



ESCAMBIA PLANT
INTEROFFICE MEMORANDUM

To: Mr. R. E. Davis

Date: November 7, 1972

From: E. A. Primeau

Copies:

Re: PVC Monthly Report
October, 1972

SUMMARY

Prime production for October was 5,393 M lbs. versus a budget of 5,300 M lbs. and an October 20 forecast of 5,350 M lbs. Off-grade, tailings and sweeps amounted to 78 M lbs. which represents 1.4% of total production versus a budget of 4.5%. A total of 626 charges were made, an average of 2.0 per day.

The variance generated by PVC for October was \$(2,885) unfavorable. The variance resulted from:

1. PVC Bulk (\$3,741)
2. PVC Bagging \$ 856

The forecast variance on October 20 was \$1,100 favorable. The items affecting the variance were:

	<u>Forecast</u>	<u>Actual</u>
Raw Materials	(2,500)	\$(6,345)
Process Costs	(510)	144
Volume	510	1,460
Machine Hours	<u>3,000</u>	<u>1,000</u>
Total	\$ 500	\$(3,741)

ANALYSIS OF VARIANCE

Raw materials were unfavorable due to (1) the low production of off-grade resin (\$4,796 unfavorable by-product credit) and (2) \$3,649 unfavorable variance in VCl due to the usage of 1.08 lbs. of VCl/lb. of resin versus a budget of 1.06 lbs. This was partially offset by \$1,533 favorable variance in process chemicals and \$567 favorable variance in royalties.

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ANALYSIS OF VARIANCE (cont'd)

Process costs were basically at budget being \$144 favorable.

Volume variance was \$1,460 favorable due to the production of 93M lbs. of prime resin over budget.

Machine hour variance was \$1,000 favorable due to the 31-day month.

November production is projected to be 5,130 M lbs. and variance is projected to be (\$2,000) unfavorable, primarily due to an unfavorable machine hour variance for 30-day month.

DISCUSSION

During October, the PVC plant produced six resin types. Two types, 1230P and 2200, accounted for 67% of the prime production. The average number of charges per day was 20. The south reactor line was utilized 26 days in October to produce 2,503 M pounds of 1230P resin in 279 charges. The average yield per hour of 1230P was 667 pounds versus a budget of 664 pounds per hour.

Early in October, Mr. Fair of the Brighton Corporation visited the plant to review the modifications made on the drawings for the new stainless steel reactor (to replace No. 9 reactor). He saw no problems and delivery of the reactor is scheduled for January 15, 1973. However, the delivery may be delayed until February 15 due to a delay in receiving the agitator from Philadelphia Gear. While Mr. Fair was in the plant, he entered No. 10 stainless reactor and examined the stained area. The stain was removed by buffing and has not reappeared.

The program to test EDTA in 1230P and 1225 charges to reduce reactor fouling was continued. Results to date have been excellent in reducing fouling. Reactor No. 11 was charged 75 times without chemical cleaning and reactor No. 10 50 times. Based on our experience, we feel (1) EDTA should be used in all 1200 resins and (2) FDA approval should be obtained for critical applications such as water piping.

CHEMICAL CLEANING

The solvent recovery unit was operated the first six days of October to clean up the DMF in the 35,000 gallon storage tank. On October 7, the unit was shut down to make required modifications for processing NMP and to install a new discharge spiral in the Artisan unit.

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CHEMICAL CLEANING (contd)

On October 24, chemical cleaning of the reactors was started using NMP. Reactors No. 2, 4, 6, and 11 were cleaned with NMP. During the last three days of the month, an attempt was made to operate the Artisan unit to recover NMP. Difficulties were experienced in holding a vacuum and the entire unit was tested for leaks. No significant leaks were found but the main jets were found to be partially plugged. The jets were cleaned and repaired, and the unit will be restarted to recover NMP on November 1, 1972.

DRYER STUDIES

A dryer study was initiated in conjunction with engineers from Louisville Dryer to increase capacity of our rotary dryers. Wet resin cake was sent to Louisville Dryer for testing and the tests were carried out on October 11 and 12, witnessed by W. C. Wilde. The data from the tests should give Louisville Dryer the information necessary to state what is needed to expand drying capacity on the rotary dryers and to design a fluid bed dryer for the proposed PVC expansion.

PVC BAGGING

A total of 2,001 M lbs. of PVC was bagged at a cost of \$11,970 in October.

Variance is as follows:

Volume	\$ 671
Spending	\$ 185
Total	\$ 856

PVC LOADING AND SHIPPING

A total of 5,919 M lbs. of resin was shipped from Pace. Bulk shipments accounted for 3,489 M lbs. Starting inventory was 1,235 M lbs. and closing inventory 790 M lbs.

SHORT RANGE OPERATING PLANS

1. Continue training of new personnel.
2. Install a larger condensate tank and revise condensate piping to return all condensate to boilers.

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Mr. R. E. Davis
PVC

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SHORT RANGE OPERATING PLANS (cont'd)

3. Contact Bird Machinery to study requirements to improve centrifuge capacity.

LONG RANGE PLANS

1. Continue work to increase monomer to water ratio.
2. Update PVC operating manuals.
3. Install replacement reactor for No. 7.

E. A. Primeau

E. A. Primeau

Attachment

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STATISTICS

	<u>October & FY to Date</u>	<u>Budget</u>
Prime Product		
Homopolymer	<u>5,393</u>	<u>5,300</u>
Subtotal	5,393	5,300
Off-Grade		
Homopolymer	0	-
Tails	70	-
Sweeps	<u>8</u>	<u>250</u>
Subtotal	78	
Total Production	5,471	5,550
Off-Grade, % of Total Production	1.4	4.5
Bulk Production, % Prime	61.8	-
VCM Efficiency, %	92.0	94.5
Reactor Availability, %	95.0	92.5
Production, #/gal. yr.	1,329	1,307

Off-Grade Analysis	<u>Type</u>	<u>Lot No.</u>	<u>Quality</u>	<u>Reason</u>
	0	0	0	0

Product Sequence - October

<u>North Line</u>	<u>Batches</u>	<u>South Line</u>	<u>Batches</u>
2200	14	1230	74
2225	6	1225	22
2250	15	1230	175
1225	30	1225	33
2200	20	1230	<u>30</u>
2225	20		335
2160	8		
2200	16		
2250	20		
1225	19		
2200	20		
1225	9		
2225	20		
2250	6		
2200	<u>69</u>		
	292		

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STATISTICS
PVC

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Downtime Analysis

	<u>October and Year to Date</u>	<u>%</u>
	<u>Hours</u>	
Cleaning Reactors	541	6.6
Schedule Charges	56	0.6
Behind on Recovery	109	1.3
Hold to Drop	148	1.8
Plugged Drop Valves	22	0.3
Change Type	15	0.2
Slow Drying	0	0
Hydraulic Motor Maintenance	17	0.2
Miscellaneous	50	0.6
Total	958	11.6

Production Summary

<u>Type</u>	<u>October and Year to Date</u>
	<u>M lbs.</u>
1225	1,040
1230	2,521
2160	67
2200	1,119
2225	370
2250	344
2185	2
Sweeps	8
	5,471

EAP-11/7/72

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Personnel

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