WV-0231 #54

UNION CARBIDE CORPORATION
SPECIALTY CHEMICALS DIVISION
Technical Center
South Charleston, West Virginia

UCC BUSINESS CONFIDENTIAL

September 30, 1986

TO: J. F. Flynn
A. Walker

COPY TO:
J. R. Barber
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M. G. Dwyer
M. D. Fairall
R. L. Foster
D. A. Gosselin
R. A. Hazlewood
R. P. Leichliter
D. Liebeskind
M. R. Mazuroski
J. E. McKeon, Jr.
D. G. Moshier
L. W. Phair
W. V. Summers, Jr.
G. W. Wulfert

SUBJECT: Outline of Project
Insulation Upgrade - Phase I
Sistersville Plant

The subject Outline of Project describes the work planned to begin upgrading asbestos insulation for compliance with Occupational Safety and Health Asbestos Standard 1910.1001. This Phase I project will upgrade about 60% of the plant asbestos insulation and require a capital expense authorization of $1,500M and a 838 expense authorization of $600M. The project is planned to be executed over the period 4Q86 thru 2Q89 to ensure effective execution and spread the dollars expenditures.

In early 1989, funds for a Phase II Insulation Upgrade project will be requested to cover the remaining 40% of the plant insulation upgrade. This Phase II project will require about $1,600M and $600M of Capital and 838 Expense funds, respectively, and is planned to be implemented in 1989-1991.

The scope of the Phase I project was defined by the Sistersville Plant Maintenance Department. Detail equipment and pipeline listings for each sub-section of the prioritized Unit Areas were defined in the Outline of Project. (A copy of the listing is availabe on request). These listings were then used to prepare manpower and materials requirement and the cost estimate for the project.

PLAINTIFF'S EXHIBIT
UC-4001

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Plant Engineering will provide project management and engineering consultation to Plant Maintenance, who has field management and execution responsibility for the project.

The Outline of Project has been endorsed by:

J. R. Barber	R&D
W. D. Bradbury, Jr.	Engineering
D. Liebeskind	HS&EA
L. W. Phair	Manufacturing

This document is issued for your final endorsement and preparation of a Capital Budget Proposal.

W. D. Bradbury, Jr.

WDBJr:pr

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SISTERSVILLE PLANT ENGINEERING
SPECIALTY CHEMICALS DIVISION

OUTLINE OF PROJECT

INSULATION UPGRADE - PHASE I

SISTERSVILLE PLANT

SISTERSVILLE, WV

SEPTEMBER 29, 1986

UCC 020037

OUTLINE OF PROJECT

INSULATION UPGRADE - PHASE I
SISTERSVILLE PLANT

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I. INTRODUCTION

Much of the insulation in the Sistersville Plant is asbestos and is in poor condition. The exposed asbestos presents a safety and health hazard associated with airborne particulate asbestos.

II. SUMMARY

The asbestos insulation throughout the Sistersville Plant must be upgraded to comply with the Occupational Safety and Health Administration (OSHA) standards. This project will upgrade approximately 60% of the asbestos insulation in the Sistersville Plant. The plan is to remove asbestos from idle equipment, replace asbestos insulation, where necessary, with an approved type, and cover asbestos insulation with an approved covering. This cost of the proposed project is:

Capital (± 15%)	$1,500,000
Non Capital	600,000

The justification of this project is Occupational Health. The present OSHA Asbestos Standard, 1910.1001, revised July 1, 1986 specifies 0.2 fibers/cc as the maximum allowable exposure over an eight-hour period. The figure refers to fibers greater than five micrometers in length and would amount to 1.6 million fibers in that time period.

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III. SPONSOR'S OBJECTIVE

The basic objective of this project is to upgrade or eliminate 60% of the asbestos insulation in the Sistersville Plant to comply with OSHA Standards.

Completion

This Insulation Upgrade Project will be complete by June 1989.

Project will be executed on a continuous basis over the three-year period with curtailment during the bitter cold winter months.

Safety/Health

All Division Safety/Health Guidelines will be followed during asbestos removal, repair, and covering.

Government Regulations

Areas of the plant covered in this project will be in compliance with all applicable OSHA and U.S. Environmental Protection Agency (EPA) Regulations at project completion.

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IV. FACILITIES

This Phase I project will replace asbestos insulation and jacketing in many areas of the Plant in accordance with the following area priority list:

1. Intermediates Area
2. Environmental Protection Area
3. Small Scale Production Area
4. Polymers II
5. 50% Silanes Reactor Tower

(Detailed listings of the equipment and pipelines in each of the sub-sections of the above areas are available in the project file).

Another project will be submitted in 1989 to upgrade asbestos insulation in the rest of the plant as follows.

1. 50% Silanes Reactor Tower
2. Polymers I
3. Miscellaneous areas; including Maintenance, Laboratory, Warehouse, etc.
4. Energy Systems area

This order of priority was established by the plant to correct the most critical needs first. The division into two projects is desirable to control the cash flow and for effective project execution.

This project will provide removal of asbestos from idle equipment, replacement where necessary, and recovering with an approved covering of an estimated 60 per cent of the asbestos insulation currently installed in the Sistersville Plant. The remaining asbestos insulation will be addressed by another project of approximately two thirds the cost of this one, to be executed in 1989, 1990, and 1991.

In the execution of this project non-asbestos type insulation will also be repaired or replaced to provide for an economical and complete project. Non-asbestos insulation work will constitute 15 per cent, or less, of the total project cost.

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V. ENVIRONMENTAL PROTECTION/OCCUPATIONAL HEALTH AND SAFETY CONSIDERATIONS

This project will correct an Occupational Health concern by replacing or sealing exposed asbestos insulation in the Plant. When the insulation is being replaced or removed, Safety and Health Guidelines will be followed which includes: installing rope barricades and clearing the area of plant personnel, posting of warning signs, proper bagging and disposal of insulation, and monitoring of surrounding work areas. In addition, assuring that contractor personnel adhere to guidelines such as: wet clean-up, wearing of appropriate respirators, wearing and disposal of proper protective clothing, etc.

This project will be in compliance with all applicable OSHA and EPA Regulations. EPA reporting regulations will be followed.

VI. SUPPORTING FACILITIES

A. Distribution

The project will have no effect on Distribution facilities.

B. Energy Systems

The project will have no effect on Energy Systems requirements. However, Energy Conservation will be improved with this insulation upgrade.

C. Safety and Environmental Considerations

See Section V above.

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VII. PROJECT PLAN

The project survey, or scope, was prepared by the Maintenance Department over the last year. The priority of work is shown in the Facilities Section on page 3.

Insulation specification consultation will be supplied by Engineering. Field construction will be done by the Plant Maintenance Department, an outside contractor, or the Central Engineering Construction Group, and will be supervised by the Maintenance Department. The Maintenance Department will establish a dedicated crew to carry out the scope of this project.

Project Management, including cost control and reporting, will be provided by Plant Engineering.

The project organization follows:

Steering Committee

Assistant Plant Manager	W. V. Summers
Maintenance Superintendent	G. W. Wulfert
General Project Manager	R. A. Hazlewood

Project Team

Maintenance Contractor Foreman	J. E. Boley
Maintenance Coordinator/Supervisor	W. C. Nycz
Project Manager	C. A. Eddy

VIII. SCHEDULE

Key dates are:

Outline of Project Approval	August 1986
CBP Approval	October 1986
Mechanical Completion	June 1989

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IX. COST ESTIMATE

A. Summary

	Capital	Removals Expense
• Construction Labor	$1,109,000	$554,000
• Materials	241,000	21,000
• Engineering*	50,000	12,000
• Contingency	100,000	13,000
Total	$1,500.000	$600,000

* Insulation specification consultation, project management and field coordinator of contractor.

B. Basis for Estimate

The estimate for the work is based on a detailed scope provided by an insulation survey of each unit. The total man-hour estimate is 43,800 hours of work for both capital and expense.

C. Cash Flow

	CAPITAL	EXPENSE
1986	$150,000	$ 60,000
1987	500,000	200,000
1988	500,000	200,000
1989	350,000	140,000

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SCD DIVISION
WORKING BUDGET CAPITAL PROJECT ASSIGNMENT
SISTERSVILLE PLANT

DISTRIBUTION:

To:

PLE OR PROCESS ENGINEERING MANAGER	R. A. Hazlewood	MAINTENANCE TECHNOLOGY	W. C. Nycz/G. Wulfert
DEPARTMENT HEAD	G. W. Wulfert	CAPITAL WORKORDER BOOK	C. K. Nicholson
LEAD PROCESS ENGINEER	L. G.Moody	PROJECT TEAM	(See Below)
DESIGN SUPERVISOR	M. E. Kim	DESIGN TEAM	(See Below)
		RECORDS CENTER	DFE/BJS

TITLE: Asbestos Insulation Replacement

PROJECT SPONSOR: R. A.Hazlewood

DEPARTMENT SYSTEM: 327000

PROFIT CENTER/S 917 $243,000

WORK ORDER SUBMISSION TO DANBURY 11/26

ENGINEERING JOB NO: EJ- 7564

EST. ENG. COMPLETION DATE 11/26
(Signed Scope Document Issued)
(C4 - 14 - 19)

EON FOR PREPARATION OF SCOPE 26205

EON FOR PREPARATION OF WORK ORDER 26205

PROJECT TEAM

PROJECT CONTROL ENGINEER W. M. Crandall

ENGINEERING REPRESENTATIVE —

OPERATING REPRESENTATIVE —

MAINTENANCE REPRESENTATIVE W. C. Nycz

DISTRIBUTION REPRESENTATIVE —

R/D REPRESENTATIVE —

CONSTRUCTION REPRESENTATIVE G W WULFERT

COST ESTIMATOR C. A. Eddy

DESIGN TEAM

PROCESS —

PROCESS SAFETY REVIEWER —

SAFETY & FIRE PROTECTION —

CIVIL/MECHANICAL —

ELECTRICAL —

CONTROL SYSTEMS —

Issued By: [signature]
Manager of Plant Eng.

Date: 11/19/86

9/86

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SPECIALTY CHEMICALS DIVISION

SISTERSVILLE PLANT ENGINEERING

June 25, 1986

TO: J. F. Dodd (2)
W. V. Summers
G. W. Wulfert

CC: W. D. Bradbury, Jr.
R. P. Leichliter
W. C. Nycz

SUBJECT: Sistersville Plant Insulation Upgrade

Attached is the Draft Outline of Project for the subject project for your review and comments.

Highlights are:

- Project Cost $1,500,000 Capital, $600,000 Expense over next three years.
- Advance funding is not available, so expenditure in 1986 is estimated at $150,000.
- Estimate is based on detailed takeoff of Maintenance Department survey.
- Maintenance to supervise field construction.
- Project will meet all OSHA and EPA Standards.

I'm afraid, I will say: all Plant standards.

Please return comments to me, or I will schedule a meeting if there are significant comments to resolve.

L. G. Moody

LGM/kcs
0723k

We can insulate J A S O N
5 months - no more!

$150,000 / 6,000 = 25 man months
∴ 5 insulators for 5 months
or prefer 6 for just a little over 4 months (4.2)

UCC 020046

HILTON

George -

STATUS?

Bud
11/19

ahead with the

request to develop an asbestos

repair project based on use of capital

dollars over a period you feel

appropriate

WB

DANBURY HILTON INN

AND CONFERENCE CENTER
UCC 020047

To: Jim Heilman

October 28, 1985

cc: John K.
Bill N.
Bill S.

Subject: Plant Insulation Upgrade

Need two project cost estimations:

1. To remove all loose & unsealable asbestos insulation, and to re-insulate that which was removed (if needed). Tanks, equipment, pipelines and buildings. And, seal (re-seal) all other asbestos insulation.

2. To correct all Plant insulation needs. This would be item #1, plus all general insulation replacement and improvement needs for all the non-asbestos insulation.

3. Let me suggest doing this by areas defined by the General Plot Plan for the Plant that identifies 11-56 Zones (or 45 readily defined areas).

4. John Kyle is key coordinator and may need to involve insulators to survey each of the 45 zones.

5 Completion by November 6TH with written proposal to me.

UCC 020048

George Walker

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