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CONOCO

Interoffice Communication

To R. D. Gamblin

From J. H. Brunson

Date September 6, 1979

Subject Explanation of Variances - July, 1979

During the month of July the plant produced 61,751,014 pounds of VCM and 101,104,765 pounds of EDC. The variances from standard costs were as follows:

	July			Year-to-Date		
	Efficiency	Price	Total	Efficiency	Price	Total
EDC	$ 21,098	$ (934,984)	$ (913,886)	$ 366,545	$(1,165,699)	$ (799,154)
VCM	(14,575)	(59,341)	(73,916)	(227,025)	(175,665)	(402,690)
Incinerator	(44,443)	(6,739)	(51,182)	(208,294)	(6,696)	(214,990)
Subtotal	$(37,920)	$(1,001,064)	$(1,038,984)	$ (68,774)	$(1,348,060)	$(1,416,834)
Fixed Costs			(45,424)			163,327
Total			$(1,084,408)			$(1,253,507)

FIXED COSTS VARIANCE

The unfavorable variance of $45,424 was due primarily to Operating Payroll - $23.1M, Maintenance Materials - $17.2M, Maintenance Contracts - $92.7M, and Sales Tax - $39.9M. The above variances were partially offset by favorable variances for Maintenance Payroll - $19.9M, Inter-Plant Clearances - $41.0M, AdValorem Taxes - $13.4M, and Depreciation - $55.5M. Smaller variances account for the remaining differences between budget and actual costs. The major variances are explained in detail below.

Operating Payroll - $23,066 Unfavorable

The unfavorable variance was due to paid non-maintenance work items charged to operating payroll - $19.4M and increased overtime due to vacation coverage and holiday worked - $3.7M.

Maintenance Labor - $19,865 Favorable

In the MMS System, begun in June, paid non-maintenance work items such as sick pay, vacation, holiday, training, physicals, acting foreman, etc. are no longer charged to maintenance labor, but to operating payroll. This amount was $19.4M in July and accounted for the favorable variance.

Maintenance Materials - $17,211 Unfavorable

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The unfavorable variance was due to expenditures greater than budgeted in the incinerator area - $14.8M.

Maintenance Contract Costs - $92,707 Unfavorable

The unfavorable variance was due to costs in the incinerator area greater than budgeted - $55.2M, and to the following items in the ordinary EDC/VCM budget greater than budgeted - motors - $8.9M; compressors - $5.5M; pipe work - $4.9M; railroad repair - $7.4M; insulation repair - $2.8M; plant road repair - $3.6M; and air conditioner repair - $1.4M.

Clearance - Inter-Plant - $40,999 Favorable

The favorable variance was due to a correction for water transferred from LCCP for January through June - $37.0M and the amount for water from LCCP for July being less than budget - $4.0M.

Ad Valorem Taxes - $13,417 Favorable

The favorable variance was due to the revised estimated taxes for 1979 being less than the estimate at time of budget.

Sales Tax - $39,940 Unfavorable

The unfavorable variance was due to charges for sales tax in the incinerator area for purchases prior to 1979 - $42.2M and expenditures less than anticipated for the main plant - $2.2M.

Depreciation - $55,534 Favorable

The favorable variance was due to the incinerator projects not being completed as soon as anticipated - $12.1M, the 1979 depreciation rate being 1% less than the rate used for budget purposes - $33.1M, and to plant capital investments being approximately $1,800M less than anticipated due to projects not completed as soon as expected - $10.3M. Major projects not completed as soon as expected were VCM Exposure Reduction - $248.2M, EDC Exposure Reduction - $421.0M, and Stand-by Waste Water Steam Stripper - $392.0M.

VARIABLE COST VARIANCE

The total variable cost variance for July (including incinerator IPA variances) was $1,038,984 unfavorable. This unfavorable variance consisted of:

	July, 1979	
	EDC/VCM	Incinerator
Raw Materials and By-Products	$(872,678)	$(4,563)
Processing Supplies	8,064	(25,714)
Utilities	(138,713)	(30,031)
By-Products Handling	15,475	-
	$(987,802)	$(51,182)

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

EDC/VCM

Raw Materials and By-Products - $872,628 Unfavorable

The chlorine price variance for July was $85.1M favorable and the ethylene price variance for this month was $973.3M unfavorable. The chlorine plus HCl efficiency variance was $35.2M unfavorable due to:

a) Higher than normal oxy acid strengths resulting from inefficient reaction caused by pressure drop limitations in R-301 and R-303 reactors.

b) Higher than budget chlorine consumption in R-304 reactor to control VCM levels in the oxy vent.

The ethylene efficiency variance continues to be favorable at $49.7M due to the fact that a larger than budgeted percentage of EDC production occurred in the more efficient direct chlorination reactor.

Processing Supplies - $8,064 Favorable

Price variances totaled $9.9M in the area of Processing Supplies in July. Caustic solution and gaseous nitrogen yielded significant price variances; $16.0M favorable and $10.8 unfavorable, respectively. Significant efficiency variances occurred in the usage of oxychlorination catalyst and caustic solution. Oxychlorination reactor R-304 was not recharged in February and led to a favorable catalyst efficiency variance. Oxy acid strength continued at high levels in July to the extent that slops caustic inventory was completely depleted as a result of increased effluent neutralization requirements. The result was increased use of caustic solution and an unfavorable efficiency variance of $6.3M.

Utilities - $138,713 Unfavorable

Price variances for electricity, steam, and natural gas were unfavorable for July at $19.0M, $77.0M, and $28.4M, respectively. A favorable electricity efficiency variance of $8.9M reflects normal usage and high production during a non-turnaround month. An unfavorable efficiency variance for steam of $24.5M is due primarily to lower than budgeted waste heat steam generation in oxy.

By-Product Handling - $15,475 Favorable

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The price variance for tars disposal was $2.0M in July. The expected decrease in tars production from operation of R-300 has not been entirely realized; therefore, unfavorable efficiency variances have occurred with respect to tars disposal in every month to date in 1979 (July was $5.5M unfavorable). Light ends to sales ($3.4M favorable) increased in lieu of light ends transfer to the incinerator ($10.0M favorable) since light ends burning on a routine basis has not been instituted.

Incinerator - $51,182 Unfavorable

No liquids burning was pursued on a routine basis in the incinerator area in July which led to a $3.9M unfavorable efficiency variance in the consumption of light ends. The lack of light ends burning has required an above-budget consumption of natural gas, leading to an unfavorable efficiency variance of $17.9M.

The concentration unit was budgeted to be on-stream in July and, since construction of this unit is still underway, no anhydrous HCl for dilute acid concentration was utilized. This resulted in an $8.4 favorable anhydrous HCl efficiency variance. The electricity consumed by the construction work, when combined with normal electricity usage by incineration equipment and the lower than budgeted HCl production, caused an unfavorable electricity efficiency variance of $7.0M. Unfavorable efficiency variances with respect to caustic ($4.8M) and limestone ($15.8M) are inter-related. Ineffective neutralization due to plugging in the neutralization basins has required basin cleaning on a more frequent basis and excessive caustic injection for pH control.

J. H. Brunson

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APPROVED: J. A. DeBernardi

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CC:
JAD-JRH-HDG-TRC

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