

**INTEROFFICE MEMORANDUM**

Re: PVC Monthly Report
July, 1976

JULY (cont'd)

PVC 2250 production during July, 1976 remained low in bulk density despite recipe changes. The latex levels were dropped from 2,750 gms. per batch (9,000 pounds VCM) to 2,400 gms. Although no significant bulk density increase was seen, a slight increase in fisheyes was experienced. Further dropping of the latex level could lead to fisheye levels above the accepted limit.

Residual VCM levels in the finished resins continued at about the concentrations experienced in recent months with the exception of PVC 1225. Levels in both lot analysis and shipment composites were about 20 ppm higher on the average. A summary of all resin residual monomer levels is below:

Residual VCM in Finished Resin

	1225	1230	1250	2160	2200	2250
Number Lots	38	83	8	2	NA	8
Avg. VCM	60	34	24	9	NA	33
Number Shipments	8	21	1	NA	2	2
Avg. VCM	41	24	15	NA	8	27

Personnel Monitoring

The personnel monitoring during July continued with the frequency being twice/month per man entering the PVC area. The sampling schedule is set up to monitor each person entering the PVC area during the month on an 8-hour TWA and a 15-minute TWA sample. The results for July showed that on 8-hour TWA samples, two samples were over 5 ppm. Of a total of 51 8-hour TWA samples, 76% were below 0.5 ppm, 92% were below 1.0 ppm. Of a total of 52 15-minute TWA samples, 27% were below 0.5 ppm, 54% were below 1.0 ppm and 96% were below 5.0 ppm.

8-Hour Samples

PPM	< .5	.5-1	1-3	3-5	5-10	10-15	>15
Supervisor	5	1					
Senior	4						
Reactor	4	1					
Solution	1	1	1		1		
Recovery	2	2					
Finishing	2	2					
Utility	3		1		1		
Artisan	3	1					
Maintenance	15						
Subtotals	39	8	2		2		
% of Totals (51)	76%	16%	4%		4%		

AP00041865

Personnel Monitoring (cont'd)

	<u>15-Minute Samples</u>						
	<u>< .5</u>	<u>.5-1</u>	<u>1-3</u>	<u>3-5</u>	<u>5-10</u>	<u>10-15</u>	<u>>15</u>
Supervisor	1	1	2				
Senior	2		2				
Reactor	1	3		2			
Solution	1	1	2	1			
Recovery		1	1	1	1		
Finishing	1	2	1				
Utility	1	2	1	3			
Artisan	1		1	1		1	
Maintenance	6	4	3	1			
Subtotals	14	14	13	9	1	1	
% of Totals (52)	27%	27%	25%	17%	2%	2%	

Area Monitoring

The current computer configuration worked well during the month except for a period of about 3 days when the system was out of service. The cause of the outage was a lightning strike which burned out one board.

The recompilation program which was sent off to the Bristol Corporation for incorporating into our system was put on hold. This program change was designed to improve the output data from our current program, make the material balance functions operational, and permit the use of the access gate system. When compiled by Bristol the program load was about 11 M bytes too large for our current memory. Since the program, even if recompiled, would still not permit expansion in types of analysis or number of analysis units, the work was put on hold until further information could be received. This information involves the purchase of a completely new system capable of current functions, currently planned expansions and additional expansion of the functions if required later. Several alternatives are being investigated and it is hoped that by early September a decision will be made as to which direction to proceed.

Area monitoring results for July, 1976 showed an average level for the reactor building to be 1.01 ppm. Weekly averages ranged from 0.70 to 1.33 ppm.

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OSHA Work

Continued upkeep and updating of OSHA related work resulted in costs of \$6,115 or 7.2% of the July maintenance costs. This cost is the total of the major items and does not necessarily include all costs. These items were as follows:

Leak Patrol	\$1,068
Computer Upkeep	\$3,570 (\$1,801 due to parts)
Updating of Vent	
System to Reduce Exposure	\$1,271
Electrical Upgrading	<u>\$ 206</u>
	\$6,115

Maintenance

Maintenance costs for July, 1976 were \$16M over budget largely due to costs incurred during the shutdown at the end of June, charges too late to show in June. These items plus other major cost items are listed below:

1. Shutdown Work - \$12,438

- a) Instrument and electrical repairs during the shutdown resulted in \$1,553.
- b) Dryer repairs resulted in costs of \$7,508 for new coils and \$1,265 for new steam traps. Both items have resulted in reduced steam usage and better drying rates.
- c) Repairs to the reactor jackets on four reactors resulted in costs of \$2,112.
2. Routine and preventive maintenance for lubrication, filter changes, instrument and electrical work totalled \$6,791.
3. Repairs to reactors resulted in charges in excess of \$3,300. A total cost of \$2,806 was incurred with repairs to steam valves and work on No. 12 agitator shaft.
4. Installation of a second drop header to split the east and south strippers was made during July at a cost of \$3,261. This was done to permit separate dropping and stripping of batches and should reduce charge and stripper lag.
5. Miscellaneous repairs to the strippers including seal and rupture disc replacement totalled \$1,536.

AP00041867

16 August 1976

Maintenance

6. Replacement of the old sightglasses on the two (2) fresh monomer tanks resulted in costs of \$2,050.
7. Valve rebuilding costs totalled \$1,216 while repairing of steam leaks totalled \$1,606.
8. Other charges of significance were \$2,180 for cooling tower cleanup, \$1,434 for hydraulic oil pump repairs, \$1,012 for No. 3 blend tank seal repairs, \$1,049 Carrier refrigeration work, and \$525 in revisions to VCM unloading pipe.

These items totalled \$38,398 or about 45% of the total maintenance dollars spent during July.

Dale H Francke
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DHF:fls

Attachments (3)

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JULY VARIANCE FORECAST

3/10/76

Prod. Budget - 6,777
Actual - 6,391

PVC - ESCAMBIA PLANT

	June 30th	15th	28th	Actual	Variance Explanation
A. <u>Production Related Variances</u>					
I. <u>Raw Material Conversion</u>	-	-	1	(12)	28th - fav. efficiency offset by chemical costs.
II. <u>Volume</u>					Act. - high initiator levels offset in part by \$5M fav. VCM efficiency.
a) Throughput	21	21	23	31	28th - production above std. Act. - downtime during first
b) Onstream	-	2	2	(4)	first of July from startup.
c) Offgrade	-	4	(10)	18	28th (c) - unit charged with two shipments in June.
Total Volume	21	27	15	45	downgraded to offgrade in July.
III. <u>Spending (Use) (at std. \$/Unit)</u>					
a) Labor	-	-	-	5	
b) Maintenance Labor	(5)	(5)	(18)	(9)	28th - shutdown charges at end of June, charge in July.
c) Maintenance Material	(5)	(5)	(13)	(7)	
d) Utilities	-	-	-	(8)	
e) Other	10	10	10	23	28th - low service group usage.
Total Spending (Use)	-	-	(21)	4	
IV. <u>Spending (Rate)</u>					
a) Facility Services & Overheads	-	-	-	-	
b) Nonfacility Services & Overheads	2	2	2	4	
c) Depreciation, Taxes & Insurance	(9)	(9)	(9)	(7)	28th - increased depreciation due to east stripper.
d) Labor, Salaries, Fringe	-	-	-	-	
Total Spending (Rate)	(7)	(7)	(7)	(3)	
TOTAL PRODUCTION RELATED VARIANCES	14	20	(12)	34	
B. V. <u>Purchase Price Variances</u>					
a) Raw Material	-	(45)	-	(3)	
b) Purchased Utilities	1	-	-	(10)	
c) Feedstock Mix	-	-	-	-	
d) Other (maint. matl., op. sup., etc.)	-	-	-	-	
Total Purchase Price	1	(45)	-	(13)	
C. VI. <u>Business Variances</u>					
a) Volume	(10)	(10)	(10)	(27)	28th - product mix change volume effect.
b) Systems Variance	14	14	14	18	
c) Other	-	-	-	-	
Total Business Variances	4	4	4	(9)	
TOTAL PRODUCT COST VARIANCES FROM STD.	19	(21)	(8)	12	
VII. <u>Budgeted Variances from Standard</u>					
a) Raw Material Cost	(57)	(57)	(57)	(56)	
b) Purchased Utilities Cost	-	-	-	-	
c) Volume	19	19	19	19	
d) Spending	(3)	(3)	(3)	(3)	
e) System	15	15	15	15	
Total Budgeted Variances	(26)	(26)	(26)	(25)	
TOTAL VARIANCES FROM BUDGET	45	5	18	37	
a) Production Related	(2)	4	(28)	18	
b) Purchased Price Variances	58	12	57	43	
c) Business Variance	(11)	(11)	(11)	(24)	

AP00041869

MATERIAL BALANCE

PMB015

ESCAMBIA PVC PLANT

MONTH ENDING 31 JUL 76

	LRS SUB-TOTAL	LRS TOTAL	% OF VCL CHARGE SUB-TOTAL TOTAL
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A VCL USED BASED ON BILLING WEIGHTS	7,185,956		100.00
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B PVC OUT TO PRODUCT	6,890,850		95.89
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1. PVC PRIME	6,818,000		94.88
2. PVC OFF-GRADE	72,850		1.01

C PVC LOSSES	42,397		.59
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1. PVC TO DUMP AS SCRAP	36,808		.51
2. DRYER DISCHARGE	450		.01
SOUTH LINE	167		
NORTH LINE	283		
3. PVC IN EFFLUENT WATER	5,139		.07

D VCL LOSSES	31,234		.43
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1. DRYER DISCHARGE	1,990		.03
SOUTH LINE	1,430		
NORTH LINE	560		
2. STRIPPER EVACUATION	13,532		.19
NORTH	11,094		
SOUTH	2,438		
3. VCL IN EFFLUENT WATER	3,294		.05
4. VCL FROM OPEN REACTORS	41,567		.58
5. VCL FROM BLEND TANK VENT	95		.00
6. VCL FROM CONDENSER VENT	9,829		.14
7. VCL FROM REACTORS VENT			.00
8. VCL FROM PURIFICATION COLUMN			.00
9. VCL WEIGHT DIFFERENCE	39,073-		.54-

TOTAL ACCOUNTED FOR OUT	6,964,481		96.91
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TOTAL UNACCOUNTED FOR	221,475		3.09
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MATERIAL BALANCE

PMH015

ESCAMBIA PVC PLANT

Y T D ENDING 31 JUL 76

	LBS SUB-TOTAL	LBS TOTAL	% OF VCL CHARGED SUB-TOTAL TOTAL
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A VCL USED BASED ON BILLING WEIGHTS	65,383,950		100.00
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B PVC OUT TO PRODUCT	62,821,250		96.08
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1. PVC PRIME	60,827,000		93.03
2. PVC OFF-GRADE	1,994,250		3.05

C PVC LOSSES	480,821		.74
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1. PVC TO DUMP AS SCRAP	328,907		.50
2. DRYER DISCHARGE	4,081		.01

SOUTH LINE 2,181

NORTH LINE 1,900

3. PVC IN EFFLUENT WATER	147,833		.23
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D VCL LOSSES	290,205		.44
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1. DRYER DISCHARGE	116,229		.18
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SOUTH LINE 79,157

NORTH LINE 37,072

2. STRIPPER EVACUATION	54,890		.08
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NORTH 34,387

SOUTH 20,503

3. VCL IN EFFLUENT WATER	6,916		.01
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4. VCL FROM OPEN REACTORS	271,393		.42
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5. VCL FROM BLFND TANK VENT	3,955		.01
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6. VCL FROM CONDENSER VENT	86,367		.13
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7. VCL FROM REACTORS VENT	10,000		.02
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8. VCL FROM PURIFICATION COLUMN			.00
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9. VCL WEIGHT DIFFERENCE	259,545		.40
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TOTAL ACCOUNTED FOR OUT	63,592,276		97.26
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TOTAL UNACCOUNTED FOR	1,791,674		2.74
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Personnel

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