

MONSANTO COMPANY

Location : Texas City, Texas

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Date : July 29, 1964

Subject : Monthly Production Summary
VCM Plant - July 1964

TO : W. R. Nisbet

SUMMARY

VCM production was 10.6 MM lbs. (92.1% of rated capacity). Reaction was down 88 hours with 54 hours because of acetylene availability. Rates were generally limited by C_2H_2 availability. Cracking was limited during the second half of the month by refrigeration problems and by VCM Redistillation Column (22D14) fouling.

The 350 ton Carrier unit had a bearing failure - inspection of the machine showed major damage to the internals of the compressor, requiring extensive repairs. This limited total VCM production to approximately 60% of rated capacity for the last 5 days of the month.

The VCM Redistillation Column fouled and was boiled out with EDC three times during the month.

EDC production was 13.7 MM lbs. (109.5% of rated capacity). Downtime totalled 28 hours.

Oxidative Chlorination production was 1.4 MM lbs. of EDC (48.5% of rated capacity). Downtime totalled 240 hours, 94 hours because of refrigeration failure, 72 hours for catalyst addition, 74 hours for maintenance (tube ferrule pulling, leaks, etc.).

CBY 1107259

Operating Details

A. Summary Table

<u>Production</u>	<u>Scheduled</u>	<u>This Month</u>	<u>Yr-to-Date</u>	<u>Standard</u>
VCM, MM lbs.	10.52	10.6	75.2	11.5
EDC, MM lbs. - Dept. 23	13.27	13.7	88.8	12.5
- O.C.	2.25	1.4	11.1	2.89

Acid, gallons	480,000
Acid dumped, gallons	0
RFT, %	90

Onstream Time, %

Cracking	100.0
Reaction	88.1
Department 23	96.2
O.C.	67.7
Acid Absorber, % of time needed	86.4
21C2	98.9

<u>Yields</u>	<u>This Month</u>	<u>Standard</u>
C ₂ H ₄ to EDC - Dept. 23	95.0	95.0
- O.C.	90.0	92.0
Cl ₂ to EDC	95.0	95.0
EDC to VCM	95.5	95.5
C ₂ H ₂ to VCM	97.0	97.0

B. Operations and Maintenance

The No. 2 Cracker was retubed with 3" tubes.

The No. 3 Reactor was retubed.

The 22C3, 350 ton Carrier refrigeration unit compressor failed, requiring major overhaul. This restricted production for the last 5 days of the month to 60% of rated capacity.

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B. Operations and Maintenance (continued)

The 22C6, 150 ton Carrier refrigeration unit compressor coupling failed during the month requiring major repairs and limiting production slightly for 6 days.

The EDC Heavy Ends Column, 22D9, Reboiler was switched once during the month.

A major shutdown was taken in Department 26. The 26E3, Flare Gas Condenser, was replaced because of severe corrosion. The recycle compressor suction line was replaced because of severe corrosion.

The VCM Redistillation Column fouled 3 times in 6 days and required an EDC boil out each time.

The HCl Compressor, 21C2, was down for 8 hours because of a packing leak.

C. Personnel and Safety

Two E.I.F. engineers, Hiam Lehrman and Dov Groisman were trained in Oxidative Chlorination production know-how.

A major incident - a flash fire on the C_2H_6 compressor, 22C7, - occurred. This was the subject for special safety meetings with all personnel in VCM.

Regular monthly safety meetings were held using the Safety Departments's dummy model as the subject in training in resuscitation techniques.

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RSV0032156

E. Costs

1. July Variances

	<u>VCM</u>	<u>KDC</u>	<u>O.C.</u>
Raw Materials			
Price	-10,000	0	0
Performance	-20,000	0	-10,000
Direct Conversion			
Labor	- 4,000	- 700	- 700
Repairs	-10,000	0	- 5,000
Catalyst	- 4,000	0	- 5,000
Volume			
Off-scheduled Prod.	+ 917	+1,144	- 7,123
Unscheduled Capacity	-11,231	+2,048	- 5,265
Total	-58,314	+2,492	-33,088

Variance Explanation

VCM

Raw Materials:

- Price - Excess KDC used due to low C_2H_2 availability.
- Performance - Below standard sales of HCl to O.C.

Direct Conversion:

- Labor - Overtime coverage of O.C.
- Repairs - Retubing H1-3.
Repairs to refrigeration units.
- Catalyst - C_2H_2 purification out of service.

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E. Costs (continued)

Variance Explanation (July) - continued

O.C.

- Raw Materials - Below standard conversion due to low catalyst activity.
- Repairs - New 26E3, new recycle compressor suction line.
- Catalyst - Plugged tubes causing extra catalyst usage.

2. August Variances

	<u>VCM</u>	<u>EDC</u>	<u>O.C.</u>
Raw Materials			
Price	-10,000	0	0
Performance	-20,000	0	-10,000
Direct Conversion			
Labor	- 4,000	- 700	- 700
Repairs	- 5,000	0	0
Catalyst	- 4,000	0	- 5,000
Volume			
Unscheduled Capacity	- <u>1,604</u>	<u>+2,048</u>	- <u>5,363</u>
Total	-44,604	+1,348	-21,063

W. H. Slager
W. H. Slager

RFK/mg

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