A

conoco

Interoffice Communication

To : R. D. Gamblin

From : S. C. Hillman

Date : November 16, 1983

Subject : AFE REQUEST - VCM EXPOSURE REDUCTION

Attached is the AFE request for $100,000 for VCM Exposure Reduction. This project is included in the 1983 Construction Forecast as Item A-10.

This project will reduce employee exposure to vinyl chloride monomer by providing contained drain and flush systems for the reactor recovery systems. Provisions will be made so that recovery system equipment can be isolated, water flushed, steam stripped and recovered prior to being opened.

Routine dosimetry monitoring over the past two years shows that approximately 29% of the employee overexposures to vinyl chloride result when the operator or mechanic has worked with or in the area of the recovery systems. To reduce the possibility of exposure to VCM while working with recovery system equipment the following changes will be made:

1. Replacement of the 2 inch drain lines from the new module knockout pots to the blowdown tank with 4 inch lines to aid in removing PVC chunks from the pots.

2. Installation of isolation valves, bleeders, and drains to the blowdown tank or batch water strippers where they are not already existing so that recovery equipment can be isolated, flushed out, steam stripped and recovered.

3. Replacement of the process water make-up to the knockout pots with utility water flushes.

4. Elimination of several drains in the recovery system that drain to open sewers.

No economics are calculated for this safety project.

Steve C. Hillman by RAF
Steve C. Hillman
Process Engineer

bls

Attachments

c: JF, CRM, RAF, VEM, CRS, JAD

A

AFE REQUEST

VCM EXPOSURE REDUCTION

1. The project cost is based on a definitive estimate by the plant.
2. Money will be committed upon AFE approval.
3. There are no expense items associated with this project.
4. Project completion is estimated to be twelve months after approved.
5. There are no additional operating costs associated with this project.

A

Conoco Inc.
Conoco Chemicals

Authority for Expenditure

Project Title: VCM Exposure Reduction

Budget Proj. No. A-10 AFE No.

☐ Check if partial AFE

Location ☒ Aberdeen ☐ Baltimore ☐ Hammond ☐ LCCP ☐ Newark ☐ OKC ☐ VCM ☐

Project Category ☐ Plant Expansion & Modernization ☐ Cost Savings – Energy ☐ Cost Savings – Other ☒ Safety & Health ☐ ☐ Product Improvement ☐ Pollution Abatement: ☐ Water ☐ Air ☐ Land ☐ Noise ☐ Miscellaneous

DuPont Category: Necessities

Requested Capital $100,000 Expense

Budgeted Capital $96,000 Expense

Source of Capital ☐ Budget ☐ Unallocated ☐ Transfer ☐ Over Commitment

Project Description

Funds are requested to provide adequate drains, bleeders, and isolation valves in the vinyl recovery areas so that recovery system equipment can be flushed out, steam stripped and recovered prior to being opened for maintenance. Also larger drain lines will be installed on the new module knockout pots to reduce plugging of the recirculation system.

Summary of Estimated Cost	Cash and Warehouse Outlay: Material	Labor
Other Material	56,000 00	28,000 00
Contingency		8,000 00
Escalation		8,000 00
Distribution		
R. D. Gamblin J. A. Begley B. R. Johnson Total	56,000 00	44,000 00
Plant (3) W. H. Harlan R. F. Wilkinson Grand Total		100,000 00

Approved By	Date
Supt./Mech. Supt. CR Snowden	11-23-83
Plant Manager J Freund	11-23-83

Approved By	Date
Manager of Manufacturing	
Vice President	

AFE No.

18-103 PA, 11-79

VAB.0001099290

A

conoco

Interoffice Communication

To : R. D. Gamblin

From : J. C. Greene

Date : September 29, 1983

Subject : AFE REQUEST - REMOTE OPERATING VALVES AND INSTRUMENTATION

Attached is the AFE request for $130,000 to provide the capability to remotely isolate the VCM storage vessels in the plant. Six new valves with actuators will be installed, and an additional twenty-one actuators will be installed on existing valves. Additional high level and pressure alarms on the sphere will also be provided. This project is item A-9 of the 1983 Construction Forecast.

Currently, the VCM sphere and VCM receivers in the reactor area cannot be isolated remotely. Should an emergency occur in one of these VCM storage areas, resulting in a release and/or fire, it would be difficult and hazardous for personnel to enter the area and manually close the necessary valves to stop the release. This could result in a massive loss of VCM creating an extremely hazardous situation.

The VCM storage sphere, the old module VCM receivers, and the new module VCM receivers are the three separate areas for which remote isolation will be provided. One switch for each of these areas will be located in the vinyl control room. Activation of one of the switches will fully isolate all of the VCM storage vessels in the respective area. Interlocks will be provided for the sphere isolation switch to shutdown the VCM sphere transfer pumps and VCM compressors upon isolation of the sphere to prevent the possibility of dead-heading this equipment. Interlock protection between the VCM sphere transfer pumps and the fresh VCM receiver's fill valves in each reactor module already exists.

The new valves provided by this project will be fire-safe plug valves. The actuators provided will be air-to-open, fail-closed, spring-return actuators. Eleven existing actuators which fail in position upon instrument air failure will be replaced with fail-closed, spring-return actuators. The additional level and pressure instrumentation on the VCM sphere will consist of a new pressure switch and liquid level transmitter. The new instrumentation will activate existing alarms in the vinyl control room.

No economics were considered for this safety project.

J. C. Greene

J. C. Greene
Process Engineer

Attachments

c: JF, CRM, RAF, VLT, VEM

A

AFE REQUEST

REMOTE OPERATING VALVES AND INSTRUMENTATION

1. The project cost is based on a definitive estimate by the plant.
2. Money will be committed upon AFE approval.
3. There are no expense items associated with this project.
4. Project completion is estimated to be twelve months after approval.
5. There are no additional operating costs associated with this project.

A

Conoco Inc.
Conoco Chemicals

Authority for Expenditure

Project Title
Remote Operating Valves And Instrumentation

Budget
Proj. No. A-9 AFE No.
☐ Check if partial AFE

Location ☒ Aberdeen ☐ Hammond ☐ Newark ☐ VCM
☐ Baltimore ☐ LCCP ☐ OKC ☐

Project Category
☐ Plant Expansion & Modernization
☐ Cost Savings – Energy
☐ Cost Savings – Other
☒ Safety & Health
☐
☐ Product Improvement
☐ Pollution Abatement:
☐ Water ☐ Air ☐ Land ☐ Noise
☐ Miscellaneous

DuPont Category: Necessities - Safety, Health, Environmental and Legal

Requested Capital $130,000
Expense

Budgeted Capital $130,000
Expense

Source of Capital ☐ Budget ☐ Unallocated ☐ Transfer
☐ Over Commitment

Project Description

Funds are requested to provide valves and actuators to enable the plant's VCM storage vessels to be remotely isolated in time of emergency. New spring-return, fail-closed actuators are required on each isolation valve of the VCM storage vessels. Additional high level and pressure alarm instrumentation will be provided for the VCM storage sphere.

Summary of Estimated Cost	Cash and Warehouse Outlay	
	Material	Labor
Other Material	73,000 00	24,000 00
Field Cost		13,500 00
Home Office Cost		4,500 00
Sales Tax, Bond, ARI	1,300 00	
Contingency		13,700 00
Total	74,300 00	55,700 00
Grand Total		130,000 00

Distribution
R. D. Gamblin J. A. Begley B. R. Johnson
Plant (3) W. H. Harlan R. F. Wilkinson

Approved By	Date
Supt./Mech. Supt C R Mills	10-2-83
Plant Manager John Truesd	10-3-83

Approved By	Date
Manager of Manufacturing	
Vice President	

AFE No. VAB.0001099293

18-103 PA, 11-79

1.2.7 AFE REQUESTS
-1984-