent. Because these clarifiers do not remove enough solids, the sand filters are overloaded, thus reducing their effectiveness and their useful life.

In 1987, Factory Mutual and the MRC Explosives Safety Group conducted inspection of gas cylinder banks and noted deficiencies in the storage methods and separation distances between flammable gas cylinders and oxidizers. This segment of the subproject is necessary to provide safer gas cylinder storage by constructing fire-resistant barriers between flammables and oxidizers to prevent propagation of fires and subsequent explosions. This segment will also provide a more positive means of securing the cylinders to prevent overturning and possible unrestricted discharge of gases from a broken regulator.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

Estimated Operating Cost

The project will cause significant increase in operating costs. It is projected that they will require an increase in operation effort in the magnitude of one man year per year and an increase in annual maintenance effort of \$21,000 per year of useful life.

10. Details of cost estimate a/

	<u>Subtotal</u>	<u>Total Cost</u>
a. Engineering, design, and inspection at approximately 14% of construction/Equip. Cost. . .		\$ 370
b. Construction costs		2,680
(1) Site Improvements.	\$ 2,480	
(2) Buildings, 1,000 sq. ft. gross	200	
(3) Special Facilities	0	
c. Standard equipment		0
d. Contingency @ approximately 25% of above costs		760

Total project estimate		\$ 3,810 b/
	DOE	0
	Contractor	\$ 3,810

a/Estimate based on 100% completed conceptual design.

b/Escalation rates based on August, 1988 ICE Rates.

Date: September 28, 1988
Revised: February 3, 1989

UNCLASSIFIED

Page 6

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

10. Details of cost estimate Cont'd

SUBPROJECT ESTIMATE SUMMARY

<u>PRIORITY</u> <u>NO.</u>	<u>CONSTRUCTION</u>	<u>ED&I</u>	<u>CONTINGENCY</u>	<u>TOTAL</u>
1) Solvent Waste Handling & Incineration	870	230	200	1,300
2) Environmental Buffer Zone	1,220	0	440	1,660
3) Cylinder Banks/STP Clarifier	590	140	120	850
	=====	=====	=====	=====
PROJECT TOTAL	2,680	370	760	3,810

Date: September 28, 1988
Revised: February 3, 1989

UNCLASSIFIED

Page 7

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

11. Method of performance

Design shall be performed under a negotiated architect-engineer contract. Inspection and procurement shall be performed by the operating contractor. To the extent feasible construction and procurement shall be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bidding.

12. Funding schedule of project funding and other related funding requirements

	Prior Years	FY 1991	FY 1992	FY 1993	FY 1994	TOTAL
a. Total project funding						
(1) Total facility costs						
(a) Construction line item	0	\$ 2,030	\$ 1,280	500	0	\$ 3,810
	-----	-----	-----	-----	-----	-----
TOTAL FACILITY COST	0	2,030	1,280	500	0	3,810
(2) Other project funding						
(a) Conceptual design costs	\$ 200	0	0	0	0	200
	-----	-----	-----	-----	-----	-----
TOTAL OTHER PROJ FUNDING	200	0	0	0	0	200
	=====	=====	=====	=====	=====	=====
TOTAL PROJECT FUNDING	\$200	\$ 2,030	\$ 1,280	500	0	\$ 4,010

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

b. Other related funding requirements (estimated life of project: 25 years)

1.	Facility operating cost	\$ 100
2.	Programmatic operating expenses directly related to the facility.	21
3.	Capital equipment not related to construction but related to the programmatic efforts in the facility.	0
4.	GPP or other construction related to programmatic effort in the facility.	0
5.	Other costs	0
TOTAL OTHER RELATED COSTS.		\$ 121

13. Narrative explanation of total project funding and other related funding requirements

a.	1a)	Construction Line Item Funding.	\$ 3,810
b.	1)	Operating cost for suspended solids removal and solvent handling.	100
b.	2)	Programmatic Maintenance Cost for Suspended Solids Removal System, and Solvent Waste Collection System	21
b.	3)	Equipment Support	0

14. Incorporation of fallout shelters in future federal buildings

This project does not include the construction of new inhabited buildings or building additions therefore, the provisions for fallout shelters are not applicable.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

15. Federal compliance with pollution control standards

One purpose of this project is pollution control and will inherently assure compliance with the requirements of Executive Order 12088.

No potential environmental impacts on the quality of human environment will result from this project. An Action Description Memorandum was submitted in February 1987.

16. Evaluation of flood hazards

Portions of the site contaminant storm drainage upgrades are located in an area that is subject to flooding as determined in accordance with Executive Order 11788. A hydraulic assessment of the Mound site was made by Dames and Moore, Consulting Engineers and Planners, as part of the site safety study for safety analysis reporting. This assessment concluded that the combination of the probable maximum flood with associated wave run-up caused by the concurrent failure of the worst case upstream dam would reach an elevation of 727 feet above sea level. Flood analysis will be used to generate design flood calculations. Flooding will have no damaging effect on the drainage portion of this project.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health Upgrades, Phase III Mound, Miamisburg, Ohio 2. Project No. 91-DA-01

17. Compliance with the National Environmental Policy Act, floodplains and/or wetlands environmental review requirements and other related environmental statutes

The NEPA/DOE required Action Description Memorandum (ADM) for this project was submitted in February 1987. This ADM documents the environmental evaluation of the project.

18. Accessibility for the handicapped

By its nature, this project is not subject to the Architectural Barriers Act, Public Law 90-480, or implementing instructions in the Federal Property Management Regulations (41 CFR 101.19.6).

19. Safety Analysis Report (SAR) reporting requirements and status

The hazard potential and impact of this project have been reviewed by site ES&H representatives. No further safety documentation is planned.

Date: September 28, 1988
Revised: February 3, 1989

UNCLASSIFIED

Page 11

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

Attachment I Project Execution

	<u>FY 91</u>		<u>FY 92</u>		<u>FY93</u>		<u>TOTALS</u>	
	<u>Oblg.</u>	<u>Costs</u>	<u>Oblg.</u>	<u>Costs</u>	<u>Oblg.</u>	<u>Costs</u>	<u>Oblg.</u>	<u>Costs</u>
Titles I & II								
Start 1 Q FY91	300	300	0	0	0	0	300	300
Complete 2 Q FY92								
Title III								
Start 4 Q FY91	0	0	70	50	0	20	70	70
Complete 1 Q FY94								
Construction								
Start 4 Q FY91	1,220	1,220	1,460	1,030	0	430	2,680	2,680
Complete 1 Q FY94								
Contingency								
Start 1 Q FY91	510	510	250	200	0	50	760	760
Complete 1 Q FY94								
Totals	2,030	2,030	1,780	1,280	0	500	3,810	3,810

Date: September 28, 1988
Revised: February 3, 1989

UNCLASSIFIED

Page 12

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

Attachment II Escalation Factors Utilized

	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>FY 1991</u>	<u>FY 1992</u>	<u>FY 1993</u>
Title I, II, and III	1.000	1.043	1.093	1.149	1.214	1.285
Construction	1.000	1.043	1.093	1.149	1.214	1.285
Standard Equipment	1.000	1.043	1.093	1.149	1.214	1.285

NOTE: Rates are for Defense Programs and General Construction type projects.

Narrative Explanation - The percentages shown were supplied by the DOE Independent Cost Estimating (ICE) Group (August 1988) and are based on the material and labor data contained in the Energy Supply Planning Model and appropriate escalation rates forecasted by Data Resources, Incorporated (DRI). It is expected that DOE projects will generally conform to, or be less than, the rates shown above. MRC has reviewed the escalation rates developed by Monsanto's Corporate Engineering Department and other resources for the Dayton Area and concluded that the ICE rates were satisfactory for use on this project.

CONSTRUCTION PROJECT DATA SHEET

Title and location of Project: Environmental, Safety & Health
Upgrades, Phase III
Mound Facility, Miamisburg, Ohio

2. Project No. 91-DA-01

SUPPLEMENTARY PROJECT DATA FOR STRATEGIC FACILITIES

Site-wide Requirements/Assets for Category 60, Service

Other Projects Affecting this Category: None

Unit of Measure square feet (square feet or other unit)

	<u>CURRENT</u>	<u>THIS PROJECT</u>	<u>RESULT</u>
A. Total Existing Assets: (in this category)	<u>49,670</u>	<u>1,000</u>	<u>59,670</u>
B. less: Substandard Assets: (in this category)	- <u>0</u>	- <u>0</u>	- <u>0</u>
C. Amount Adequate: (in this category)	= <u>49,670</u>	= <u>1,000</u>	= <u>59,670</u>
D. less: Amount Required: (in this category)	- <u>59,670</u>	- <u>XXX</u>	- <u>59,670</u>
E. Excess/(Deficiency) of Adequate Assets:	= <u>(1,000)</u>	= <u>1,000</u>	= <u>0</u>
F. Excess/(Deficiency) of Total Assets (A-D):	<u>(1,000)</u>	<u>1,000</u>	= <u>0</u>

Site-wide Requirements/Assets for 2nd Category _____, _____

Date: September 28, 1988
Revised: February 3, 1989

UNCLASSIFIED

Page 14