

BIBLE REVIEW - November 8, 1966

In our review of 1966 performance, and plans for 1967, we will include the principal Profit Improvement projects, but not necessarily all of them. Some of our objectives, for instance Safety, and in some departments Anti-Pollution programs, are not part of our Profit Improvement Program but we believe they are an important part of our objectives.

The acetylene complex this year is operating under a different situation because of the serious decrease in AN demand. This situation has affected not only the Texas City AN plant, but because of C_2H_2 distribution has had an effect on all the C_2H_2 users and so has influenced our plans. Our two vinyl monomer plants which we are going to cover first, are each having a record year in 1966, but each has its own special problems. Vinyl acetate is a sold out plant and we expect to buy 40-50 M pounds of vinyl acetate this year in order to meet the demand. Since our incremental manufacturing cost for vinyl acetate is about 6¢ per pound, and we are paying about 11½¢ per pound for purchased VAM we have a big incentive to produce more pounds of vinyl acetate. So this is the direction of our objectives.

C8Y 1118662

The vinyl acetate plant has also been a victim of the AN demand cut because of the new acetylene distribution that has resulted. We no longer expect to be purchasing acetylene from Carbide and we will be operating the vinyl chloride reaction step at maximum rates. Both of these operating changes result in

a lower available acetylene pressure in the inlet to the vinyl acetate plant. This decreases the amount of acetylene that we can get into the vinyl acetate plant and decreases our vinyl acetate make. Unless we can do something about increasing the amount of acetylene that we can get to vinyl acetate, our production in 1967 will only be about 56 M pounds versus a 60 M pound budget. So we do have plans to correct this situation.

We expect to produce about 155 M pounds of VCM and this will just about balance the VCM demand as we now understand it. To do this we plan to operate HCl-C₂H₂ route to VCM at maximum rates and shut down our oxidative process. Because of reduced refrigeration demand with oxidative shutdown, we believe we can produce about 5 M pounds more VCM and reduce our manufacturing costs. This also results in some problems since we have not run the test on the oxidative process with the higher oxygen concentration, and this process, once proved, is believed to have some commercial value. The alternate of operating versus not operating the oxidative unit has to be evaluated and a decision made as to which direction we want to go. Meanwhile, our plans and numbers you see are based on shutting down the oxidative unit.

Ray Rosenberg will discuss operating objectives first, then Tom Shirley will go over the PT&E objectives, and finally Carl Duhon will cover maintenance goals and objectives.

CBY 1118663

RSV0032740

We will now hear from the rest of our acetylene complex. The two products, AN and methanol, are operating under opposite situations. The AN plant, of course, is cut way back so we must look at reducing costs in any way we can. This situation has been a prime influence on our objectives for 1967. The methanol plant, however, is another sold out plant and even though we expect to pick up an additional 12.5 M gallons of methanol as a result of becoming sole owners of the methanol plant in March, we still expect to purchase at least 10 M gallons in order to meet demand as we now know it. Methanol plant's main goals, because of their very low incremental manufacturing cost and because of high demand, are therefore aimed at producing more gallons of methanol.

Oxygen and acetylene, the mother and father of our entire acetylene complex, although they did not fully achieve their goals in 1966, did achieve substantial savings and I believe over the years have shown more dollar improvement and cost reduction than any other of our plants, and 1967 will be no exception to this.

CBY 1118664

In order of their appearance, but not necessarily their importance, we will cover the oxygen-acetylene plants first, then the methanol plant, and finally the AN plant. In each case we will first discuss operations objectives and then PT&E objectives, and finally, Andy Kuehl will cover maintenance goals and objectives for the whole group of plants.

Art Simons will start with the oxygen-acetylene plant.

VCM

1966 PERFORMANCE

1967 GOALS

CBY 1118665

RSV0032742

SAFETY

	<u>1966</u>	<u>1967</u>
	<u>GOAL</u>	<u>GOAL</u>
MINOR INJ. RATE, INIS/MM MANHOURS	165	250
MINOR/SERIOUS RATIO	8/1	8/1
DISABLING INJURY	0	0
FIRES	0	0
SPIILLS	0	0
PLANT MGR'S HOUSEKEEPING INSP.	AA	AA

PROGRAM

INCLUDE SAFETY IN ALL JOB PLANNING & EXECUTION
 ANALYZE INCIDENTS TO DETERMINE IF PATTERN EXISTS
 FORMAL & INFORMAL SAFETY MEETINGS
 EQUIPMENT & AREA INSPECTIONS
 SAFETY EQUIPMENT CHECKS
 QUALIFY ALL OPERATORS ON A MINIMUM OF 3 JOBS
 UPDATE OPERATING MANUAL

CAPACITY : MM LBS

1. EDC

	<u>1966 GOAL</u>	<u>1966 ACT</u>
FROM DEPT 26	30	20
FROM DEPT 23	<u>160</u>	<u>160</u>
TOTAL	190	180

2. VCM

FROM C ₂ H ₆	27	37
FROM EDC	<u>115</u>	<u>108</u>
TOTAL	142	145

COST

	<u>1966 GOAL</u>	<u>1966 ACT</u>
RAW MATERIALS	3.85	4.11
OTHER DIRECT	1.23	1.23
INDIRECTS	<u>0.34</u>	<u>0.33</u>
TOTAL, ¢/LB	<u>5.42</u>	<u>5.67</u>

RESUME OF 1966 COST SAVINGS

1. LOWER Cl_2 COST	\$590,000	\$290,000
2. LOWER C_2H_4 COST	132,000	102,000
3. LOWER DEPT 26 CATALYST COST	26,600	50,000
4. REDUCED LAB COSTS	15,000	12,000
5. REDUCED TAR MAKE	60,000	12,000
6. STABILIZATION OF PROD. QUALITY	35,000	59,000
7. ELIMINATE NaOH SCRUB & REDUCE SO_2 USAGE	38,000	17,600
8. REDUCE ACID MAKE	*	157,000
9. IMPROVE REACTION CAT. USAGE	*	<u>47,000</u>
TOTAL SAVINGS	<u>\$896,600</u>	<u>\$746,000</u>

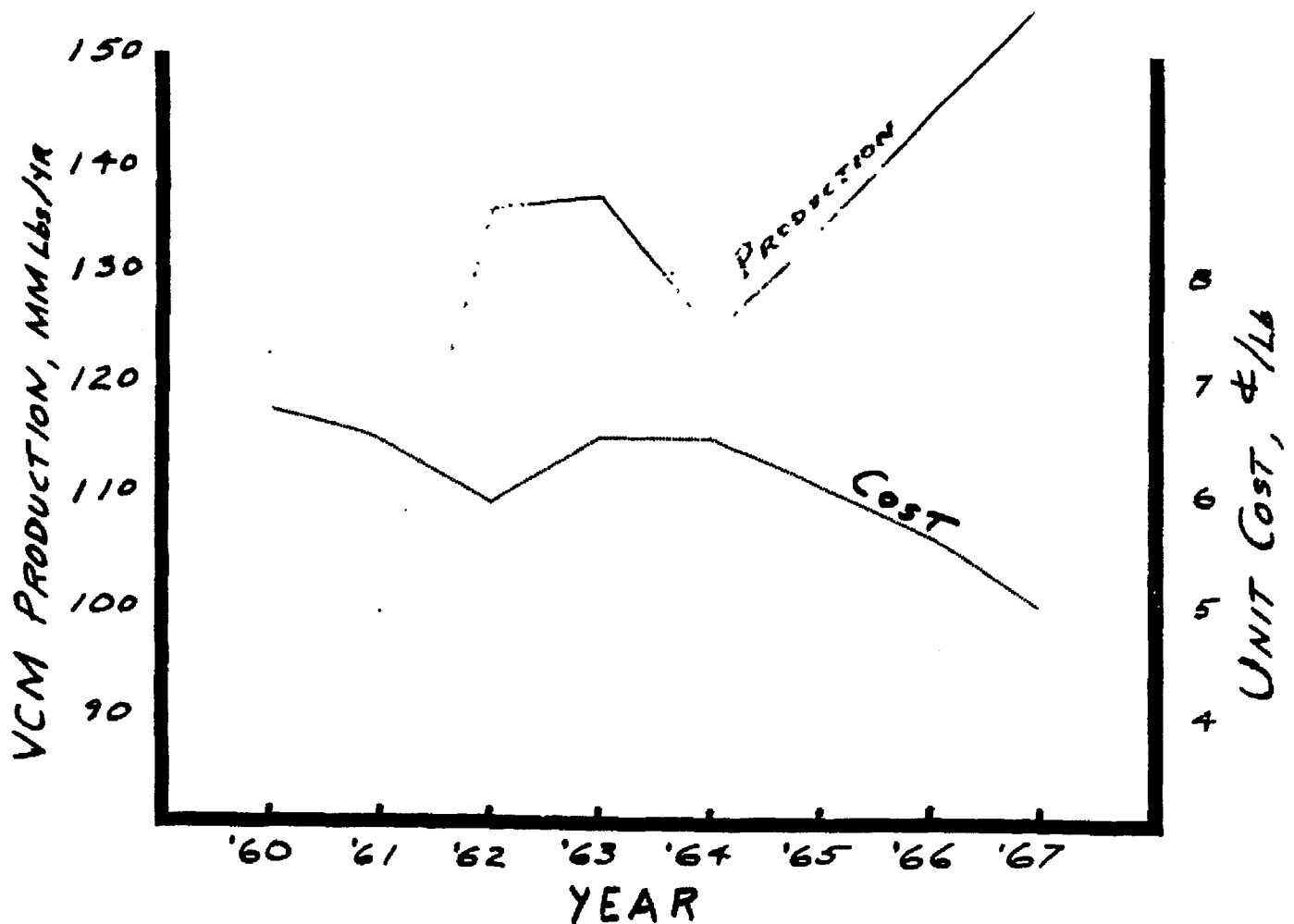
* NOT IN ORIGINAL 1966 GOAL

CBY 1118668

RSV0032745

VCM 1967 GOALS

CAPACITY & COSTS



VOLUME, MM Lb	89	99	136	137	124	134	145	(155)
COST, \$/Lb	6.72	6.52	5.91	6.49	6.50	6.12	5.67	(5.00)

CBY 1118669

RSV0032746

CAPACITY

PRODUCE 155 MM LBS VCM

FROM CRACKING	98
FROM REACTION	<u>57</u>
	155

ACCOMPLISH BY:

1. INCREASED C₂H₄ TAKE
2. SHUTDOWN DEPT. 26

COSTS : \$/LB

	1966 <u>ACT.</u>	1967 <u>GOAL</u>
RAW MATERIALS	4.11	3.80
OTHER DIRECTS	1.23	0.95
INDIRECTS	<u>0.33</u>	<u>0.25</u>
TOTAL	5.67	5.00

CBY 1118670

RSV0032747

COST GOAL TO BE ACCOMPLISHED
BY THE FOLLOWING SAVINGS

1967
GOAL

COST SAVING ITEMS INCLUDED IN GOAL OF 5¢/LB

1. LOWER C_2H_2 COST	\$ 57,000
2. LOWER Cl_2 COST	298,000
3. LOWER C_2H_4 COST	121,000
4. LOWER MAINT. COST	172,000
5. UTILIZATION OF Cl_2	160,000
	<u>\$ 808,000</u>

COST SAVING ITEMS NOT IN GOAL

6. OPTIMIZE EDC CRACKING (MARCH)	\$ 25,000
7. OPTIMIZE CATALYST USAGE (JUNE)	50,000
8. IMPROVE VCM YIELD (JUNE)	40,000
	<u>\$ 115,000</u>

TOTAL SAVINGS

\$ 923,000

CBY 1118671

RSV0032748

QUALITY

DUPLICATE 1966 PERFORMANCE OF
98% SPEC. GRADE PRODUCTION

ACCOMPLISH BY:

1. CLOSE OPERATIONS CONTROL
2. P.T. & E STUDIES ON ANALYTICAL
METHODS FOR CONTROL

CBY 1118672

RSV0032749

VAM

1966 PERFORMANCE

1967 GOALS

CBY 1118673

RSV0032750

SAFETY

	1966		1967
	<u>GOAL</u>	<u>ACT (THRU OCT)</u>	<u>GOAL</u>
MINOR INJ. RATE, INJS/MM MANHOURS	110	284	110
MINOR / SERIOUS RATIO	8/1	12/1	8/1
DISABLING INJURY	0	0	0
FIRES	0	0	0
SPIILLS	0	0	0
PLANT MGR'S HOUSEKEEPING INSP	AA - E	E *	E

* WON ANNUAL HOUSEKEEPING AWARD

PROGRAM

INCLUDE SAFETY IN ALL JOB PLANNING & EXECUTION
 ANALYZE INCIDENTS TO DETERMINE IF PATTERN EXISTS
 FORMAL & INFORMAL SAFETY MEETINGS
 UPDATE OPERATING MANUAL
 UPDATE "ON CALL" MANUAL
 SAFETY EQUIPMENT CHECKS

CBY 1118674

RSV0032751

CAPACITY : MM LBS

1966
GOAL
57.6

1966
ACT
64.0

COSTS

	<u>1966 GOAL</u>	<u>1966 ACT</u>
RAW MATERIALS	6.33	6.48
OTHER DIRECTS	1.15	1.30
INDIRECTS	<u>.71</u>	<u>.69</u>
TOTAL, \$/LB	8.19	8.47

CBY 1118675

RSV0032752

VAM CAPACITY

DEPENDS UPON ACETYLENE DISTRIBUTION

ACETYLENE DISTRIBUTION

	<u>1966</u>	<u>1967</u>
PURCHASES	@ MAX	0
VCM USAGE	@ MIN	@ MAX

VAM EQUIVALENT

FROM HEADER	50 M	45.0 M
FROM VCM AREA	<u>15 M</u>	<u>11.2 M</u>
<u>TOTAL VAM</u>	<u>65 M</u>	<u>56.2 M</u>

CBY 1118676

RSV0032753

CAPACITY GOALS

1. PRODUCE 63.6 MMLBS IN 1967
2. INCREASE CAPABILITIES FROM
56.2 TO 75 MMLB/YR RATE

ACCOMPLISH BY:

1. CAPITAL ADDITIONS ~ \$364,000

a. SCHEDULE

56.2 TO 62.0 MMLB/YR RATE (JAN. '67)

P.T. & E. PLT. E.

62.0 TO 64.0 MMLB/YR RATE (APRIL '67)

P.T. & E. PLT. E.

64.0 TO 75.0 MMLB/YR RATE (JAN. '68) C.E.D.

b. RESULTS

(1). REDUCE COST OF VAM PURCHASES ~ \$375,000
IN 1967. \$1M IN 1968.

(2). REDUCE COST OF MANUFACTURING VAM
TO 800¢/LB IN 1968.

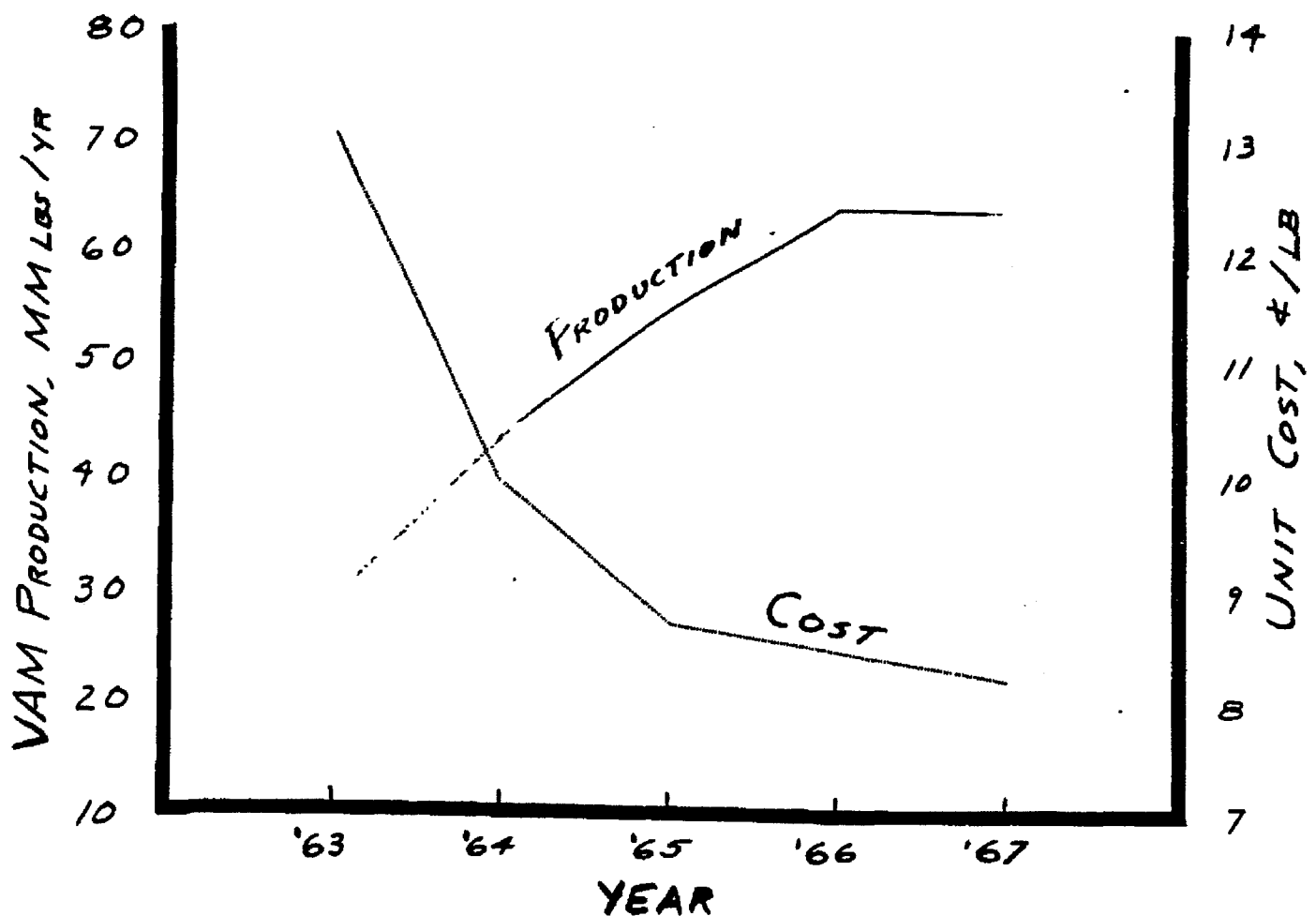
2. DECREASE UNCOORDINATED DOWNTIME
650,000 LBS VAM

CBY 1118677

3. REDUCE TIME TO CHANGE OUT CATALYST BY 1 SHIFT
125,000 LBS VAM

VAM 1967 GOALS

CAPACITY & COSTS



VOLUME, MMLBS	28.7	43.2	55.1	64.0	(63.6)
COST, \$/LB	13.18	10.04	8.74	8.47	(8.25)

CBY 1118678

RSV0032755

COSTS

	1966 <u>ACT.</u>	1967 <u>GOAL</u>
RAW MATERIAL	6.48	6.22
OTHER DIRECTS	1.30	1.32
INDIRECTS	<u>.69</u>	<u>.71</u>
TOTAL, \$/LB	<u>8.47</u>	<u>8.25</u>

COST SAVING ITEMS INCLUDED IN GOAL ABOVE

1. LOWER ACETIC ACID COST	\$111,200
2. LOWER ACETYLENE COST	55,600
3. LOWER MAINT. COST	<u>33,000</u>
	199,800

COST SAVING ITEM NOT IN GOAL

4. OPTIMIZE CATALYST USAGE (APRIL)	\$25,000
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TOTAL SAVINGS	<u><u>\$224,800</u></u>
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QUALITY

DUPLICATE 1966 PERFORMANCE

1. NO OFF SPEC. MATERIAL SHIPPED

2. NO CUSTOMER COMPLAINTS

CBY 1118680

RSV0032757

**1966
VCM & VAM
MAINTENANCE GOALS**

CBY 1118681

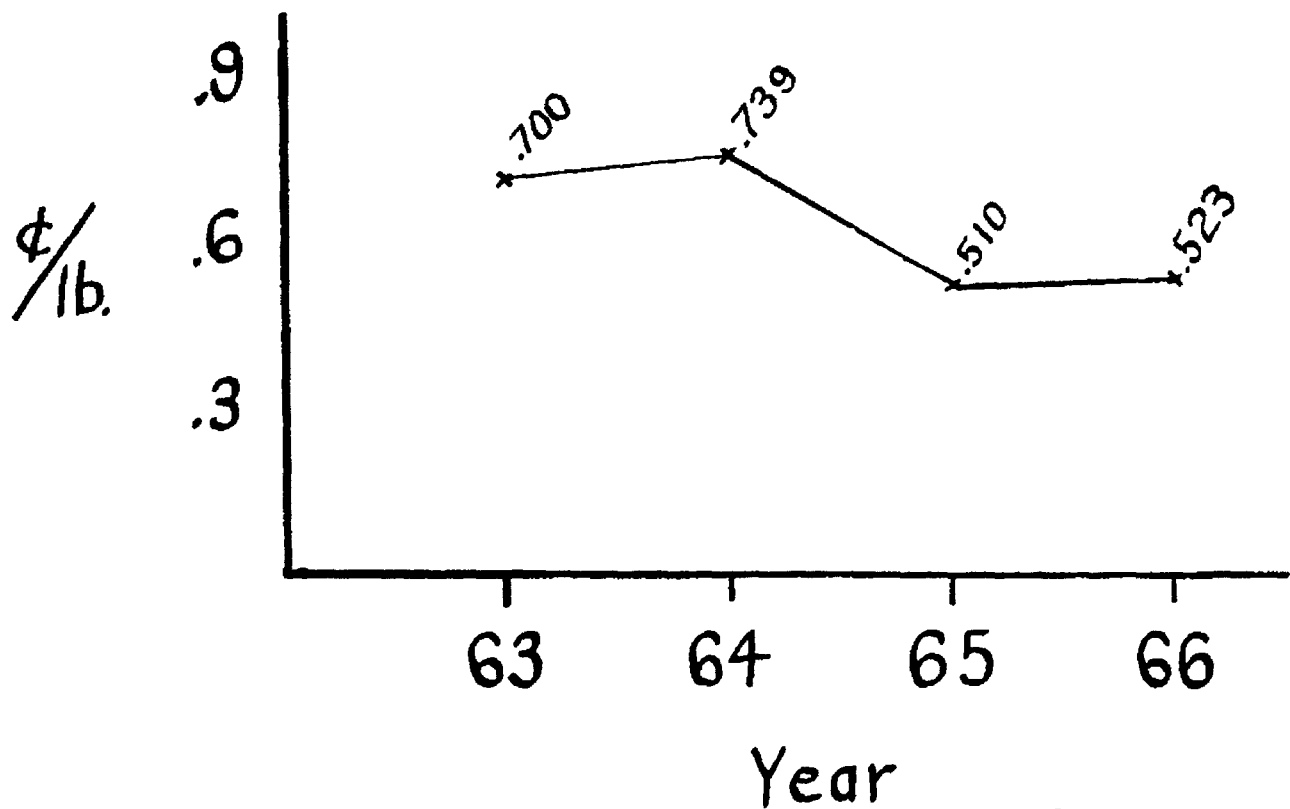
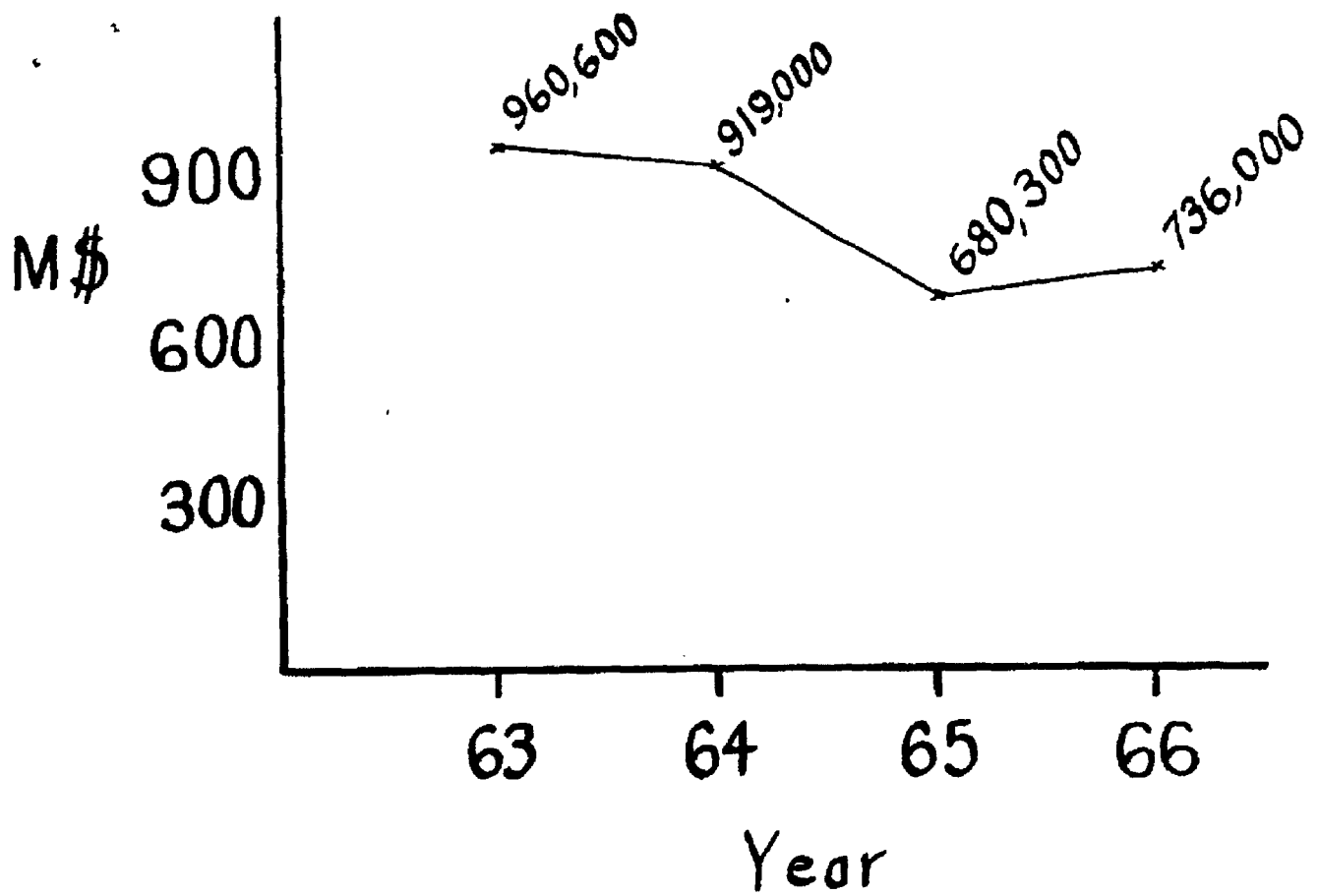
RSV0032758

Maintain VCM Plant for \$660,000
\$40,000 Below 1966 Std.

<u>66 Goal</u>	<u>9 Mo. Cost</u>	<u>66 Est.</u>
\$660,000	\$561,000	\$736,000

Why Goal Was Not Met

1. Upgrading of HCL Plant \$30,000
2. Excessive Catalyst Changes \$22,000
3. Corrosion \$20,000
4. 22C3-2 Overspeed \$12,000



CBY 1118683

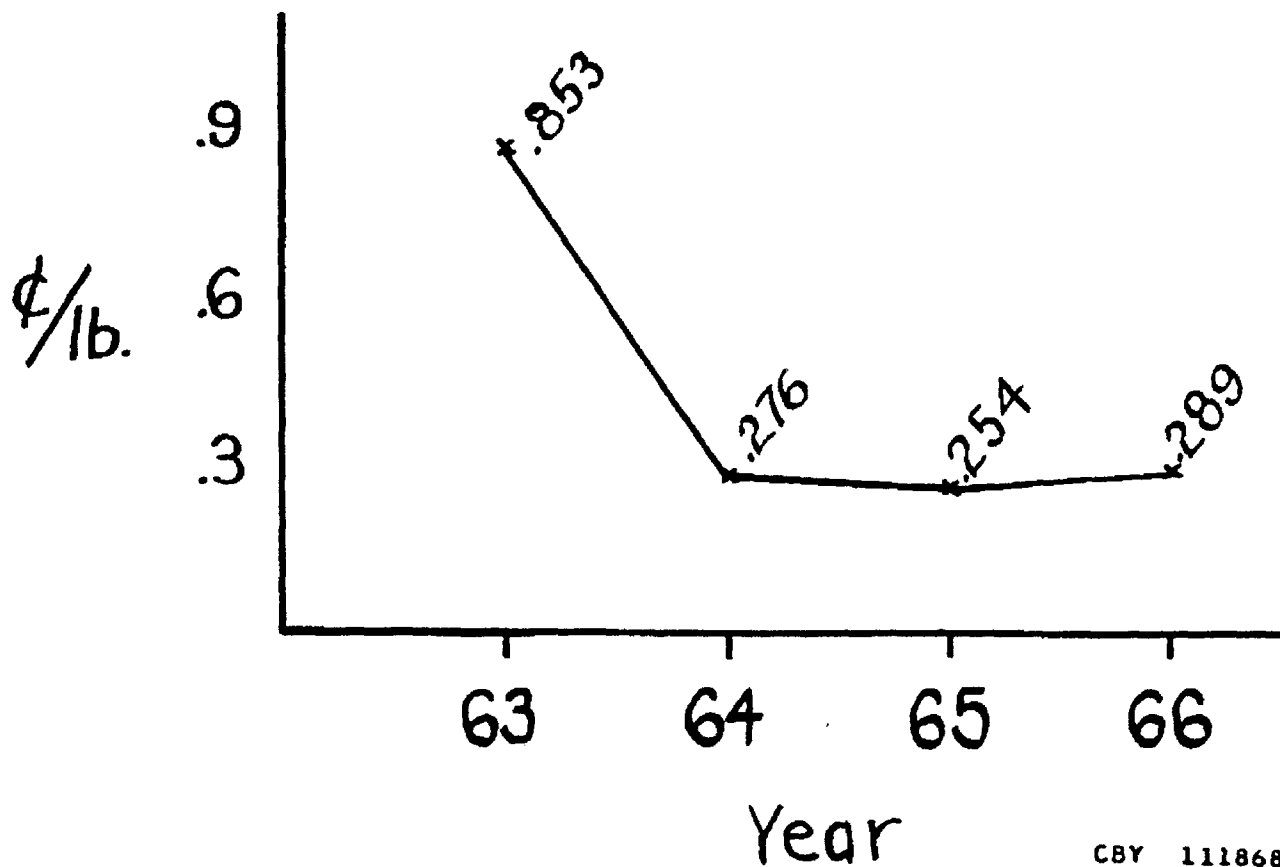
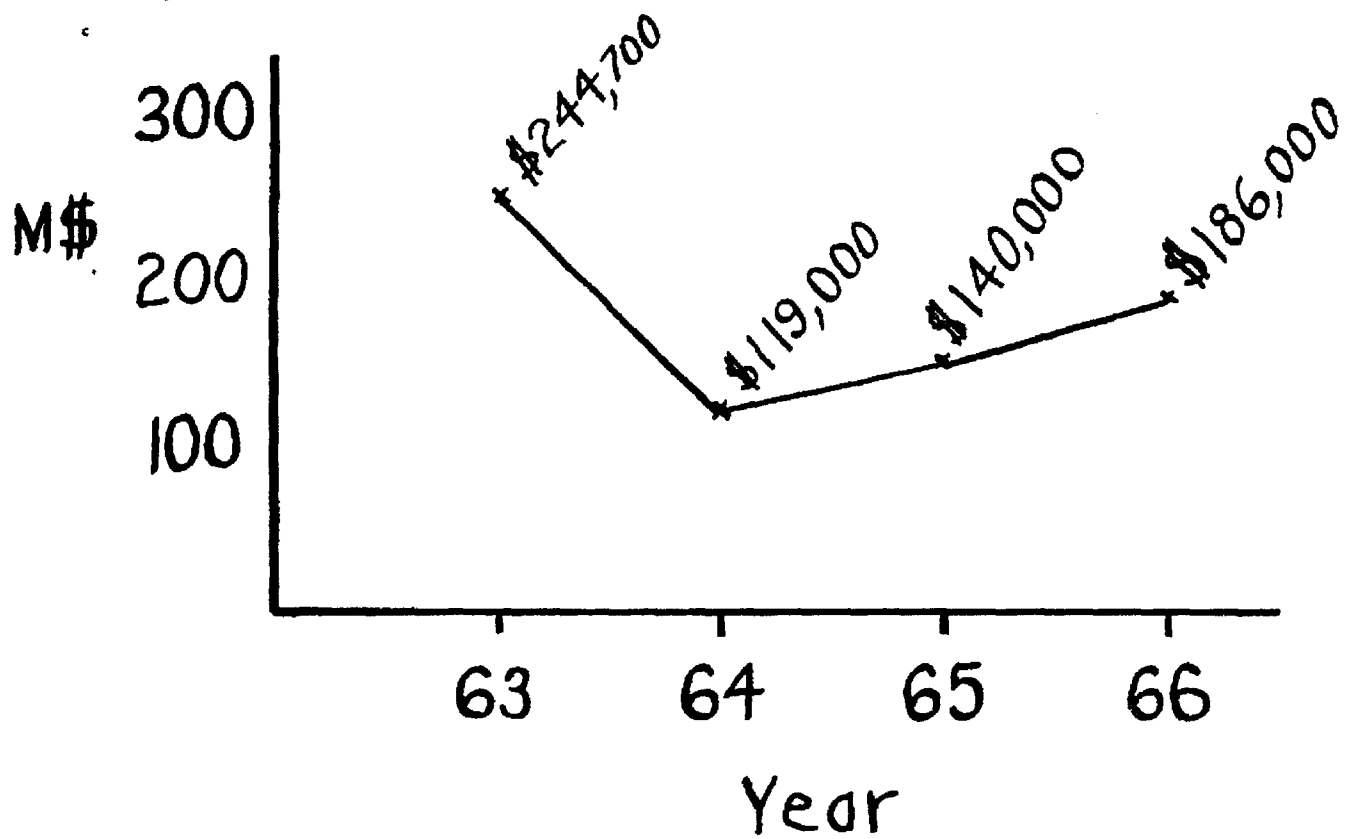
RSV0032760

Maintain VAM Plant for \$ 138,000
\$12,000 Below 1966 Std.

<u>66 Goal</u>	<u>9 Mo. Cost</u>	<u>66 Est.</u>
\$138,000	\$138,000	\$186,000

Why Goal Was Not Met

1. Fouling Problems	\$ 18,000
2. Corrosion	\$ 13,000
3. Electrical Problems	\$ 9,000
4. Debottle-necking Cost	\$ 8,000



CBY 1118685

RSV0032762

1967

VCM & VAM

Maintenance Goals

I. Maintenance Cost

<u>Dept.</u>	<u>66 Est.</u>	<u>67 Goal</u>	<u>\$ Gain</u>
VCM	\$736,000	\$564,000	\$172,000
VAM	\$186,000	\$153,000	\$ 33,000

PLAN

1. Improve preventitive maintenance program
2. Monitor equipment with I.R.D. CBY 1118686
3. Improve catalyst unloading equipment
4. Improve catalyst unloading procedures
5. Coupling improvement program
6. Low maintenance cost in dept. 26

II. Increase Maintenance Productivity

<u>Dept.</u>	<u>66 Actual</u>	<u>67 Goal</u>
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VCM	56 %	64 %
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VAM	65 %	67 %
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PLAN

1. Stabilization of manpower
2. Afternoon line-up of leadman
3. Backlog of fill-in work
4. Job clean-up

III. Decrease Maintenance Overtime

<u>Dept.</u>	<u>66 Actual</u>	<u>67 Goal</u>
VCM	12%	9.6%
VAM	11.4%	6.0%

PLAN

1. Better analysis of overtime
2. Reduction of mechanical failures
3. Improved workmanship

PT&E PROGRAMS FOR VAM & VCM
1966-1967

VAM-1

VAM COST - 1966

Stopped purification fouling

Value - 65 M lb/yr rate

Demonstrated new catalyst

Harshaw (78¢)

Calsicat (75¢)

Value - \$40,000/yr. plus

VAM-2

VAM TECHNOLOGY - 1966

Reactor system fouling:

Methyl-acetylene

Other higher acetylenes

Quality upsets:

Bi-acetylene

Divinylsulfide

Benzene

VAM-3

VAM QUALITY STATUS

Monsanto equal to or better:

Borden, Shawinigan, Niacet,
and National Starch.

Monsanto much better than:

Celanese (P), Air Reduction,
and Du Pont.

VAM-4

ACETYLENE SUPPLY

Purchased

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graph TD
    Purchased --> AP[Acetylene Purifications]
    Dept18[Acetylene Plant Dept 18] --> AP
    AP -- H2SO4 --> VAM[To VAM]
    AP -- H3PO4 --> VCM[To VCM]
    AP --> AN[To AN]
  
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The diagram illustrates the Acetylene Supply process. It starts with 'Purchased' acetylene entering the 'Acetylene Purifications' unit. A box labeled 'Acetylene Plant Dept 18' also feeds into this unit. From the 'Acetylene Purifications' unit, three streams exit: one labeled 'H₂SO₄' going 'To VAM', one labeled 'H₃PO₄' going 'To VCM', and a bottom stream going 'To AN'.

VAM-5

ACETYLENE

<u>Distribution</u>	<u>1966</u>	<u>1967</u>
Purchases	@ Max	Zero
VCM Usage	@ Min	@ Max
<u>VAM Equivalent</u>		
From Header	50 M	45.0 M
From VCM Area	15 M	11.2 M
<u>TOTAL VAM</u>	<u>65 M</u>	<u>56.2 M</u>

VAM-6

REDUCE VAM PURCHASES In

	<u>Cost</u>	<u>Value</u>	<u>Operation</u>
1	\$24,000	\$208,000	1-1-67
2	25,000	106,000	1-1-67
3	15,000	131,000	4-1-67
Exp.	300,000	880,000	1-1-68
	\$364,000	\$1,300,000	1968

CBY 1118689

RSV0032766

<u>VCM-1</u> <u>VCM QUALITY - 1966</u> <u>All specifications met</u> <u>Polymer problems at Spfld.</u> Trouble shooting Help on analytical work <u>Chloride/Acidity test</u> Being evaluated	<u>VCM-2</u> <u>VCM COST - 1966</u> <u>Successess</u> Control product column Control EDC cracking New catalyst in oxidative VALUE <u>\$226,000/yr</u> <u>Failure</u> Ion-exchange for HCl removal from VCM could have been \$50,000/yr
<u>VCM-3</u> <u>VCM TECHNOLOGY - 1966</u> <u>PLANT</u> Oxidative chlorination with 12.5% O₂ in feed. To 40 M from 27.5 M EDC/yr <u>Fenwal Protection installed</u> <u>LAB</u> 15% O₂ feed tested KA 101 catalyst tested <u>Potential 50 M EDC/yr & 25% lower catalyst cost</u>	<u>VCM-4</u> <u>VCM QUALITY STATUS</u> <u>Dow has least impurities</u> <u>Monsanto has most impurities</u> Goodrich, Monochem, Tenneco, and Union Carbide (TC) <u>do not</u> meet our specifications. Methyl chloride is the only impurity above 5 ppm in our VCM.
<u>VCM-5</u> <u>VCM QUALITY - 1967</u> <u>Assist Spfld. on problems</u> <u>Improve analytical methods</u> Set up a new specification based on the Chloride/Acidity test to replace the present HCl test.	<u>VCM-6</u> <u>VCM COSTS - 1967</u> Catalyst in Hydration and VCM reactors VCM loss from product column EDC cracking system optimum VALUE <u>\$115,000 in 1967</u>

CBY 1118690

RSV0032767

VCM-7 <u>VCM - 1967</u> Firm up the justification for oxidative chlorination plant demonstration of 15% oxygen feed and KA 101 catalyst. Cost - \$ 300,000 Value - \$1,500,000	Glass-1 <u>CEV PROJECT</u> Studies completed. Decided to buy.																								
Glass-2 <u>WEST PLANT EVALUATIONS</u> <u>Continuing:</u> 1. What to do with $O_2-C_2H_2$ 2. Alternate routes to VAM 3. New methanol plant 4. Possible combinations $NH_3-MeOH-AcOH-VAM$	Glass-3 <u>PERSONNEL</u> <table border="1"> <thead> <tr> <th></th> <th colspan="2" style="text-align: center;"><u>Beginning of Yr.</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>'66</u></th> <th style="text-align: center;"><u>'67</u></th> </tr> </thead> <tbody> <tr> <td>$O_2-C_2H_2$</td> <td style="text-align: center;">3-1/2</td> <td style="text-align: center;">2-1/2</td> </tr> <tr> <td>Methanol</td> <td style="text-align: center;">3-1/2</td> <td style="text-align: center;">5-1/2</td> </tr> <tr> <td>VCM</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> </tr> <tr> <td>VCM-Oxidative</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1-1/2</td> </tr> <tr> <td>VAM</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4-1/2</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">18</td> <td style="text-align: center;">15</td> </tr> </tbody> </table>		<u>Beginning of Yr.</u>			<u>'66</u>	<u>'67</u>	$O_2-C_2H_2$	3-1/2	2-1/2	Methanol	3-1/2	5-1/2	VCM	4	1	VCM-Oxidative	4	1-1/2	VAM	3	4-1/2	TOTAL	18	15
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Glass-4 <u>PERSONNEL CHANGES '66</u> <table border="1"> <tbody> <tr> <td>Transfers to Mfg</td> <td style="text-align: right;">4</td> </tr> <tr> <td>Transfers to other PT&E</td> <td style="text-align: right;">4</td> </tr> <tr> <td>Resigned</td> <td style="text-align: right;"><u>2</u></td> </tr> <tr> <td>TOTAL LOSSES</td> <td style="text-align: right;">10</td> </tr> <tr> <td>New hires</td> <td style="text-align: right;"><u>7</u></td> </tr> <tr> <td>NET CHANGE DOWN</td> <td style="text-align: right;">3</td> </tr> </tbody> </table>	Transfers to Mfg	4	Transfers to other PT&E	4	Resigned	<u>2</u>	TOTAL LOSSES	10	New hires	<u>7</u>	NET CHANGE DOWN	3	Empty box												
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CBY 1118691

RSV0032768

**OXYGEN
ACETYLENE**

1966 PERFORMANCE

**1967 GOALS
PROGRAMS**

CBY 1118692

RSV0032769

SAFETY

	<u>1966</u>		<u>1967</u>
	<u>GOAL</u>	<u>ACTUAL</u>	<u>GOAL</u>
<u>MINOR INJ RATE</u> <u>INJS./MM MANHOURS</u>	250	205	250
<u>MINOR/SERIOUS RATIO</u>	8/1	7/1	8/1
<u>DISABLING INJ</u>	0	0	0
<u>FIRES</u>	0	0	0
<u>SPILLS</u>	0	0	0
<u>PLANT MGR'S</u> <u>HKSP INSP.</u>	AA	A to AA	AA
<u>OVERTIME</u>	5 to 8 %	9%	5 to 8 %

1967 PROGRAMS

PROCESS HAZARD REVIEWS
EQUIPMENT AND AREA INSPECTIONS
OPERATING MANUAL REVIEW AND UPGRADE
OPERATOR TRAINING
FORMAL AND INFORMAL SAFETY TRAINING
CONCENTRATION ON PERSONNEL RELATIONS

CBY 1118693

RSV0032770

1966 PERFORMANCE

		<u>GOAL</u>	<u>ACTUAL</u>
<u>SAFETY</u> -	< 25 MINOR INJURIES	ACHIEVED	
	0 DISABLING II	ACHIEVED	
	0 FIRES	ACHIEVED	
	0 SPILLS	ACHIEVED	
<u>RETRAINING OF OPERATORS</u>		ACHIEVED	
<u>TRAINING OF SUPERVISORS</u>		ACHIEVED	
<u>REWRITE OPERATING MANUALS</u>		ACHIEVED	
<u>OVERTIME</u>		57.8%	9%
<u>OXYGEN</u>	VOLUME	220 M TONS	203 M TONS
	P.I.P. TOTAL	\$270 M	\$160 M
	MFG COST	\$5.83/TON	\$6.40/TON
<u>ACETYLENE</u>	VOLUME	102 MM LBS.	97 MM LBS.
	P.I.P. TOTAL	\$1,007 M	\$435 M
	MFG. COST	6.0 CENTS/LB	6.89 CENTS/LB

CBY 1118694

RSV0032771

1967 GOALS

SAFETY - <25 MINOR INJURIES

- o DISABLING "
- o FIRES
- o SPILLS

POLLUTION - TIGHTEN CONTROLS

- TRAIN SUPERVISORS
- TRAIN HOURLY
- Avoid NEW CAPITAL

CAPITAL SPENDING - AVOID

EXPENSE SPENDING - AVOID PERMANENT OR LONG TERM

PERSONNEL - TRAIN KEY SUPERVISION TO OPERATE PLANT CONDITION PEOPLE FOR PLANT PHASE-OUT

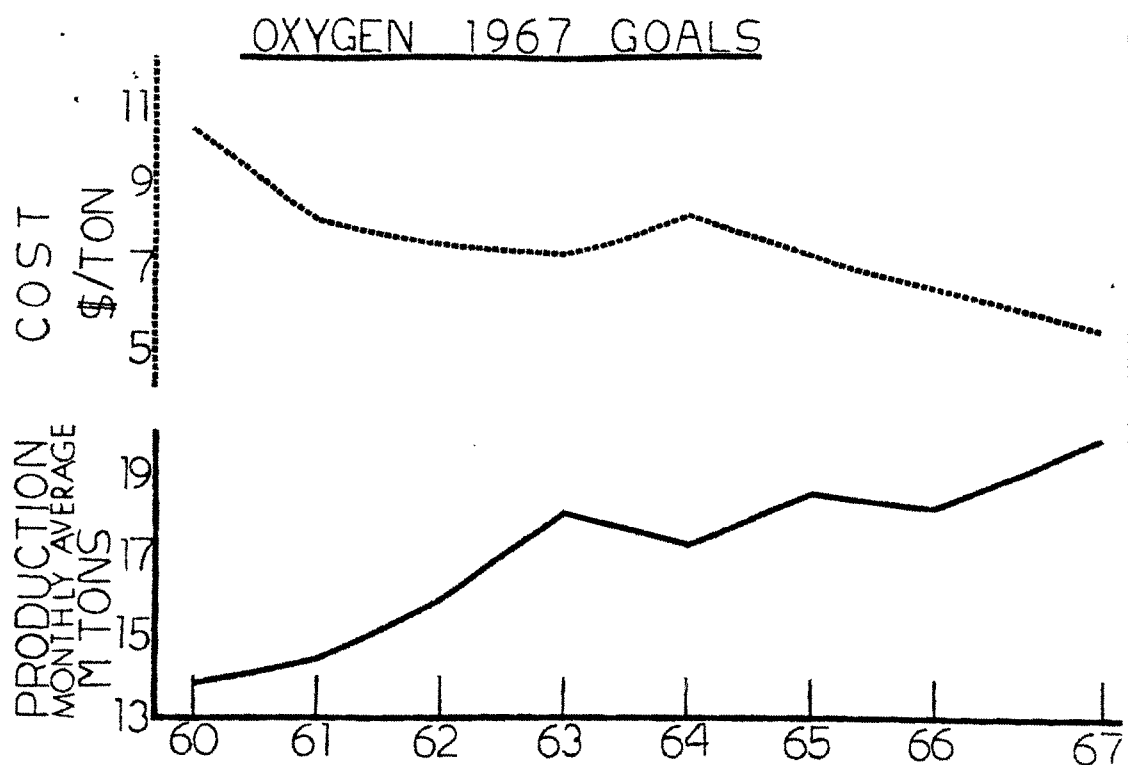
<u>P.I.P.</u>	OXYGEN	\$155,000
	ACETYLENE	\$607,000

<u>VOLUME</u>	OXYGEN	240,000 TONS
	ACETYLENE	104 MM LBS.

<u>COST</u>	OXYGEN	\$5.60/TON
	ACETYLENE	6.06 CENTS/LB.

CBY 1118695

RSV0032772



1966

	<u>STANDARD</u>	<u>GOAL</u>	<u>ACTUAL</u>
VOLUME (TONS)	217 M	220 M	203 M
COST \$/TON	6.89	5.83	6.40

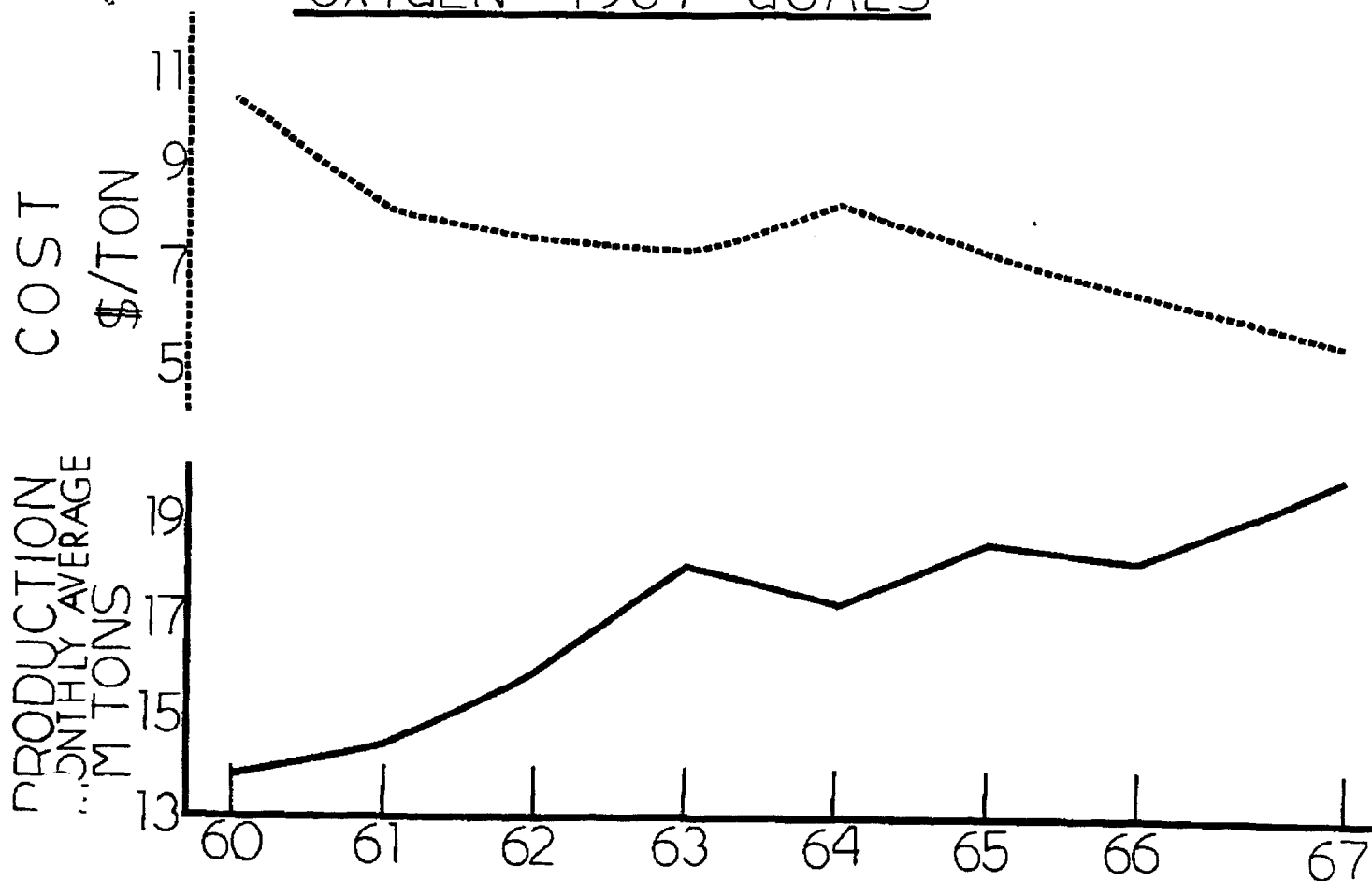
1967

VOLUME (TONS)	238 M	240 M
COST \$/TON	6.25	5.60

CSY 1118696

RSV0032773

OXYGEN 1967 GOALS



	STD	GOAL	ACTUAL	STD	GOAL	ACTUAL
TONS	18,100	18,340	18,180	19,790	19,900	
COST \$/TON	6.89	5.83	6.40	6.25	5.60	
STEAM	2.766	2.10	2.85	2.67	2.39	
UTILITIES	0.647	0.41	0.53	0.61	0.58	
MANPOWER	0.675	0.67	0.68	0.65	0.64	
REPAIRS	1.436	1.34	0.80	1.23	0.95	
OTHERS	0.306	0.27	0.35	0.36	0.33	
INDIRECTS	1.787	1.76	1.95	1.44	1.44	
CREDITS						
NITROGEN	0.333	0.33	0.31	0.30	0.30	
AIR	0.335	0.33	0.29	0.37	0.37	
OXYGEN	0.058	0.06	0.06	0.05	0.05	

CBY 1118697

RSV0032774

OXYGEN P.I.P.

GAIN

1. ENERGY SAVINGS

A. ELECTRICAL POWER

OPER. ~~\$~~ 22,500

B. MAIN AIR COMPRESSOR
TURBINE EFFICIENCY

OPER. 47,000

1 CONTROL CHARTS

2 TURBINE DESALTING

3 CONDENSER CLEANING

C. MATH MODEL OF O₂ PLT.

P.T.&E. 28,500

2. REPAIR COSTS

A. REVERSING EXCHANGER

OPER 15,000

B. MAIN AIR COMPRESSORS

40,000

1 PM PROGRAM

MAINT.

2 THRUST BEARINGS

MECH.S.

C. AIR DRIER P.M. PROGRAM

OPER. 2,000

TOTAL ~~\$~~ 155,000

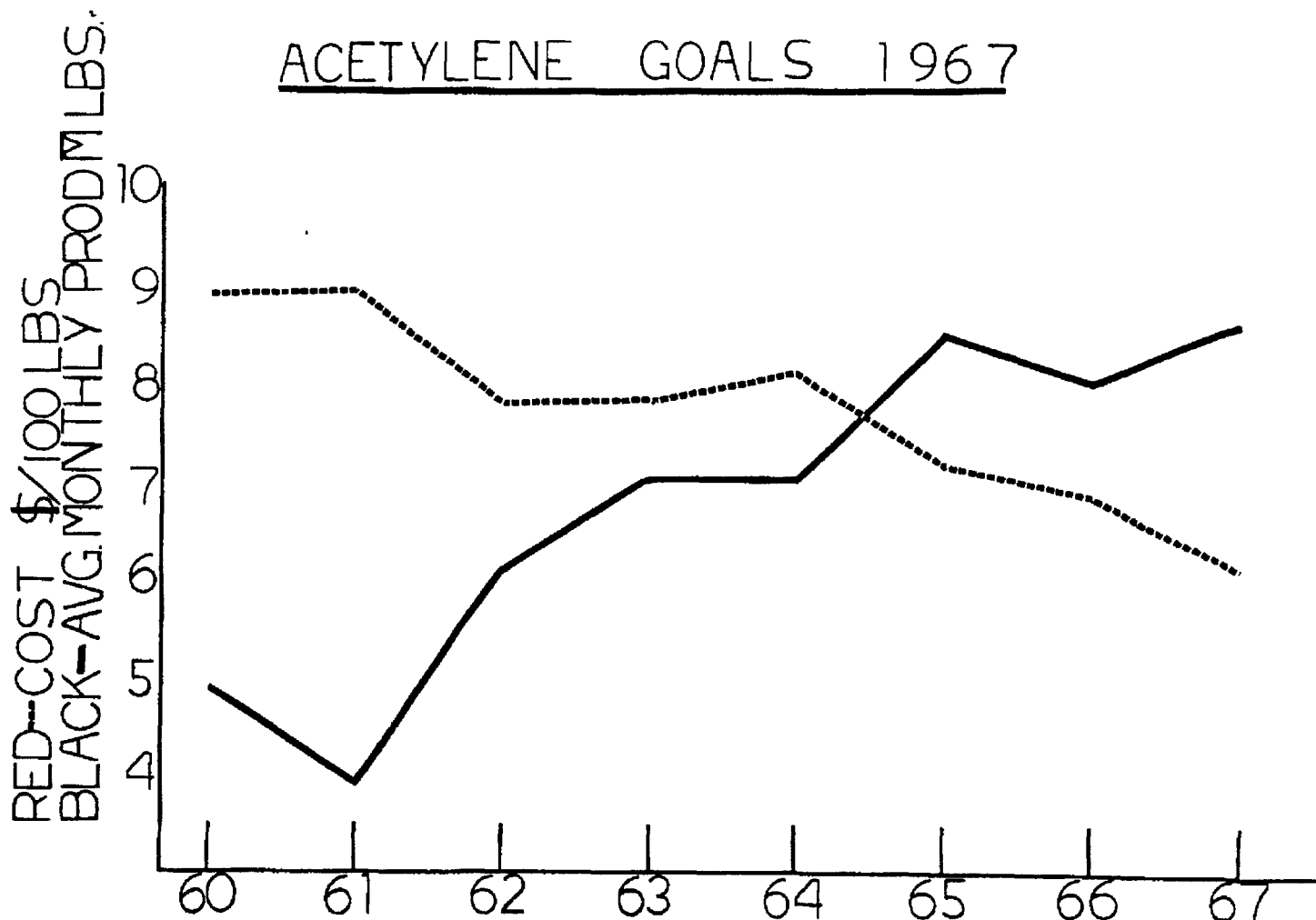
1968 REALIZATION

1. RAISE O₂ RECOVERY TO 90 % P.T.&E. ~~\$~~ 16,800

2. USE WASTE LPN AS PURGE GAS P.T.&E. 48,000

TOTAL ~~\$~~ 64,800

ACETYLENE GOALS 1967



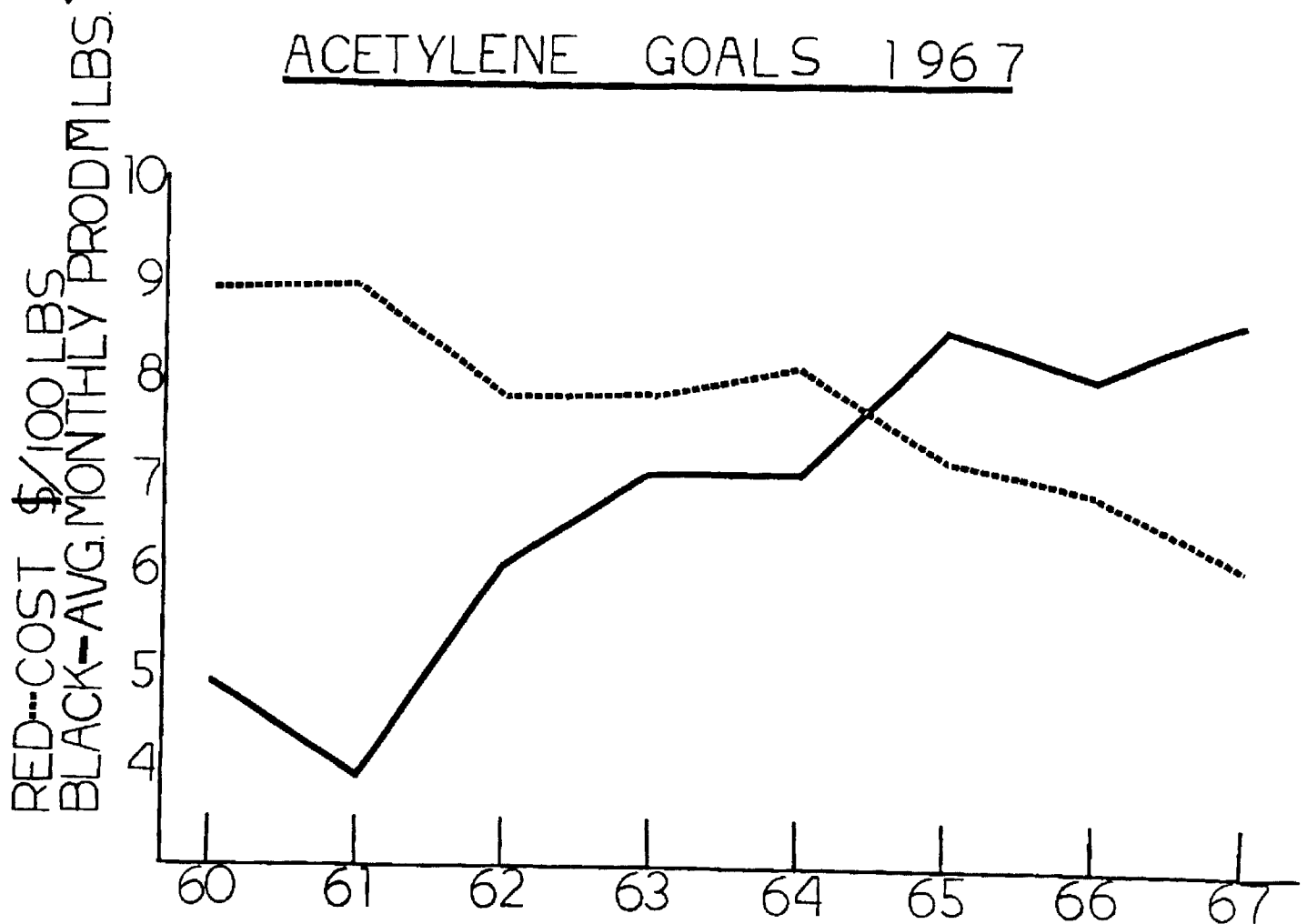
	<u>1966</u>		
	<u>STANDARD</u>	<u>GOAL</u>	<u>ACTUAL</u>
VOLUME (MM LBS)	95.2	102.0	97.0
COST (CENTS/LB.)	6.94	6.00	6.89

	<u>1967</u>	
VOLUME (MM LBS)	100	104
COST (CENTS/LB.)	6.68	6.06

CBY 1118699

RSV0032776

ACETYLENE GOALS 1967



	1966			1967		
	STD	GOAL	ACTUAL	STD	GOAL	ACTUAL
MM LBS/MO	8 17	8 50	7 96	8 33	8 67	
COST \$/LB	6 94	6 00	6 89	6 68	6 06	
RAW MATLS	2 88	2 33	2 73	2 70	2 40	
UTILITIES	1 02	92	1 19	1 11	1 09	
MANPOWER	25	24	39	39	38	
REPAIRS	1 13	89	87	1 03	79	
OTHERS	59	56	59	46	45	
INDIRECTS	1 07	1 06	1 12	99	95	

CBY 1118700

RSV0032777

ACETYLENE P.I.P.

GAIN

1. CONVERTER YIELDS (OPERATIONS)

IMPROVE CONTROL (CONTROL CHARTS)
LOWER OPERATING P-CHEMICAL CLEANING

\$77,000

2. OFF GAS TO BOILER HOUSE (OPERATIONS)

IMPROVE CONTROL OF PLANT COLL. SYSTEM

\$150,000

3. LOWER SOLVENT (NMP) USAGE

OPTIMIZE MONOCHEM

FOULING RATES-DOWNTIME-REPAIRS (OPR) (50,000)

CONTROL OF WATER IN SOLVENT (OPR)

CONTROL OF POLYMER FILTER CAKE (PTE) (30,000)

\$80,000

4. CRACKED GAS COMP. STEAM

OPTIMIZE TURBINE EFF. AND DOWNTIME

(OPR)

\$48,000

5. REPLACE DIESEL WITH CARBON BLACK OIL (PTE)

\$37,000

6. REDUCE REPAIR COSTS

\$215,000

BAG FILTERS- IMPROVE REPAIR EFF. (MAINT) (40,000)

OPTIMUM ON-STREAM (OPR)

IMPROVE CAPACITY (PTE)

CONVERTERS- IMPROVE REPAIR EFF. (MAINT) (40,000)

CHEM. CLEAN Q VESSELS (OPR)

CRACKED GAS COMPRESSORS (OPR) (58,000)

OPTIMIZE PREVENTIVE MAINT. , (AND MAINT.)

RUN-LENGTH, AND FOULING

PURIFICATION-OPTIMIZE MONOCHEM

(77,000)

CBY 1118701

TOTAL

\$607,000

PROCESS TECHNOLOGY & ENGINEERING
1966-1967 GOALS & OBJECTIVES
PERFORMANCE & PLANS - OXYGEN-ACETYLENE

OA-1 <u>OXYGEN</u> Goals: 1. Safety 2. More air in 3. Less air lost 4. Extract more steam Value: \$110,000 Actual: 76,500 plus record 31 month run.	OA-2 <u>OXYGEN</u> '66 Actual: 1. Supercharger being installed. 2. More air leaks..... shutdown repairs. 3. Extraction 75lb steam dictate by plant balance.
OA-3 <u>ACETYLENE</u> 1. Cost Reduction 2. Capacity 3. Quality	OA-4 I. <u>COST REDUCTION</u> Goal: Install Monochem Value: \$255,000 '66 Actual: \$224,000 Revised Annual Potential: \$270,000
OA-5 II. <u>CAPACITY IMPROVEMENT</u> Goal 110 M lbs Actual 97 M 1. Increased ethane usage 2. Imp. Converter control 3. Cracked gas coolers 4. Bag filter improvement 5. Solvent stripper on stream 6. Cokeless burner block	OA-6 III. <u>QUALITY</u> Goal: Minimize impurities with present equipment. Actual: Upset due to contaminants in natural gas.

CBY 1118702

RSV0032779

OA-7 <u>SUMMARY</u> Oxygen-Acetylene '66 Goal: \$848,000 (\$676,000) '66 Actual: \$378,500	OA-8 <u>PROGRAMS for '67</u> <u>OXYGEN</u> 1. Safety - No shutdowns 2. Cost reduction - \$58,700 optimize utilities, oxygen recovery, and use low purity N₂ 3. Capacity - Tech. Assist- ance.
OA-9 <u>PROGRAMS for '67</u> <u>ACETYLENE</u> 1. Cost Reduction Solvent loss Bag Filters Polymer Fouling Value: \$ 129,700	OA-10 2. Capacity - Technical support. 3. Quality - Optimize to meet complex demand.
Empty box	Empty box

CBY 1118703

RSV0032780

DEPT. 31 METHANOL

1966 PERFORMANCE

1967 GOALS

CBY 1118704

RSV0032781

SAFETY

	<u>1966</u>		<u>1967</u>
	<u>GOAL</u>	<u>ACTUAL</u>	<u>GOAL</u>
MINOR INJURIES	18	18	17
SERIOUS INJURIES	0	2	0
TOTAL	18	20	17

PROGRAM:

1. INCLUDE SAFETY IN ALL JOB PLANNING - BOTH OPERATIONS AND MAINTENANCE.
2. ANALYZE ALL ACCIDENTS AND INJURIES AND TAKE PROMPT CORRECTIVE ACTION.
3. PROMOTE SAFETY WITH EFFECTIVE, MEANINGFUL SAFETY MEETINGS WHICH INCLUDE ALL PERSONNEL REGULARLY ASSIGNED TO DEPT. 31.

CBY 1118705

RSV0032782

PERFORMANCE

	<u>1965</u>	<u>1966</u>	<u>GOAL</u> <u>1966</u>
PRODUCTION, M GAL.	28,957	26,692	26,750
TOTAL MFG. COST	\$3,290,700	\$3,264,300	\$3,271,500
UNIT COST, \$/GAL.	11.36	12.23	12.23

HIGHLIGHTS:

1. RECORD RUN (31 MONTHS) BETWEEN TOTAL DEFROSTS.
2. HAD 6 PARTIAL DEFROSTS.
3. 31C5-3 CRANKSHAFT FAILURE COST \$113,000 IN REPAIRS AND 500,000 GAL. PRODUCTION.
4. EVALUATION OF HARSHAW CATALYST.

1967 PROGRAMS

	<u>1966</u>	<u>GOAL</u> <u>1967</u>
PRODUCTION, M GAL.	26,692	30,000
TOTAL MFG. COST	\$3,264,300	\$3,277,900
UNIT COST, \$/GAL.	12.23	10.93
GROSS PRETAX PROFIT	\$2,074,100	\$2,722,100
PROFIT IMPROVEMENT	—	\$648,000

1. ELIMINATE A TOTAL DEFROST AND REDUCE PARTIAL DEFROSTS FROM 6 TO 3. 2,000,000 GAL.
2. ELIMINATE MAJOR EQUIPMENT FAILURES SUCH AS ENGINE CRANKSHAFTS. \$113,000 AND 500,000 GAL.
3. 2.5% INCREASED YIELD WITH HARSHAW CATALYST. 400,000 GAL.
4. IMPROVE EQUIPMENT ON-STREAM TIME. 400,000 GAL.
5. SHUTDOWN CHEMICAL TREATING BY APRIL 1. \$46,100.
6. INCREASE OFF-GAS CREDIT BY INCREASING 3/C4 COMPRESSOR CAPACITY. BY JAN. 1. \$40,000.

CBY 1118707

RSV0032784

PROCESS TECHNOLOGY & ENGINEERING
1966-1967 GOALS & OBJECTIVES
PERFORMANCE & PLANS FOR METHANOL

MeOH-1A IA. <u>Linde Unit Studies</u> Objectives: Less downtime Better Syn Gas Result: No production rate reduction at end of run. Value: '66 Actual \$34,000	Me-2 IB. <u>Reactor Optimization</u> Object: Optimum bed temp. Evaluate new cata- lyst. Result: Revised reactor but ICI catalyst was bad. Installed Harshaw catalyst.
MeOH-3 Value: '66 Actual \$31,600 '66 Goal \$67,500 Annual Potential: \$115,000	MeOH-4 II. <u>Cost Reduction</u> Object: Eliminate Chem. Treating Result: Resin Process developed in lab. Plant test Dec. '66
MeOH-5 III. <u>Quality</u> Adequate for internal use. Would require major capital to meet competition in open market.	MeOH-6 IV. <u>New Methanol Plant Studies</u> Purpose: Define new 76-100M gal/yr methanol plant. Status: Preliminary econom- ics Cost: 6.5-7.0¢/gal ROI: 11.5% @ 12¢/gal

CBY 1118708

RSV0032785

MeOH-7 <u>PT&E '67 Programs</u> I. <u>QUALITY</u> II. <u>CAPACITY</u> III. <u>COST REDUCTION</u> IV. <u>NEW METHANOL PLANT STUDIES</u>	MeOH-8 I. <u>QUALITY</u> Objective: Meet division goal. Program: Identify and minimize impurities.
MeOH-9 II. <u>CAPACITY</u> A. <u>Linde Unit</u> Reduce downtime Improve Syn. Gas Quality. Value '67: 2 $\bar{M}$ gals. MeOH (\$330,000)	MeOH-10 II. <u>CAPACITY</u> B. <u>Reactor Yield</u> Optimize Bed Temp. Profile Use 2d chg. Harshaw Check all catalyst before use. Value '67: 400,000 gallons (\$66,000)
MeOH-11 III. <u>COST REDUCTION</u> Commercialize resin-bed process for removing iron carbonyl. '67 Goal - \$46,100 from obsoleting present chemical treating.	MeOH-12 IV. <u>NEW PLANT STUDIES</u> Objective: Define methanol synthesis technology for new 100 $\bar{M}$ gal/yr methanol plant based on steam reforming. Potential: \$2-3 $\bar{M}$/yr increased Division profit.

AN & HCN
REVIEW
FOR
1966

CBY 1118710

RSV0032787

SAFETY

GOAL: Equal or beat best previous
safety performance

	<u>GOAL</u>	<u>1966 YTD</u>
Operator Inj.	< 8	11
Total Inj.	< 33	27
Serious Inj.	< 2	1
Lost Time Inj.	0	0
Fires & Spills	0	0
HCN Incidents	0	0
Housekeeping	AA	AA

CAPACITY

GOAL: Make every lb. of AN needed to
best balance AN cost & C_2H_2 distr.
Supply HCN demand most economically

	<u>Budget</u>	<u>Goal</u>	<u>'66 YTD</u>	<u>'66 Pred</u>
HCN	75.4	(75.4)	54.1	(66.6)
Crude AN	130.2	130.2	92.5	109.7
Pure AN	132.8	(132.8)	91.3	(108.6)
TBA		4.5	3.37	4.51
LN	6.45	6.45	6.54	9.02

CBY 1118712

RSV0032789

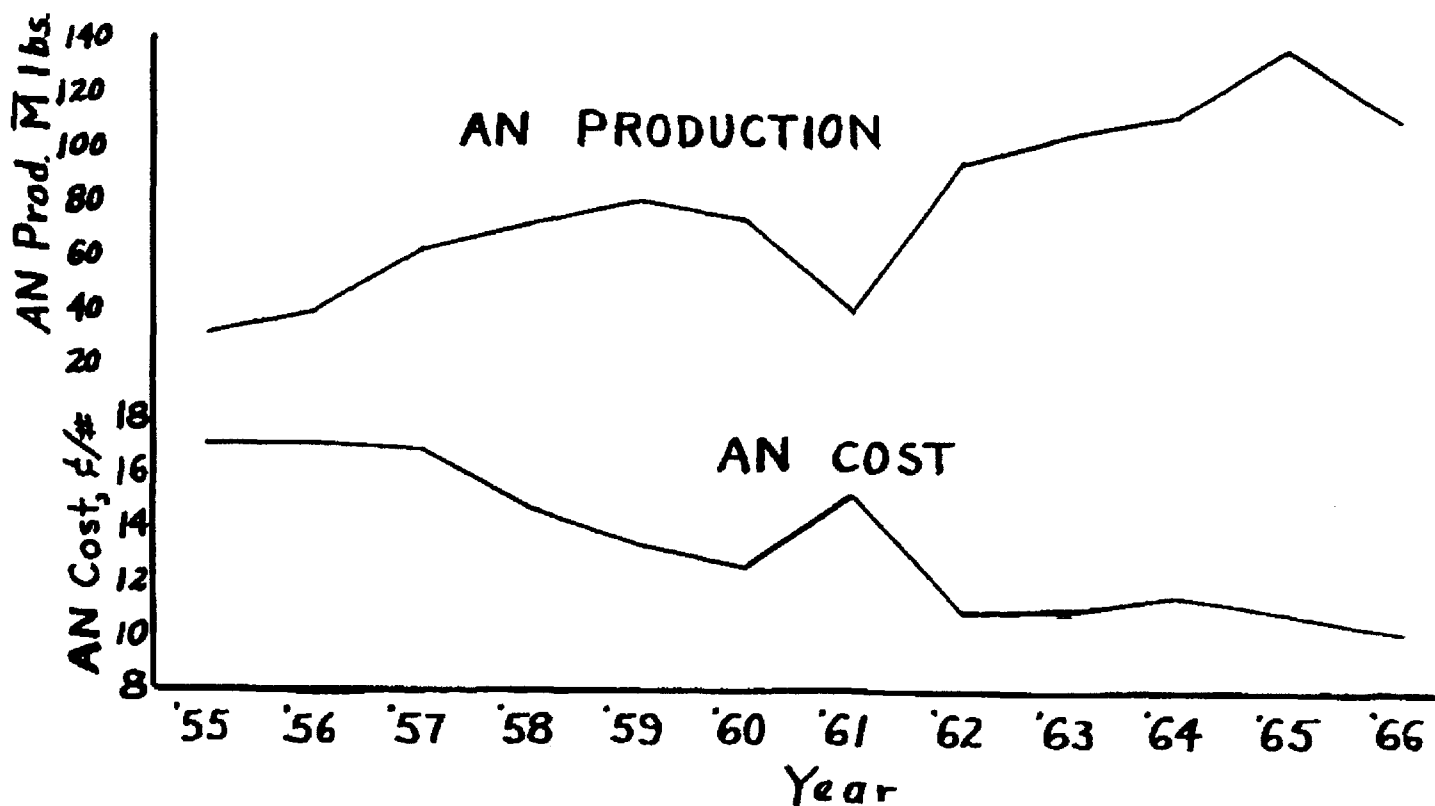
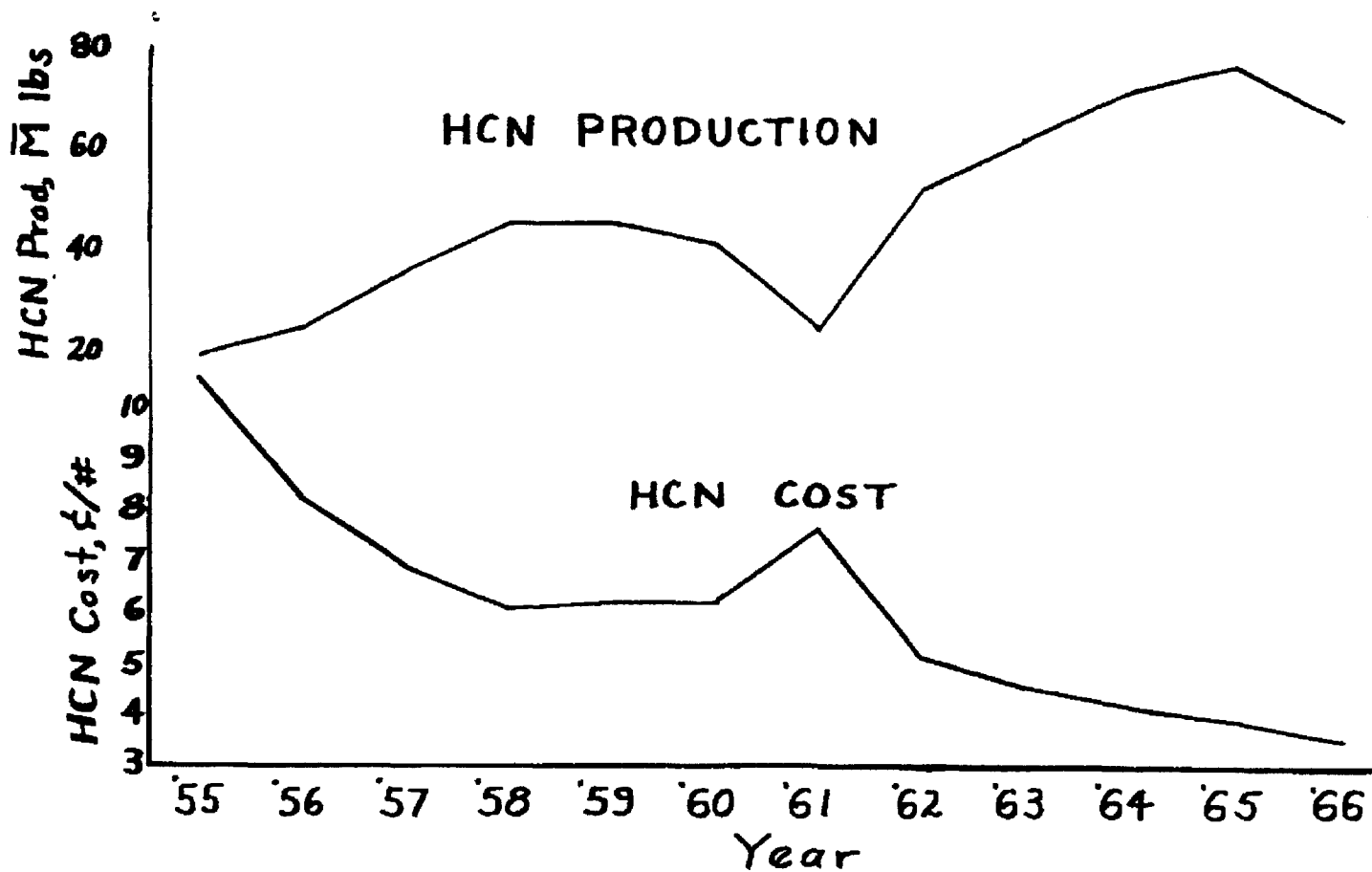
QUALITY

GOAL

1. All AN to meet AN 200 Spec.
2. No product quality complaints
3. Resolve specs for Ach to meet Carbide needs.
Revise operations & equip. to meet these specs 1st Qtr '66
4. Work with LA on phosphate reduction in waste NH_4Cl which comes from LN.

RESULTS

✓
2 - minor
Unofficial spec
set on AN < 0.02
AN < 0.02
Reduced from
1.5-2.0% to
0.5-1.0%



CBY 1118714

RSV0032791

COSTS

HCN

	'65 <u>Actual</u>	'66 <u>Budget</u>	'66 <u>Goal</u>	'66 <u>YTD</u>	'66 <u>Pred.</u>
Prod., M lbs	75.3	75.4	75.4	54.1	66.6
Raw Mat'l, ¢/#	1.871	1.683	1.644	1.459	1.472
Utilities, ¢/#	0.341	0.311	0.311	0.350	0.368
Repairs, ¢/#	0.420	0.518	0.455	0.380	0.412
Catalyst, ¢/#	0.081	0.153	0.106	0.095	0.091
Other Dir., ¢/#	0.543	0.490	0.476	0.547	0.570
Indirects, ¢/#	0.584	0.511	0.511	0.548	0.561
Total Cost, ¢/#	3.840	3.666	3.503	3.379	3.474

AN

	'65 <u>Actual</u>	'66 <u>Budget</u>	'66 <u>Goal</u>	'66 <u>YTD</u>	'66 <u>Pred.</u>
Prod., M lbs	134.4	132.8	132.8	91.3	108.6
Raw Mat'l, ¢/#	6.986	6.143	6.143	6.266	6.270
Utilities, ¢/#	0.554	0.562	0.562	0.579	0.570
Repairs, ¢/#	0.410	0.519	0.446	0.466	0.530
Catalyst, ¢/#	1.496	1.284	1.525	1.526	1.460
Other Dir., ¢/#	0.579	0.643	0.639	0.666	0.650
Indirects, ¢/#	0.776	0.711	0.711	0.761	0.761
Total Cost, ¢/#	10.801	9.863	10.157	10.264	10.241

1966 YTD VARIANCES

thru Sept.

HCN

Variance, \$

Off Sch	+ 39,273
Unsch Cap	- <u>70,652</u>
Total Volume	- 31,379

Performance	+ 36,999
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Price	+ <u>99,070</u>
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Total Variance	+ 105,688
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AN

Variance, \$

Off Sch	- 8,347
Unsch Cap	- <u>117,638</u>
Total Volume	- 125,985

Performance	- 248,955
-------------	-----------

Price	- <u>45,247</u>
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CBY 1118716

1966 PROFIT IMPROVEMENT

<u>PROJECT</u>	<u>'66 GOAL</u>	<u>'66 EST.</u>
<u>HCN</u>		
1. NH ₃ pipeline to reduce raw material cost	\$169,000	\$224,000
2. Optimize individual 14 layer gauzes for better yields	30,000	25,000
3. Maintenance cost reduction	15,000	59,000
4. Optimize gauze thickness	<u>20,000</u>	<u>0</u>
Total	\$234,000	\$308,000

AN

1. Improve reactor control for better HCN & C ₂ H ₂ yields	\$60,000	67,000
2. Catalyst usage reduction	227,000	220,000
3. Maintenance cost reduction	50,000	91,000
4. Improved recovery from 20D29 OH recycle	<u>—</u>	<u>45,000</u>
Total	\$337,000	\$423,000

1967 GOALS
FOR
AN & HCN

CBY 1118718

RSV0032795

SAFETY

GOAL: Equal or beat best previous safety performance

	<u>Best Perf.</u>	<u>1967 Goal.</u>
Operator Inj.	7	7 or less
Total Inj.	32	32 or less
Serious Inj.	1	1 or less
Lost Time Inj.	0	0
Fires & Spills	0	0
HCN Incidents	0	0
Housekeeping	AA	AA

PROJECTS

1. Upgrade NH_3 pipeline system instruments for greater reliability & safety.
2. Evaluate new level indicator probe in HCN storage & adopt if proved superior.
3. Maintain departmental safety & housekeeping index programs.

CAPACITY

GOALS:

- AN - Produce quantity of AN (up to 140 $\bar{M}^{\#}/\text{yr}$ rate) as determined by marketing demands & economic optimization of West Plant & C.B. facilities
- HCN - Produce quantity adequate for AN, TBA, & LN requirements up to plant capability (90 $\bar{M}^{\#}/\text{yr}$)
- TBA - Expand TBA capacity from 4.5 to 5.4 $\bar{M}^{\#}/\text{yr}$ effective 4-1-67. Produce TBA required within capability.
- LN - Meet all Lactic Acid requirements for LN in manner so as to not limit Lactic Acid operations.

QUALITY

GOALS:

1. All AN to meet AN 200 specs.
2. No product quality complaints.
3. Work with P.T. & E. and Laboratory to better define MVK analytical and quality control technology.

HCN COST

	<u>1966 Est.</u>	<u>1967 Budget</u>	<u>1967 Goal</u>
Prod, M lbs	66.6	63.94	63.94
Raw Mat'l, ¢/#	1.472	1.52	1.50
Utilities, ¢/#	0.368	0.37	0.37
Repairs, ¢/#	0.412	0.49	0.43
Catalyst, ¢/#	0.091	0.12	0.12
Other Dir, ¢/#	0.570	0.62	0.62
Indirects, ¢/#	<u>0.561</u>	<u>0.59</u>	<u>0.59</u>
Total Cost, ¢/#	3.474	3.71	3.63

AN COST

	<u>1966 Est.</u>	<u>1967 Budget</u>	<u>1967 Goal</u>
Prod., M lbs.	108.6	107.10	107.10
Raw Mat'l, \$/#	6.270	5.90	5.79
Utilities, \$/#	0.570	0.64	0.64
Repairs, \$/#	0.530	0.54	0.51
Catalyst, \$/#	1.460	1.27	1.27
Other Dir, \$/#	0.650	0.87	0.85
Indirects, \$/#	<u>0.761</u>	<u>0.86</u>	<u>0.86</u>
Total Cost, \$/#	10.241	10.08	9.92

1967 PROFIT IMPROVEMENT

PROJECT

'67 GOAL

HCN

1. Misc. equip. improvements	\$17,000
2. Evaluate 18 layer gauze	15,000
3. Reduced maint. costs	<u>22,000</u>
Total	\$54,000

AN

1. Catalyst usage reduction	\$230,000
2. Reduced maint. costs	33,000
3. Improve C_2H_2 & HCN yields	85,000
4. Increased AcH production & sales	33,000
5. Reduce sample load to Control Lab	<u>20,000</u>
Total	\$401,000

CBY 1118724

RSV0032801

POLLUTION CONTROL

GOALS:

1. Establish mechanism to prevent Dept. 19-20 sump overflow to the sewer.
2. Maintain close control over feed (wastes) to Dept. 24 to avoid slugs of cyanide polymer and high ammonia levels.
3. Study and implement if feasible further means of reducing air and bay pollution.

PERSONNEL

GOALS:

1. Counsel all supervisors in 1967.
2. Counsel hourly personnel as necessary for instruction, correction, commendation, guidance, etc.
3. Stimulate communications with
 - a) Weekly supervisory meetings.
 - b) Chief Operator meeting at least once per quarter.
4. Train all operators to qualify for all jobs in their respective departments by 1-1-68.
5. Obtain adequate hourly staffing to maintain overtime between 5 & 8% with critical monitoring of absenteeism

1966 TECHNICAL RESULTS

CBY 1118727

RSV0032804

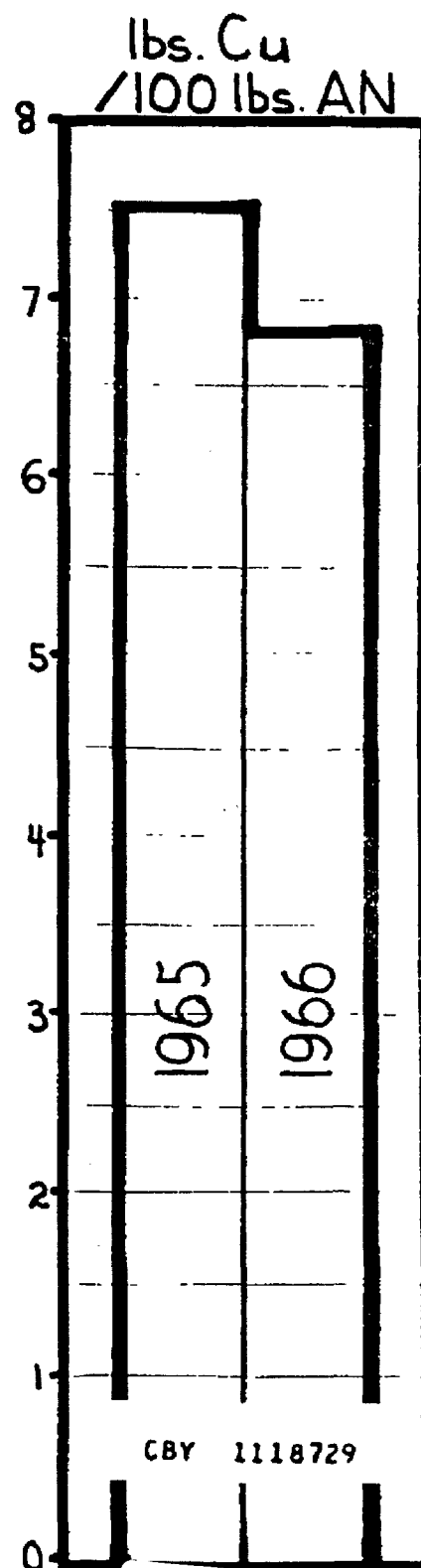
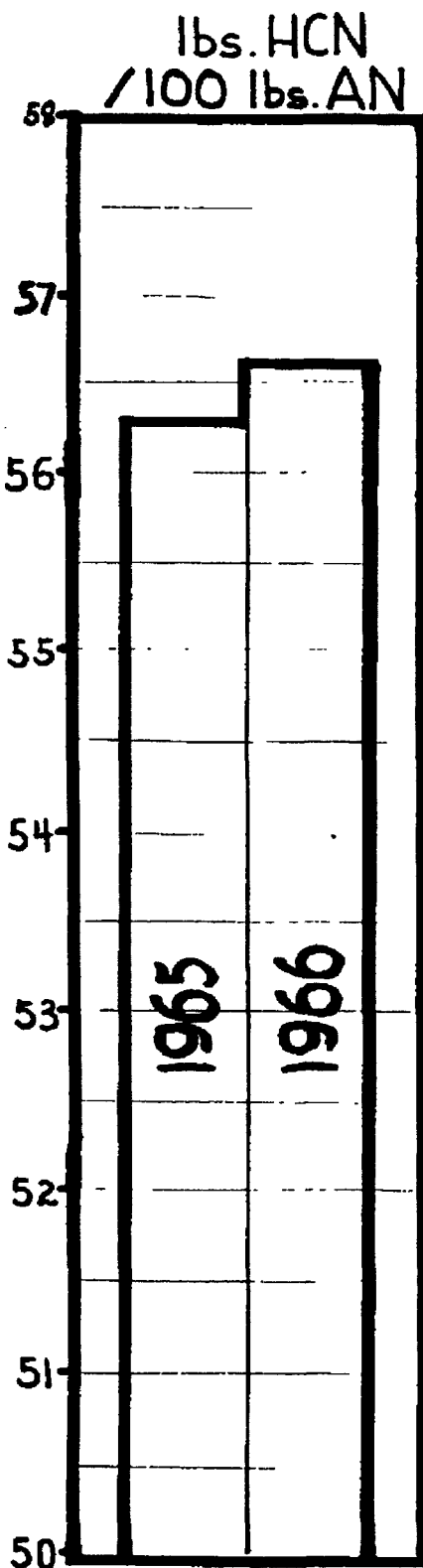
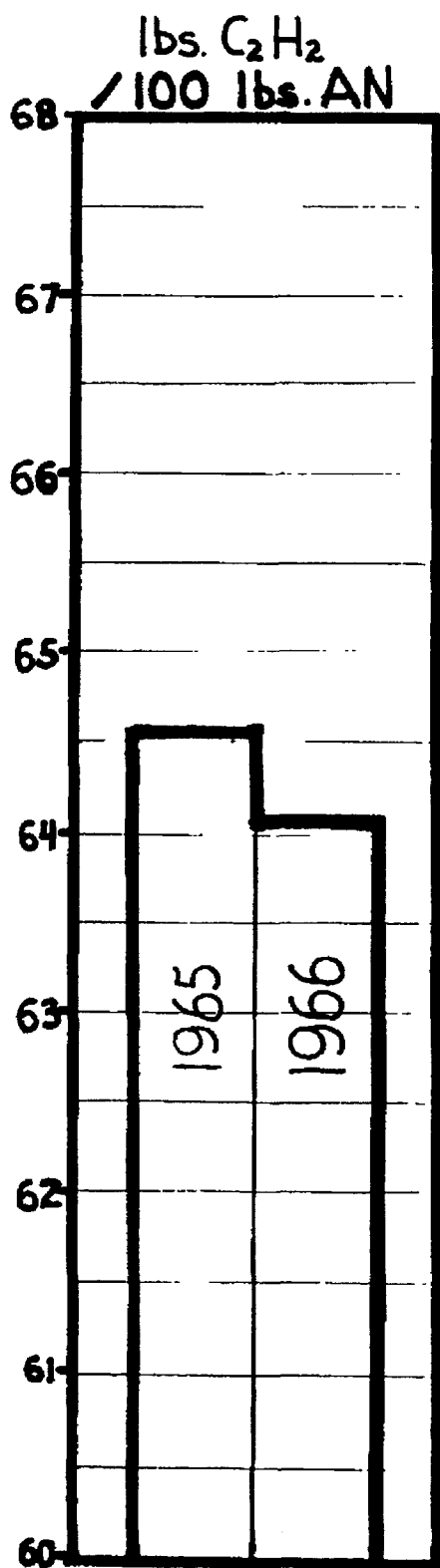
\$ SUMMARY OF 1966 PROGRAM

<u>AREA</u>	<u>GROSS POTENTIAL SAVINGS (\$/YR.)</u>	<u>PROBAB- ILITY OF SUCCESS</u>	<u>SAVINGS TIMES PROBABILITY</u>	
			<u>1966</u>	<u>1967</u>
HCN	30M	80%	\$18M	\$24M
AN R _x	140M (YIELDS)	60%	\$42M	\$84M
	150M (CATALYST)	60%		\$90M
RESIDUE RECOVERY	125M	99% ¹	\$60M	\$125M
LN	75M	70%	\$25M	\$52M
TOTAL	520M		\$145M	\$375M

¹ ASSUMING PROJECT APPROVED

RAW MATERIAL USAGE

1965 VS. 1966

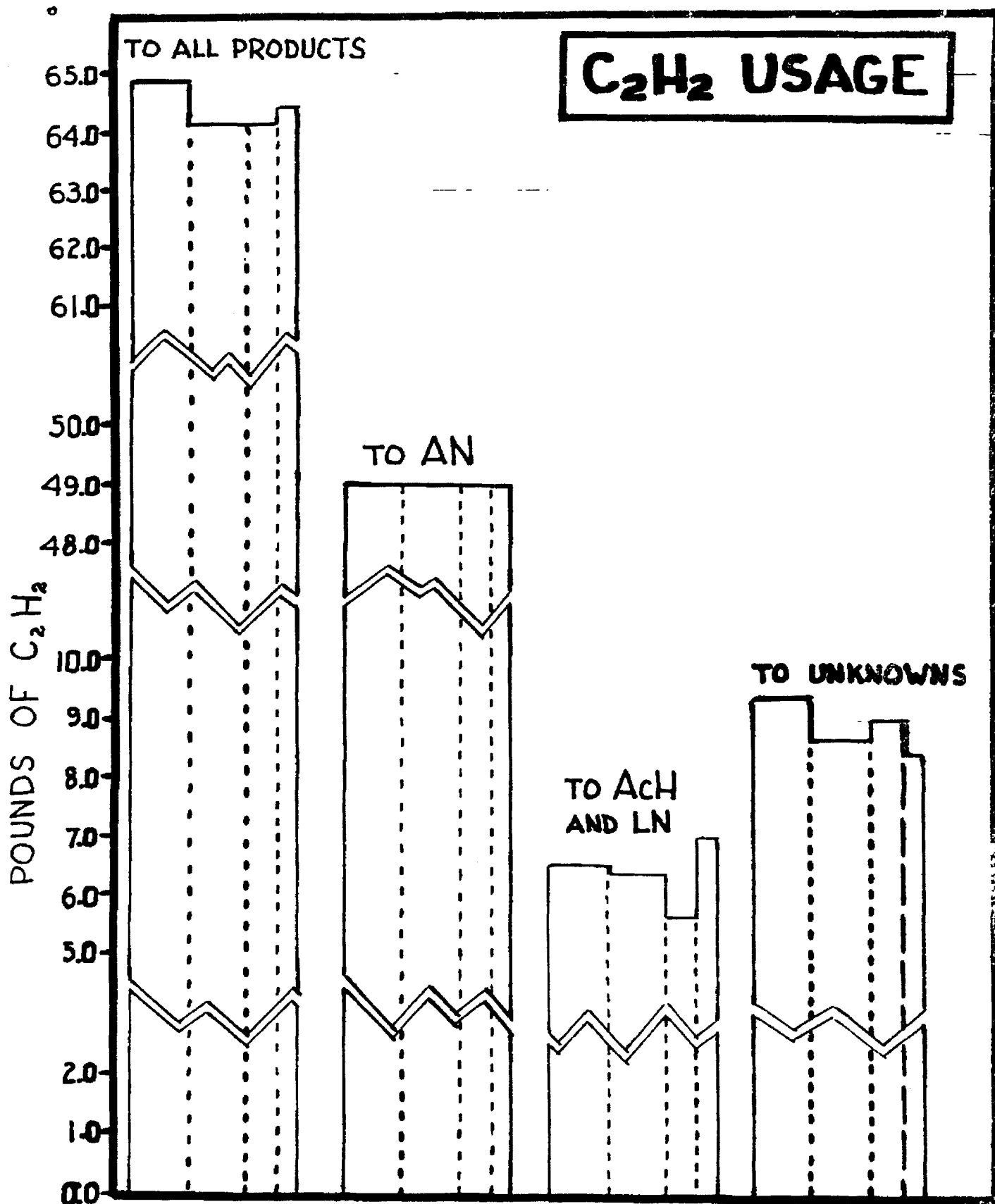


SIGNIFICANT DATES

**AUGUST '65 - REACTORS AGAIN IN
GOOD MECHANICAL
REPAIR**

**MARCH '66 - SWITCH TO "HCN"
CONTROL FROM
"MVA" CONTROL**

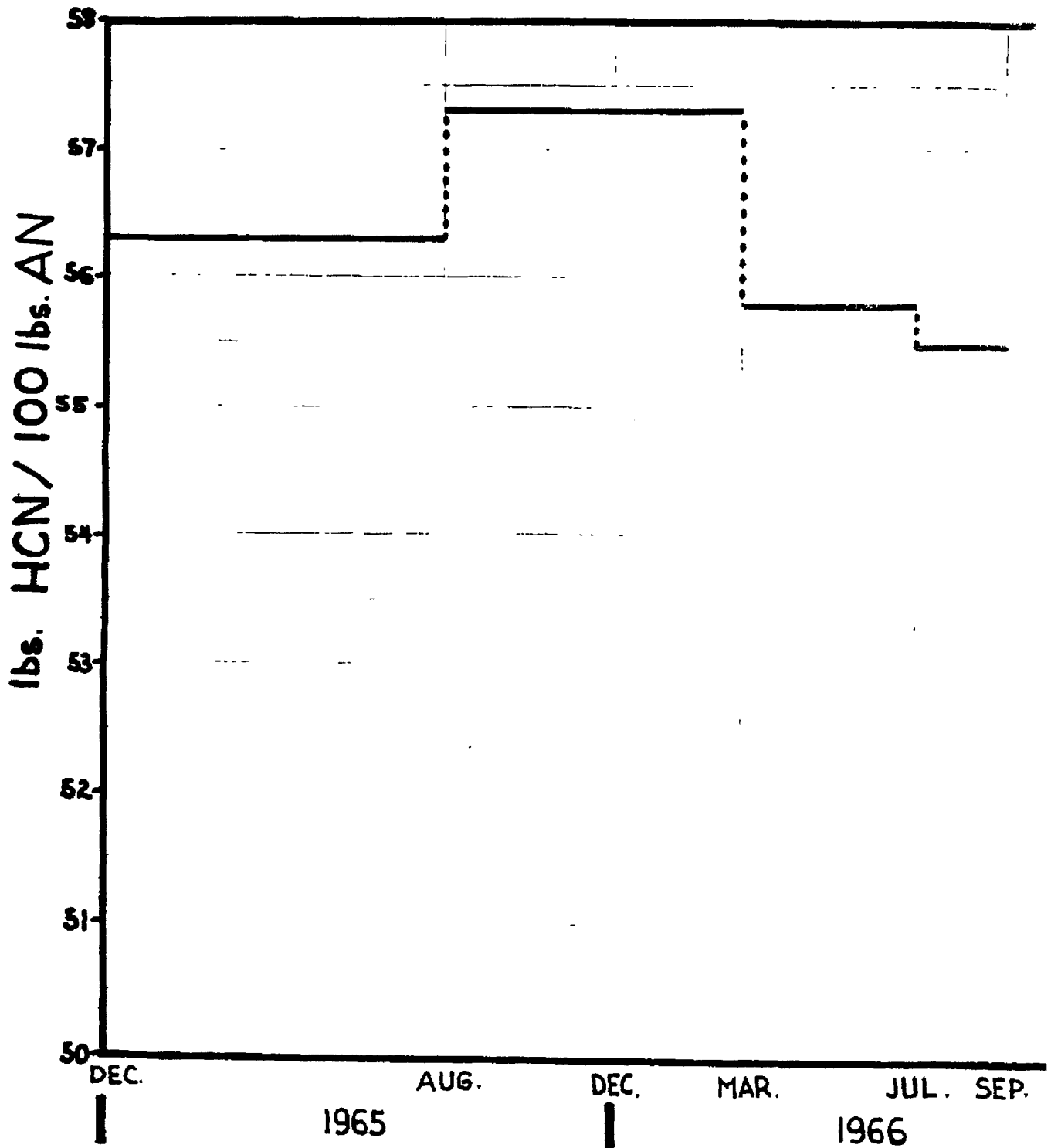
**JULY '66 - REVISED CONTROLLERS
INSTALLED**



CBY 1118731

RSV0032808

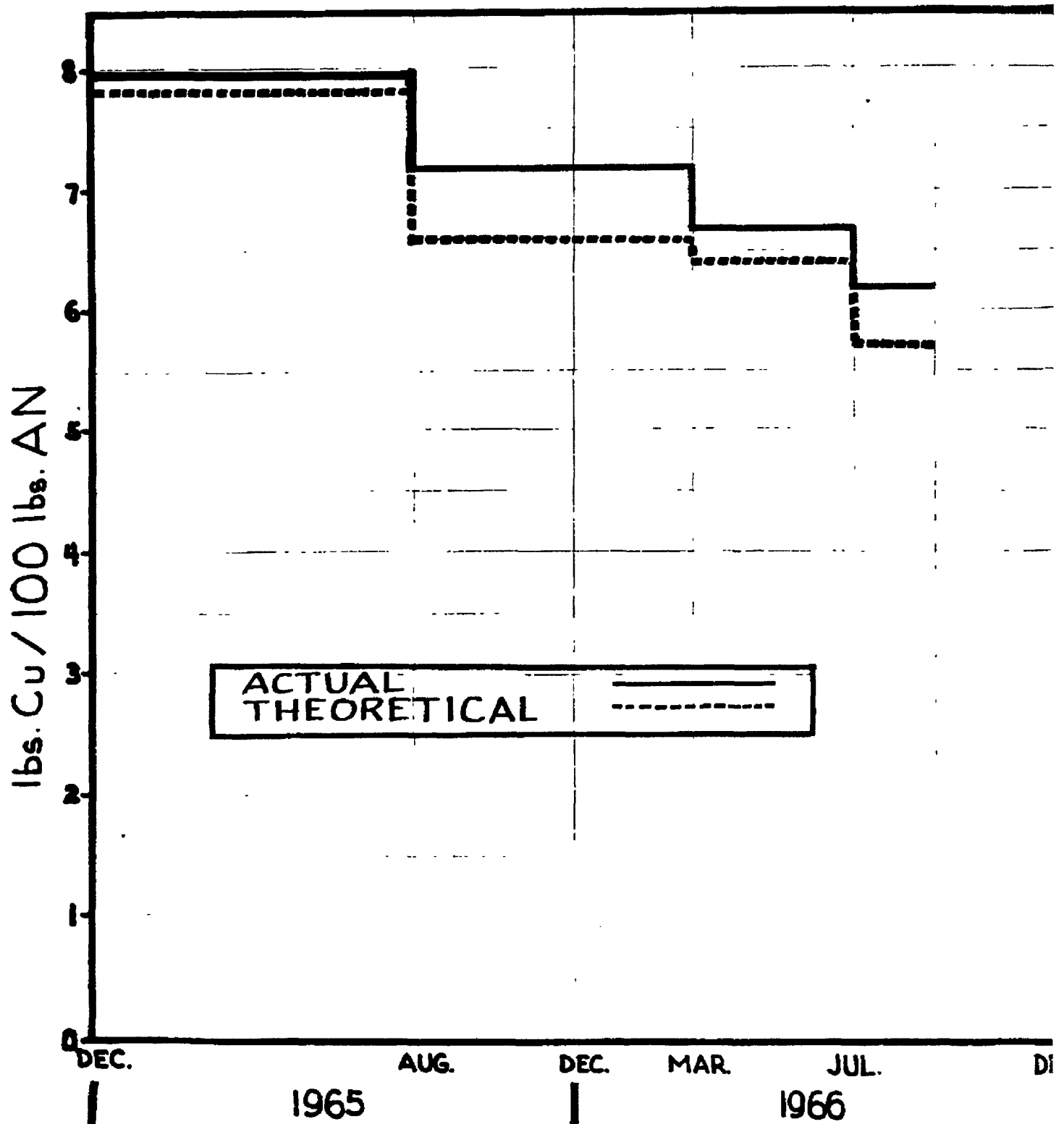
HCN USAGE



CBY 1118732

RSV0032809

CATALYST USAGE



CBY 1118733

RSV0032810

1967

GENERAL TECHNICAL SUPPORT
FOR BOTH AN AND HCN

EMPHASIS ON

A. REACTOR STUDIES TO REDUCE RAW
MATERIAL & CATALYST USAGE

-TARGET : 62 lbs C_2H_2 / 100 lbs AN + 5.9 lbs. Cu
/ 100 lbs. AN

-PROBABILITY OF SUCCESS : 60%

-VALUE : RM-\$90M/YR. (C_2H_2) + \$100M/YR. (CATALYST)

B. OPTIMUM LOW RATE OPERATION

C. SURVEY TO DEFINE LOSSES
UNDER PRESENT CONDITIONS
AND REDUCTION OF LOSSES
AS NECESSARY

CBY 1118734

RSV0032811

AN COMPLEX
AND
METHANOL

CBY 1118735

RSV0032812

SAFETY FOR 1966

GOAL: REDUCE SERIOUS INJURIES
TO TOTAL INJURIES BY 1-8
RATIO.

NO LOSS TIME INJURIES.

- METHOD:
1. BRIEF DISCUSSION ON SAFETY WITH LEAD-MAN ON EACH JOB LINE-UP.
 2. HOLD SAFETY MEETINGS WITH CRAFTSMAN PRIOR TO, AND DURING SHUTDOWNS STRESSING INCREASED HAZARDS DUE TO HEAVY WORKLOAD AND INCREASED NUMBERS OF CRAFTSMAN ASSIGNED.
 3. HAVE A SAFETY MEETING WITH ALL OUTSIDE SUPERVISORS PRIOR TO SHUTDOWN.
 4. CONCENTRATED EFFORTS TO STIMULATE SAFETY AWARENESS AND ATTITUDES OF ALL ZONE ASSIGNED PERSONNEL.
 5. CONTINUE TO REVIEW WITH PRODUCTION ANY POTENTIAL PROCESS HAZARDS.
 6. TOOL BOX INSPECTION QUARTERLY OF ALL MAINTENANCE TOOL BOXES IN THE ZONE.

CBY 1118736

SAFETY RECORD FOR 1966

<u>DEPT.</u>	<u>9 MO. ACT. 1966</u> <u>INJURIES</u> (MINOR/SERIOUS)	<u>12 MO. EST. 1966</u> <u>INJURIES</u> (MINOR/SERIOUS)
O ₂ C ₂ H ₂ CONVERSION	9/1	10/2
C ₂ H ₂ PURIFICATION WASTE DISPOSAL	7/2	9/2
H.C.N. T. B.A.	9/0	9/0
AN LN	7/0	7/0
Me OH	<u>9/1</u>	<u>12/1</u>
TOTAL	9.5/1	9.2/1

GOAL 1967: MAINTAIN THE RATIO OF
SERIOUS INJURIES TO
TOTAL INJURIES WHICH
IS 1-8.

CBY 1118737

PRODUCTIVITY FOR

1966 - 1967

<u>AREA</u>	<u>GOAL</u> <u>1966</u>	<u>ACTUAL</u> <u>1966</u>	<u>EST.</u> <u>1966</u>	<u>GOAL</u> <u>1967</u>
O ₂ C ₂ H ₂ CONVERSION	70%	63.2%	65%	70%
C ₂ H ₂ PURIFICATION WASTE DISPOSAL	65%	56.3%	58%	65%
C-4 ₂ -BAG FILTER	65%	61.1%	60%	65%
H.C.N. T.B.A.	65%	70.8%	70%	70%
AN LN	65%	61.2%	60%	65%
MeOH	<u>70%</u>	<u>65.5%</u>	<u>63%</u>	<u>70%</u>
TOTAL	67%	63.1%	63.6%	67.8%

CBY 1118738

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**METHOD: 1. CLOSER SUPERVISION IN ALL AREAS
DURING TIMES OF LOW PRODUCTIVITY**

**2. AFTERNOON MEETINGS WILL BE
HELD FOR THE NEXT DAY LINE-UP
ON SCHEDULE WORK.**
A. CHECK AVAILABILITY OF MATERIAL
B. PERSONNEL GO TO WORK AT
0800 WITHOUT JOB LINE-UP
IN THE MORNING.

**3. MAINTAIN ADEQUATE LOW PRIORITY
OR BACKLOG JOBS IN EACH AREA
FOR FILL-IN ON EACH DAILY
SCHEDULE.**

**4. PERFORM MORE CLEAN-UP ON
A DAILY BASIS.**

**5. CHECK MAINTENANCE PERSONNEL
DURING REDUCED RATE AND TOTAL
SHUTDOWN TO ACQUIRE MORE
SAMPLES.**

CBY 1118739

RSV0032816

OVERTIME
1966-1967

<u>AREA</u>	<u>GOAL</u> <u>1966</u>	<u>ACTUAL</u> <u>1966</u>	<u>EST.</u> <u>1966</u>	<u>GOAL</u> <u>1967</u>
O ₂ C ₂ H ₂ CONVERSION	7.0%	6.8%	10.7%	7.0%
C ₂ H ₂ PURIFICATION WASTE DISPOSAL	8.0%	5.3%	8.5%	6.0%
C ₂ H ₂ - BAG FILTER	8.0%	4.4%	4.5%	6.5%
H.C.N. T.B.A.	5.5%	4.1%	4.2%	5.0%
AN LN	8.0%	5.8%	6.0%	6.0%
MeOH	<u>9.0%</u>	<u>12.6%</u>	<u>14.0%</u>	<u>8.0%</u>
TOTALS	7.6%	6.5%	7.9%	6.4%

CBY 1118740

RSV0032817

**METHOD: 1. CLOSER SUPERVISION OF
CRITICAL JOBS.**

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**2. BETTER UTILIZATION OF STABLE
MAN POWER IN THE ZONE.**

**3. PERFORM PREVENTATIVE
MAINTENANCE ON CRITICAL
EQUIPMENT DURING REDUCED RATE
PERIOD. (NO LOSS OF PRODUCTS)**

**4. ADEQUATE SUPERVISION ON OFF
SHIFT BASIS TO UTILIZE SHIFT
PERSONNEL. IMPROVE COST ON
OFF SHIFT.**

**5. MORE REALISTIC STAFFING OF
CRITICAL JOBS ON DAY SHIFT.
(TO REDUCE CALL OUT AND OVER-
TIME ON DAY SHIFT.)**

CBY 1118741

11/18/66

RSV0032818

AN COMPLEX AND METHANOL

<u>AREA</u>	<u>9mo ACT 1966</u>	<u>12mo. EST. 1966</u>	<u>STD. 1967</u>	<u>GOAL 1967</u>
O ₂	# 25,166	# 20,481	# 142,200	# 142,200
C ₂ H ₂	# 186,046	# 247,046	# 833,196	# 762,196
H.C.N.	# 48,585	# 59,382	# 276,000	# 253,600
AN	# 51,993	# 91,449	# 468,000	# 435,000
WASTE	# 16,689	# 20,000	# 56,700	# 51,020
T.B.A.	# 11,361	# 9,668	# 49,200	# 49,200
LN	# 3,248	# 6,218	# 24,000	# 24,000
MeOH	# 53,954	# 12,954	# 318,000	# 286,000
TOTAL-	# 216,080	# 374,464	# 2,167,296	# 2,003,216

12mo. EST.-1966 - # 1,968,436
GOAL 1967 # 2,003,216

CBY 1118742

AME 11-2-66

RSV0032819

AN COMPLEX
AND
METHANOL

S.D.R. ACCURAL 1965-1966 = \$1,896,480
S.D.R. EXPENDED EXTRAPOLATED = 1,785,853
TOTAL S.D.R. CREDIT = \$110,627

S.D.R. ACCURAL 1967 = \$758,592
S.D.R. EXPENDED EXTRAPOLATED
1967 \$360,000
1967 S.D.R. CREDIT = \$398,592

1967 IMPROVEMENT
OVER 1966

SAFETY:

1966-REDUCE THE RATIO OF SERIOUS INJURIES TO
MINOR INJURIES TO 1-8.

1967- SAME AS 1966 OR BETTER

PRODUCTIVITY:

1966 - GOAL 67%

1967 - INCREASE TO 67.85%

OVERTIME:

1966 - GOAL 7.6%

1967 - DECREASE GOAL TO 6.4%

MAINT. STD:

1966 - GOAL \$2,142,000

1967 - GOAL \$2,003,216

1966-EST. \$1,968,436

1967-GOAL \$2,003,216

CBY 1118744

RSV0032821