

VINYL - P. E. Markey/M. L. Nathan

Safety

The Vinyl and Yard Departments operated without an injury during December.

Shift safety meeting topic included "Respirator Training" which included classroom instruction and hands-on respirator usage techniques.

<u>Production</u>	<u>December</u>	<u>Year-End 1983</u>
1. Production, MM Lbs.	20.4	370.1
2. Daily Production Rate, M Lbs./C.D.	751.6	1020.8
3. Total Charges	506	8894.0
4. Charges, Reactor Batches/C.D.	16.3	24.4
5. Reactor Stream Factor	53.1	78.8
6. Dryer Rate Average Lbs./Hr.	6984.0	7109.2
7. Dryer Stream Factor	49.8	66.4
8. Accounting Days	31	365

Production

Vinyl Department production for December was 20.4MM pounds which was 60% of the budgeted production volume. The volume was 78% of the Business Area's targeted production volume primarily due to an outage on 12/24/83 when the vinyl unit went down due to wet instrument air problems and subsequent instrumentation freeze-ups as temperatures dipped to single digits. The unit was down 12/24/83 through 12/26/83. Reactor charging of eight reactors was resumed 12/27/83 with the remaining two reactors brought back on line 12/29/83.

A new annual production record of 370.1MM pounds of resin was established in 1983. This production outpaces the previous annual production volume record of 318MM pounds set in 1979.

Reactors

1. The old module was down through 12/16 for inventory control. During this shutdown, capital project work and various other maintenance items were performed. Some delays in startup were experienced due to programming problems with the old reactor module safety interlock micro-processor. The resulting stream factor penalty was 25.4%.
2. Recovery system delays in the new reactor module due to vacuum pump problems resulted in a stream factor penalty of 1.9%.
3. Recovery system delays in the old reactor module due to recovery compressor problems resulted in a stream factor penalty of 0.65%.

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Reactors - continued

4. A planned one-day outage in the new reactor module to reprogram the Modicon safety interlock system for the plant's environmental systems resulted in a stream factor penalty of 1.73%.
5. Reactor jacket welds on 743 and 744 reactors resulted in a stream factor penalty of 0.52%.
6. Failure and subsequent replacement of 744 agitator motor resulted in a stream factor penalty of 0.20%.
7. Replacement of D-600 agitator seal resulted in a 0.48% reactor stream factor penalty.
8. Two valve changeouts and maintenance on reactor valves resulted in a stream factor penalty of 0.38%.
9. Downtime in both reactor modules due to cold weather freeze-up and associated problems resulted in a stream factor penalty of 13.3%. Major maintenance items during this period were changeout of reactor seals and several valves on 741 and 745 reactors.
10. Downtime due to recovery system scheduling conflicts resulted in a stream factor penalty of 2.4%.
11. Downtime due to no place to dump slurry resulted in a stream factor penalty of 0.67%.

Dryers

1. Production was essentially reactor limited in December. Dryers were shut down as needed for energy conservation purposes. The associated stream factor penalty was 22.2%. During this time, major repair work was done on number eight rotary dryer including replacement of inlet and outlet rotary seals, inlet transition piece, and expansion joint.
2. Dryer downtime due to a shortage of material as a result of the old module shutdown contributed 11.9% to the monthly dryer stream factor penalty.
3. Dryer downtime, due to a shortage of material associated with the planned outage in the new reactor module to reprogram the Modicon safety interlock system, resulted in a 2.1% dryer stream factor penalty.

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4. Downtime in the dryer area due to cold weather freeze-up and associated problems resulted in a dryer stream factor penalty of 4.6%.
5. Routine dryer cleaning resulted in a stream factor penalty of 0.67%.
6. Dryer centrifuge pluggage resulted in a stream factor penalty of 0.97%.
7. Downtime due to bottlenecks in the sifter and pneumatic transfer systems resulted in a stream factor penalty of 1.12%.
8. Downtime due to dryer burner flameouts resulted in a stream factor penalty of 0.30%.
9. Maintenance on dryer centrifuges, sifters, activators, exhausters, etc. resulted in a stream factor penalty of 3.4%.
10. Downtime due to failure and subsequent repair of the fluid bed wet cake screw feeder resulted in a stream factor penalty of 1.1%.

Product Quality Summary

<u>Resin Type</u>	<u>Prime</u>	<u>"BC"</u>	<u>"H"</u>	<u>% of Total Production</u>	<u>Budgeted Prime Product Mix %</u>
5265	2,006,995	45,000	-	10.0	12.5
5305	851,296	-	-	4.1	11.25
5385	11,336,818	15,750	-	55.2	57.5
5425	4,845,240	-	-	23.6	13.75
5465	1,336,020	-	-	6.5	5.0
Sifter Overflow	-	-	97,675	0.5	-
Pond Resin	-	-	22,000	0.1	-
	<u>20,376,369</u>	<u>60,750</u>	<u>119,675</u>	<u>100.0</u>	<u>100.0</u>

Quality performance for December was 99.3% customer grade with 0.3% "BC" and 0.4% "H" grade.

A total of seven railcars were shipped as "B" grade during the month which represented 7.4% of the ninety-four resin hopper cars shipped.

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<u>Ship Date</u>	<u>Car No.</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
12/09	PLCX-42969	Continental Plastics	Resifted Sifter Overflow	Quality
12/13	CONX-45888	Vulcan Plastics	Resifted Sifter Overflow	Quality
12/14	PTLX-41843	Vulcan Plastics	Resifted Sifter Overflow	Quality
12/15	CONX 45897	Continental Plastics	Resifted Sifter Overflow	Quality
12/20	PTLX-41846	Continental Plastics	Resifted Sifter Overflow	Quality
12/21	CONX-45724	Vulcan Plastics	Resifted Sifter Overflow	Quality
12/21	CONX-45854	World of Plastics	Resifted Sifter Overflow	Quality

The vinyl area received fourteen short lead time emergency orders comprising 8.1% of the 173 Aberdeen resin shipments in December.

Monthly Variable Cost Performance

Variable costs for the month were favorable \$913.2M with \$887.7M due to price and \$25.5M due to efficiency. Resin variable cost for the month was 20.754¢ versus the budgeted 25.258¢/lb.

The \$887.7M favorable price variance was primarily attributed to lower than budgeted pricing for VCM, \$760.5M; lower than budgeted pricing for VCM freight, \$15.2M; lower than budgeted pricing for Lupersol 223 initiator, \$27.8M; and lower than budgeted pricing in the utilities area, \$73.6M.

The \$25.5M favorable efficiency variance can be attributed to favorable variances of \$79.0M in VCM efficiency, \$10.0M due to deviation from the budgeted product slate, and \$25.6M due to lower than budgeted off-grade production.

VCM efficiency for the month was 0.99429 lbs. VCM/lb. PVC versus the budgeted 1.01277 lbs. VCM/lb. PVC. The 1983 year-end VCM efficiency was 1.00427.

The 1983 year-end variable cost efficiency variances in the Vinyl Department totaled \$1.87MM favorable.

Energy Performance/Progress

1. Plant energy consumption for the month was 3456 BTU/lb.
2. A total of twenty-seven steam leaks and nineteen steam traps were repaired/replaced in the plant during December.

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General

1. Packaging for the month totaled 507,575 pounds.
2. Resin raw material in the 744 account totaled \$150M at month-end.
3. Research and PED were on hand during the month for additional production trials of a new chain transfer agent (CTA) for use in low molecular weight resin production. The objective of the trials was to reduce condenser fouling in low molecular weight resin production. Results of the trials are encouraging with inspections showing little condenser fouling and resin particle size distribution slightly better than standard production. A railcar of the experimental 5265 resin has been shipped to Charlotte Pipe for customer trials. Future trials are to be conducted in January.
4. Ken Taylor, consultant with MTS, was in the plant for a review of the Vinyl Operating Training Needs Audit conducted in September, 1983.