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Interoffice Communication

To R. D. Gamblin

From J. H. Brunson

Date October 23, 1980

Subject Explanation of Variances - September, 1980

During the month of September the plant produced 55,778,985 pounds of VCM and 88,821,175 pounds of EDC. The variances from standard were as follows:

	August			Year-To-Date		
	Efficiency	Price	Total	Efficiency	Price	Total
EDC	$174,529	$(548,821)	$(374,292)	$ 826,743	$(4,489,408)	$(3,662,665)
VCM	5,079	(49,312)	(44,233)	39,964	(67,843)	(27,879)
Inc.	(46,246)	(4,494)	(50,740)	(396,589)	(7,127)	(403,716)
Subtotal	$133,362	$(602,627)	$(469,265)	$ 470,118	$(4,564,378)	$(4,094,260)
Fixed Costs			197,332			418,134
Total			$(271,933)			$(3,676,126)

FIXED COST VARIANCE

The favorable variance of $197,332 was due primarily to Operating Payroll - $11.5M, Maintenance Payroll - $127.9M, Rentals - $13.8M, and Maintenance Contract Costs - $52.1M. These variances reflect the fact that the plant turnaround was budgeted for the third quarter, but will not be taken during the quarter. These favorable variances were partially offset by unfavorable variances for Employee Benefits - $10.6M and Maintenance Materials - $14.8M. Smaller variances accounted for the remaining difference between budget and actual cost. The major variances are explained on attached sheet.

VARIABLE COST VARIANCES

The total variable cost variance for September (including incinerator IPA variances) was $469,265 unfavorable. The net unfavorable variance consisted of the following:

	September, 1980	
	EDC/VCM	Incinerators
Raw Materials and By-Products	$(338,053)	$ (6,757)
Processing Supplies	(6,330)	(13,914)
Utilities	(114,874)	(30,069)
By-Products Handling	40,732	-
	$(418,525)	$(50,740)

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The net price variance was unfavorable at $602,627.

In the explanations which follow, the incinerator variances are discussed as a separate topic.

EDC/VCM

The EDC/VCM unit efficiency variance was $179.6M favorable in September. Favorable raw material efficiencies ($134.6M for ethylene and $25.2M for chlorine plus HCl) were offset by unfavorable processing supplies and utilities efficiency variances of $12.9M and $11.7M, respectively. A favorable by-products handling efficiency variance of $44.5M also contributed to the overall favorable EDC/VCM unit efficiency variance.

Incinerators

The incineration unit efficiency variance was $46.2M unfavorable in September. This variance was due primarily to unfavorable light ends, limestone, and natural gas efficiency variances of $26.5M, $12.1M, and $24.9M, respectively. These unfavorable variances were partially offset by a favorable HCl variance of $19.7M. The overall variance can be attributed to limited light ends firing and the fact that the concentration unit was not in operation.

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FIXED COSTS

Operating Payroll - $11,474 Favorable

The favorable variance was due to overtime less than budget - $9.8M and maintenance paid non-work less than budget $1.6M.

Maintenance Payroll - $127,949 Favorable

The favorable variance was due to the budgeted third quarter turnaround being rescheduled in the fourth quarter - $147.4M. This was partially offset by turnaround preparation charges - $15.9M and to less labor used on capital projects than budgeted - $1.8M.

Employee Benefits - $10,577 Unfavorable

The unfavorable variance was due to rate used to calculate the benefits being 3% more than budget - $7.0M and the base salary used to calculate the benefits being more than budget - $3.5M.

Rent and Rentals - $13,798 Favorable

The favorable variance was due primarily to the budgeted third quarter turnaround rentals being spread evenly throughout the quarter - $16.9M.

Maintenance Materials - $14,755 Unfavorable

The unfavorable variance is due to costs greater than budget in the extraordinary category - $54.5M, and the ordinary category - $12.0M. The extraordinary costs above consisted of unbudgeted furnace tubes - $30.9M, unbudgeted BL-302 intercooler bundle replacements - $17.1M, and unbudgeted instrument air dryer repairs - $8.3M. The ordinary costs consisted of costs greater than budget in the warehouse - $8.6M, and pipe and valves - $6.4M. This was partially offset by the third quarter turnaround being rescheduled in the fourth quarter - $46.2M, and costs less than budget in the incinerator area - $5.1M.

Maintenance Contract Costs - $52,124 Favorable

The favorable variance was due to the budgeted third quarter turnaround being rescheduled in the fourth quarter - $53.9M.

VARIABLE COSTS

EDC/VCM - $418,525 Unfavorable

Raw Materials and By-Products - $338,053 Unfavorable

The chlorine and ethylene price variances for September were $200.3M unfavorable and $297.3M unfavorable, respectively. The chlorine plus HCl efficiency variance was $25.2M favorable and the ethylene efficiency variance was $134.6M favorable. The favorable chlorine plus HCl efficiency variance was due to favorable conversion in the oxy finishing reactor, R-304. The favorable ethylene efficiency variance was due to favorable conversion in R-304 and metering discrepancies.

Processing Supplies - $6,330 Unfavorable

Oxychlorination catalyst yielded a favorable price variance of $4.3M. Alumina catalyst yielded a favorable efficiency variance of $7.6M because amortization of the catalyst which was charged in the oxy vent clean-up reactor, R-305, during September, 1978 was completed in March, 1980. Hydrogenation catalyst yielded an unfavorable efficiency variance of $6.1M due to the unbudgeted amortization of catalyst that was charged in the hydrogenation reactor, R-300, in March, 1980. Caustic solution usage yielded an unfavorable price variance of $7.7M and an unfavorable efficiency variance of $12.5M. The unfavorable efficiency variance was due to the poor quality of available limestone and excessive neutralization requirements resulting from the deteriorating condition of the oxy section catalyst. Nitrogen usage yielded a favorable price variance of $5.1M and a favorable efficiency variance of $4.1M. The favorable efficiency variance was due to low rail car purging requirements. Cooling water chemicals efficiency variance was $3.9M unfavorable due to the charge to this category of material being used on an experimental basis in the light ends column. The efficiency variance for the category of "Other" items was unfavorable at $4.2M due to the charge to this category of material which was used at the incinerator and which should have been charged to the boiler water chemicals category of the incinerator IPA.

Utilities - $114,874 Unfavorable

Price variances for electricity, steam, and natural gas were $10.3M unfavorable, $81.6M unfavorable, and $11.3M unfavorable, respectively. The electricity efficiency variance was unfavorable at $7.8M due to normal consumption in a month of low production. The steam efficiency variance was $7.7M unfavorable due to the low production rate and the revision of the steam accounting factors at the LCCP steam plant in May, 1980. The natural gas efficiency variance was $3.7M favorable due to the fact a favorable light ends concentration was maintained in the furnace feed.

By-Products Handling - $40,732 Favorable

The cost of tars disposal yielded an unfavorable price variance of $3.8M and a favorable efficiency variance of $9.8M. The favorable efficiency

variance was due to low tars production in the EDC/VCM unit. Light ends to the incinerators yielded a favorable efficiency variance of $33.7M due to the fact that routine light ends firing has yet to be instituted in the incineration area.

Incinerators - $50,740 Unfavorable

Light ends from the EDC section yielded an unfavorable efficiency variance of $26.5M due to limited light ends firing. HCl from the VCM section yielded a favorable efficiency variance of $19.7M due to the fact the concentration unit was not in operation during September. Limestone yielded an unfavorable price variance of $3.3M and an unfavorable efficiency variance of $12.1M which was also due to the fact the concentration unit was not in operation during the month. The natural gas efficiency variance was $24.9M unfavorable due to limited light ends firing.