CONOCO

Interoffice Communication

To R. A. Conrad

From J. A. DeBernardi

Date January 17, 1978

Subject Capital Expenditure Forecasting

As per your letter of December 19, 1977, a review has been made of the years 1975 through 1977 Capital Budgets at the VCM Plant related to actual versus forecasted expenditure schedules. The results of this review are as follows by year. A summary of the numbers presented is attached as Table I.

A. 1975 Capital Budget

The approved Capital Budget for the VCM Plant was $3,428 M. Of this total $703 M was returned to headquarters for use in other plants, and $246 M was dropped by the plant based on economics of projects or lack of need. Net budget for the year was therefore $2,479 M.

The predicted expenditure schedule submitted to Houston by telex on 9-24-74 related to the proposed 1975 budget plus previous years carryover was as follows:

Carryover Pre-1974 and 1974	$1,465 M
1975 Proposed Capital Budget	1,039 M
	$2,504 M

These numbers adjusted for projects dropped in the Houston and Stamford budget reviews which led to the 1975 Approved Capital Budget is as follows:

Carryover Pre-1974 and 1974	$1,465 M
1975 Approved Capital Budget	749 M
	$2,214 M

To this total a project related to VCM exposure reduction was added in Houston in the amount of $2,000 M and included in the approved 1975 Capital Budget. However, no expenditure schedule related to this project was submitted by the plant to Houston. If we assume that the prediction was that all the VCM exposure reduction project capital was to be expended in 1975, the total expenditure prediction for the year would be $4,214 M. This number does not match the Controller's estimate for 1975 expenditure made on 12-10-74 in J. F. Sheara's letter of 12-14-77. Sheara's number is $4,430 M.

Adjusting the approved Capital Budget expenditure numbers for projects dropped by the plant, and those whose funds were transferred back to headquarters, the resulting expenditure figures would be as follows:

Carryover Pre-1974 and 1974	$1,465 M
1975 Approved Capital Budget	$1,946 M*
	$3,411 M

*Assumes VCM exposure reduction project was predicted to be fully expended in 1975.

The actual expenditures for capital projects in 1975 were taken from plant records and show the following:

Carryover Pre-1974 and 1974	$1,709 M
1975 Approved Capital Budget	49 M*
	$1,758 M

*Includes VCM exposure reduction project expenditures.

This total does not match Sheara's number of $1,927,168.

Three major projects that were not expended in 1975 contributed to the disparity between predicted and actual expenditures in 1975. These projects were:

Project Name	Budget No.	Budget Amt. ($M)	AFE Amt. ($M)
Acetylene Hydrogenator	V-9	238	326
EPA NPDES Permit Compliance	V-11	500	440
Process Sewer & Wet Vent Header	Partial V-21	-	1,150

The acetylene hydrogenation project was held up due to lack of information being received from the licensor, B. F. Goodrich. Problems related to the definition of control parameters and the variables affecting them being studied by R&D made it impossible to move the NPDES Permit project forward. The wet vent header and process sewer project was delayed by manpower availability to define and design the project as scheduled. Engineering manpower available at the plant was severely depleted by resignations, and the experience level of the engineers available at the plant was not adequate to move these projects forward in a timely fashion.

B. 1976 Capital Budget

The Approved Capital Budget for the VCM Plant was $5,222 M. The major item contained in this budget was for EPA - VCM Standard Compliance in the amount of $5,170 M.

The predicted expenditure schedule submitted to Houston on January 23, 1976 for the Capital Budget and previous years carryover was as follows:

Carryover Pre-1975 and 1975	$1,874 M
1976 Approved Capital Budget	222 M
	$2,096 M

This total does not match the Controller's estimate for 1976 expenditure made on 12-9-75 whown in J. F. Sheara's letter of 12-14-77. It does, however, match the number in Sheara's letter for Chemicals' estimate made on 2-20-76.

The actual expenditures for capital projects in 1976 were taken from plant records and show the following:

Carryover Pre-1975 and 1975	$1,018 M
1976 Approved Capital Budget	18 M
	$1,036 M

This total does not match Sheara's number of $877,692.

The major project contributing to the disparity between predicted and actual capital expenditures in 1976 was the EPA-VCM Standard Compliance project. This project was AFE'd in an amount of $5,600 M late in the year. The design of this project was extremely difficult requiring far more time than originally thought necessary. Expenditures for carryover projects were also far below predictions, however, it was impossible to determine which projects had the greatest influence since data related to the build-up used in the January 23, 1976 submittal could not be located.

C. 1977 Capital Budget

The approved Capital Budget for the VCM Plant was $7,898 M. Major items contained in this budget were HCl Recovery - $3,330 M, EPA-VCM Standard Compliance - $3,700, and EDC Exposure Reduction - $409 M.

The predicted expenditure schedule submitted to Houston with the proposed budget on 8-19-76 for the proposed budget plus previous years carryover was as follows:

Carryover Pre-1976 and 1976	$2,928 M
1977 Proposed Capital Budget	2,126 M*
	$5,054 M

*Included expanded plant items.

On 9-22-76 a revised expenditure schedule related to the proposed budget was sent to Houston in response to a telex from W. Hilgers of 9-20-76. The predicted expenditures contained in this schedule were as follows:

Carryover Pre-1976 and 1976	$2,058 M
1977 Proposed Capital Budget	1,640 M
	$3,698 M

As result of the Houston and Stamford review of the proposed budget some projects were dropped and the decision made to commit capital to a spare incinerator system to assure full compliance with the EPA-VCM Standard. The revised schedule to reflect these changes is as follows:

Carryover Pre-1976 and 1976	$2,148 M
1977 Approved Capital Budget	2,498 M
	$4,646 M

The actual expenditures for capital projects in 1977 were taken from plant records and show the following:

Carryover Pre-1976 and 1976	$1,908 M
1977 Approved Capital Budget	425 M
	$2,333 M

The major projects contained in the 1977 Capital Budget that were not expended as predicted are:

Project Name	Budget No.	Budget Amt. ($M)	AFE Amt. ($M)
Anhydrous HCl Recovery	V-3	3,330	Not AFE'd as project was described in the budget.
EPA VCM Standard Compliance	V-3A	3,700	3,260
EDC Exposure Reduction	V-4	409	421
VCM Exposure Reduction	V-5	82	248

A complete change in direction related to the Anhydrous HCl Recovery project required new process designs and definitive estimates to be made for this project. The change involved a movement away from anhydrous HCl reuse in the oxy system to sale of muriatic acid. This required the design of a system to bring the generated muriatic acid from the incineration system up to a saleable strength plus loading and storage facilities. In addition, a back-up neutralization facility was designed to ensure VCM plant operation should the muriatic acid market turn soft. The time required to bring these projects to a definitive estimate stage for AFE submittal was substantial, with AFE approval taking place in December, 1977.

Delay related to Item V-3A in the budget occurred due to lengthy negotiations with the EPA related to the intent of their VCM air standard with regard to stream factor of control devices. After resolution of these negotiations, the priority was given to the mechanical design and equipment ordering of the first control device (Incinerator in the 1976 Capital Budget) such that the 1978 compliance date could be met related to the air standard. This delayed the expenditure schedule for Item V-3A into early fourth quarter of 1977.

Project definition and available engineering manpower were negative factors that influenced the expenditures related to both the EDC exposure and VCM exposure projects contained in the budget. Help was obtained from PED late in the year to enable us to move forward on these projects, however, designs and definitive estimates were not obtained until December, 1977 thereby eliminating any expenditures related to the projects in 1977.

J. A. DeBernardi

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TABLE I

SUMMARY OF CAPITAL BUDGET EXPENDITURE

PREDICTED VS. ACTUAL

	Predicted Expenditure Schedule			Actual Expenditure Schedule			J. F. Sheara Letter 12-14-77				
Year	Carryover	Approved Budget	Total	Carryover	Approved Budget	Total	Controller's Estimate 12-10-74	Actual Expenditures	Controller's Estimate 12-9-75	Chemicals' Estimate 2-20-76	Actual Expenditures
1975	$1,465M	$1,946M*	$3,411M	$1,709M	$ 49M**	$1,758M	$4,430,000	$1,927,168			
1976	$1,874M	$ 222M	$2,096M	$1,018M	$ 18M	$1,036M	-	-	$1,528,000	$2,096,000	$877,692
1977	$2,148M	$2,498M	$4,646M	$1,098M	$425M	$2,333M	-	-	-	-	-

* Assumes the $2.00 MM project for VCM exposure reduction would be fully expended in 1975 minus that portion of project funds transferred back to headquarters.

**Includes VCM exposure reduction project expenditures.

CCR 000056043