



ESCAMBIA PLANT

INTEROFFICE MEMORANDUM

To: Mr. T. L. Carey

Date: March 12, 1973

From: A. K. McMillan

Copies:

Re: Monthly Report
February, 1973

Four new production records were set for a 28-day monthly operating period - 83% AN, Prills, Urea, and PVC.

An internal leak developed in the ammonia plant methanator preheater exchanger allowing carbon oxide rich gas to by-pass into the process gas stream. This results in a production decrease from higher synthesis purge and hydrogen efficiency losses in the shift converter and methanator stages. The production loss is gradually increasing and is approaching 20 tons/day. Ammonia inventory will be built up by March 19 at which time a four-day plant shutdown will be taken. Several other problems with which we have been living for several months will also be taken care of at this time. These include a leak in the process gas line, two exchanger bundle leaks, valve replacements, and several steam leaks. A minimum unfavorable variance difference would be generated if the plant were kept operating until the shutdown (it is not likely that this is possible). Amines will not be affected by the outage as ammonia purge gas is not needed until March 22-24. Urea and the No. 1 Nitric Acid Plant will be down due to CO₂ and purge gas availability from Ammonia. Expansion joint repair, tail gas preheater replacement, and catalyst gauze change will be done during the outage.

Nitric Acid production was 17,111 tons with no outage this month. An extremely favorable variance of \$51,366 was generated, and included a credit from the over-accrual for the steam turbine repairs on the Elliott compressor train.

Prill shipments were 18,978 tons or 1,883 tons above budget. Urea shipments were 9,803 tons, the majority of this resulting from the export shipment of 6600 tons of U-30 this month. The latest forecasts indicate that at the maximum predictable nitric acid production we will now have excess prill capacity in May and June due to insufficient 83% AN. This was brought about by excellent production and sales in February and the sale of 50 tons/day of 57% nitric from the next 100 days to Monsanto. The 83% AN inventory was reduced 3,700 tons this month to 15,915 tons at month end. Month end prill inventory was 8,035 tons.

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Amines volume this month (4,941 M lbs.) was below standard due to a short month which resulted in unfavorable volume variance but was more than offset by lower spending. DIBA production rate improvements are expected by Laboratory, Production, and R&D efforts. Production rate limitations are attributed to NPOH impurities in the IBOH which results in difficult to separate PIBA and imine by-products in the DIBA. IBOH will be stripped to remove the NPOH before being fed into the system and an additional separation column will be used in the train to separate the high boiling impurities. Low volume shipments of MMA held total methylamines production to slightly over budget. TMA inventory is still tight with shipments this month balancing production. Total Amines inventory decreased from 15,670 M lbs. to 14,422 M lbs. by month end.

The original scheduled shutdown for March in conjunction with Wyandotte's outage was taken on a semi-crash basis on February 18, 1973 due to an unexpected shutdown by Wyandotte. The ADNT separator was repaired in place rather than being removed which shortened the shutdown two days. Shipments this month were 5,586 M lbs. The DNT Pasadena personnel transfers were completed by February 26.

Concentrated acid production only exceeded usage this month by 579 tons including the 4 days when the DNT plant was down. Daily DNT usage is equal to the maximum daily capacity of the SAC unit. Concentrated acid inventory will be built up to required operating level by a 1,000 ton purchase.

PVC production was 5,178 M lbs. as compared to the 4,821 M lb. budget. Month end PVC inventory was 441 M lbs. Shipments this month totalled 5,272 M lbs. Fourteen charges were made in No. 10 stainless steel reactor to evaluate reaction rates at various levels of P-16 catalyst. The catalyst tests in the glass reactor were so erratic that definite conclusions cannot be obtained. Further work will continue when more P-16 is purchased. The RFE to install a 3700 gallon stainless steel reactor was revised in February to include refrigeration. The new rototherm shell for chemical cleaning is being expedited and will be delivered in 4 - 5 weeks.

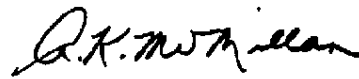
Mr. C. Stevens of the Florida Department of Pollution Control regional office visited the plant to review "Air Permits". The FDPC has requested compliance schedules be submitted by March 15, 1973 on our facilities. However, they have issued only those air permits which they consider to be definitely in compliance and have taken no action on the balance of the permits to indicate where compliance schedules are needed and what standards apply. The FDPC has not taken required action on these permits and is reacting to pressures from the EPA to meet submittal

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dates specified in the federal law. The purpose of our meeting was to review and explain the permits. In spite of FDPC procrastination we will have to submit required compliance schedules within the next week or so.

Mr. Charles Sever, an EPA hydrologist, visited the plant at month end to study the groundwater contamination problem. He verbally recognized the complexity of this problem. He will review his data with the EPA group that sampled and studied our effluent control system and will probably present recommendations in a report sometime in March.

Variance for February was \$79.0M favorable versus a budget of (\$25.9M) unfavorable. Year-to-date variance is \$267.5M favorable. March is projected at \$58.9M favorable versus the budget of \$51.9M favorable.



A. K. McMillan

Attachments (3)

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EXHIBIT I

PRODUCTION SUMMARY

	<u>February</u>		<u>Year to Date</u>		<u>March</u>		<u>Plant</u>
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>	<u>Estim.</u>	<u>Budget</u>	<u>Inven.</u>
<u>Agricultural</u>							
<u>Chemicals (tons)</u>							
Ammonia	7,270	7,133	39,826	38,434	6,885	7,678	2,354
Nitric Acid	17,111	14,499	82,233	77,802	16,500	16,110	496
83% AN	15,347	12,975	72,329	69,973	12,865	14,564	15,915
Bay-Sol	1,312	1,000	3,412	2,000	2,391	2,000	140
Prills	16,252	15,000	51,018	57,250	15,300	15,000	8,035
Urea	1,741	1,522	9,483	8,212	1,750	1,686	0
U-32	4,840	4,299	25,729	23,198	4,557	4,763	3,817
<u>Industrial</u>							
<u>Chemicals</u>							
Amines (M lbs.)	4,941	5,001	26,092	26,789	5,870	5,508	14,422
DNT (M lbs.)	6,515	7,000	41,282	37,750	8,000	7,750	1,915
<u>Plastics</u>							
PVC (M lbs.)	5,178	4,821	26,927	25,850	5,500	5,300	441

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EXHIBIT II
PRODUCTION VARIANCE SUMMARY

(Unfavorable)

	<u>February</u>		<u>Year to Date</u>		<u>March</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>	<u>Estim.</u>	<u>Budget</u>
<u>Agricultural Chemicals</u>						
Ammonia	(10.4)	(4.5)	44.8 ✓	3.8	(10.5)	4.8
Nitric Acid	51.4	(0.8)	84.6 ✓	9.6	33.8	11.3
83% AN	1.5	(3.7)	15.5 ✓	(2.3)	(9.3)	1.9
Prills	28.3	16.9	^{23.5} (24.3)	23.4	15.0	17.4
Urea	5.9	(1.2)	^{23.3} 22.6	0.3	3.0	1.3
Bay-Sol	<u>0.6</u>	<u>0.3</u>	<u>5.4</u> ✓	<u>(0.2)</u>	<u>1.0</u>	<u>1.8</u>
Total	77.3	7.0	148.6	34.6	33.0	38.5
<u>Industrial Chemicals</u>						
Amines	8.2	(12.5)	^{6.6-2.57} ^{12.07} (3.1)	(6.0)	7.0	6.5
DNT	<u>(13.8)</u>	<u>(9.4)</u>	<u>87.3</u> ✓	<u>(5.8)</u>	<u>9.4</u>	<u>3.6</u>
Total	(5.6)	(21.9)	84.2	(11.8)	16.4	10.1
<u>Plastics</u>						
PVC	(4.3)	(11.0)	^{42.4} (42.5)	(7.7)	3.5	3.3
<u>Overhead & Utilities</u>	<u>11.6</u>	<u>0</u>	^{77.4} <u>78.2</u>	<u>0</u>	<u>6.0</u>	<u>0</u>
GRAND TOTAL	\$79.0	\$(25.9)	\$267.5	\$15.1	\$58.9	\$51.9

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EXHIBIT III
VARIANCE SUMMARY
OVERHEAD AND UTILITY

() UNFAVORABLE

	<u>Actual Spending</u>	<u>Feb. Budget</u>	<u>Variance</u>	<u>Year to Date Variance</u>
Plant Administration	14,328	19,019	4,691	16,071
Engineering	9,962	9,959	(3)	4,137
Maintenance	12,383	13,229	846	(1,509)
Instrument & Electrical	5,704	6,608	904	4,219
Personnel	6,313	5,905	(408)	2,494
Safety	8,942	8,994	52	2,420
Purchasing	6,332	6,905	573	4,101
Warehouse	6,444	6,881	437	2,180
Equipment Pool	4,546	8,470	3,924	10,059
Process Development	1,958	5,396	3,438	6,990
General Yard	15,653	17,837	2,184	18,398
Electricity	--	--	518	4,038
Steam	--	--	4,131	16,120
Water	<u>19,763</u>	<u>9,357</u>	<u>(10,406)</u>	<u>(12,948)</u>
Total	\$112,328	\$118,560	\$10,881	\$76,770

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Plastics

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