Air Products and Chemicals INC.

ESCAMBIA PLANT

INTEROFFICE MEMORANDUM

To: R. E. Jones

Date: 13 July 1976

Copies:

From: W. J. Stueben

Re: Monthly Report - Safety Dept. - June 1976

A new plant ambulance was placed in service on 10 June 1976. The Dodge Maxivan we now have, replaced a 1969 Plymouth Belvedere station wagon and has the room to handle almost any emergency we could have in the plant.

Plans for the new dispensary building were approved in June 1976. The building will house the guards, nurse and the safety offices. It will place the dispensary at the edge of the plant property instead of in the middle of the plant.

Officer Lee Tubbs of the Florida Marine Patrol was made available for safety meetings. Officer Tubbs has his own television show and is well known throughout the community. He spoke to approximately 80 people.

A Safety Orientation Meeting was given to the group of engineers who will be part of our startup support at St. Gabriel. The session was given by the Safety Engineer at the request of J. McMakin.

Inputs were also made in the following areas: Nitric Acid Plant failure, Hell's Corner revision, mercury sampling in the shops, loading procedures, oxygen deficiency instrumentation, first aid training, PVC expansion, fire crew training, St. Gabriel plant safety programs, plant insurance requirements, OSHA inspection followup and Safety Supervisor training.

William J. Stueben

William J. Stueben
Safety Engineer

AP00041845

MONTHLY REPORT

July, 1976

CHEMICALS GROUP
ESCAMBIA PLANT

AP00041846

MONTHLY REPORT

July, 1976

CHEMICALS GROUP
ESCAMBIA PLANT

RECEIVED
AUG 26 1976
W. R. SCHOFIELD

AP00041847

Air Products and Chemicals INC.

ESCAMBIA PLANT

INTEROFFICE MEMORANDUM

To: Mr. A. K. McMillan Date: 9 August 1976

Copies:

From: R. E. Jones

Re: Monthly Report - July, 1976

Pace operations for July were generally good except for Amines. Hot weather coupled with severe electric storms early in the month contributed to plant problems. Four separate power failures caused by heavy lightning in the area caused outages in No. 1 Nitric Acid, "B" Area and both Amines plants.

Ammonia production was 7,366 tons or 94% of standard with an overall gas efficiency of 43.2 MM BTU/ton (Budget 45.4). Operating emphasis has been to improve plant reliability and efficiencies rather than throughput. Restrictions were placed on reformer firing to improve onstream time and to reduce waste heat boiler silica fouling. This program has been successful thus far in generating large positive variances offsetting negative volume effects.

July values will continue to reflect the effects of this program. Use of once-through well water for primary loop cooling will be evaluated since the effluent treatment system is operating very well during the hot summer months and is capable of handling the added volume. Waste heat boiler fouling by silica is still under control with the plant actually having a net steam export.

Nitric Acid production continued better than budget at 17,215 tons versus a standard of 14,706 tons. A total of 39 hours of downtime was incurred by the No. 1 acid plant due to the four power outages. A vital controller which activates the trip-out interlock switch was found to be operating on the plant 110 volt system. The loop has been rewired to the emergency power system and should prevent further trips due to power "dips".

Some control problems still exist with using the Masar refrigeration compressor discharge for ammonia feed for the gauze. Additional instrumentation equipment has been located and will be installed during the next scheduled outage.

Ammonium nitrate area production continues well in excess of budget due to the extended fertilizer season. Monthly production figures are presented below:

AP00041848

	July		Year to Date	
	Actual	Budget	Actual	Budget
83% A.N.	19,601	11,333	153,021	174,763
Prills	14,693	8,759	135,781	139,030
Urea	1,896	966	17,540	15,969
Urea Solution	4,980	2,643	49,666	41,248
Bay-Sol	47	506	2,916	12,330

As can be seen, due to the late season sales, year-to-date budget production levels are close to being achieved in the prill area. Continued good ammonia plant availability is also allowing urea and urea solutions to exceed budget levels. It is expected that production volumes will continue at above budget rates in these areas.

PVC production continued above budget at 6,891 M lbs. (101.7% of budget). An additional 73M lbs. was lost due to startup after the scheduled June outage for project tie-in work. Off-grade production continues low at 0.36% of total production. VCl efficiency continues good at 95.9% as compared to budget of 95.5%.

Personnel monitoring improved for July with 92% of 8-hour TWA's below 1 ppm and 96% of 15-minute TWA's less than 5 ppm.

Methanol production for July was much improved with 3,406 M gallons produced (130% of budget) in spite of 4 power outages and 3 unscheduled reformer outages for tube repairs. More conservative reformer operating restrictions have been effected to improve plant reliabilities. Augmenting the favorable volume effect, efficiencies and spending variances were also favorable. August should continue to exhibit these generally improved trends in methanol operation.

Amines production was very erratic during July as a result of the almost continuous power outages during the first of the month coupled with the very hot weather experienced late in the month.

Methylamines production continues below budget levels both in volume and efficiencies. Power outages during the month caused production interruption totalling four days with subsequent losses in yields and volumes. A total of 1.1 MM lbs. of MMA was recycled across the catalyst in July as a result of full inventories. At month end additional storage was made available and Carbide specification material production was resumed. By August 8 all available storage will be full and 1.5 MM lbs. of Carbide specification MMA will be in inventory. Recycle of MMA will then be required. Additional TMA storage is also being prepared and full inventories of this material is expected by mid-August at which time the plant will be changed over to ethyls production.

AP00041849

In addition to the plant outages resulting from the early month power failures, other operating difficulties were encountered which contributed to the plant's overall poor performance. By-product methanol produced during DMF production was charged to the plant for a period of 10 days during which time "oils" from the process layered out in the TMA separation column causing periodic upsets and production of off-specification TMA. This material which had to be recycled amounted to about 800,000 lbs. Because of plant instabilities at this time an additional 200,000 lbs. of DMA production was lost. The DMF methanol has been since eliminated as methylamines feed and has been diverted into the methanol plant distillation for recovery.

Other problems associated with hot weather include high vent rates from the high pressure scrubber and higher vapor losses from storage. New high pressure water pumps to reduce the process vent losses have been ordered and will be installed in September of this year prior to the next scheduled methyls run.

The No. 2 Amines plant produced ethyls all month with many of the same problems experienced by the No. 1 plant resulting from the power outages experienced early in the month. Not enough columns are available in the No. 2 plant to produce DEA continuously, therefore 95% DEA material is accumulated for purification in the 72" batch still. Since the still was in DMF production for 75% of the month, very little DEA was produced. This material amounting to 600M lbs. will be recovered in August with a resulting improvement in both volume and yield effects.

Rates in the No. 2 plant have been lower than budget due to reaction heat restrictions. At month end budget rates were being achieved. However, plans are for conversion to MIPA in mid-August and budget levels of this product are readily attainable in the No. 2 plant.

The effluent treatment system continues to perform excellently with Total-N discharges averaging below 500 lbs. for the third straight month. No amines wastes are included in these values.

Preliminary construction work was begun on the final NPDES effluent project after Executive Board approval in mid-July. Work is proceeding to permit attainment of final levels by January 1, 1977.

August performance for the plant should continue to show effects of the improved operations in ammonia and methanol. A reduction in sales demands in ammonium nitrate should reduce production volumes to normal levels. A 10-day outage has been scheduled in prilling to install the stainless steel lines in the reclaim area.

AP00041850

PVC is expected to continue at budgeted rates and efficiencies. Amines will have two outages for product changeover due to delays in St. Gabriel startup. Improvements in product rates and yields have already been made and are expected to continue through August.

R. E. Jones

REJ:fls

Attachments (5)

AP00041851

Air Products and Chemicals inc.

ESCAMBIA PLANT

COST VARIANCE SUMMARY
$(000)

Period Reported JULY, 1976
(Revised Aug. 9, 1976)

ITEM	AGRICULTURAL							Inbound		POLY VINYL CHLORIDE	INDUSTRIAL CHEMICALS					TOTAL ESCAMBIA PLANT
	Ammonia	Nitric Acid	83% AN Solution	AN Prills	Urea	UAN Solution	Bay Sal	Ammonia Other	Total		Methanol	Methyl Amines	Higher Amines	Idle Plant	Total	
PRODUCTION - BUDGET	8,382	10,470	11,333	8,759	966	2,643	506	-----	43,059	6,777	2,630	8,035	3,240	-----	13,905	-------
- ACTUAL	7,366	17,215	19,601	14,693	1,896	4,980	47	4,614	70,412	6,891	3,406	4,962	1,878	-----	10,246	-------
ACTUAL VARIANCES																
A. PRODUCTION RELATED																
I. Raw Material Conversion	9	11	(23)	5	-	3	-	-	5	(12)	27	(96)	(34)	-	(103)	(110)
II. Volume																
Throughput	-	-	-	-	-	-	-	-	-	31	-	(73)	(93)	-	(166)	(135)
Contract	(16)	-	-	-	-	-	-	-	(16)	(4)	-	-	-	-	-	(20)
Offgrade	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	18
III. Spending (Var) (At Std. $/Unit)																
Labor	1	1	3	2	1	(1)	(1)	-	6	5	1	(8)	4	-	(3)	8
Maintenance Labor	58	6	1	(6)	-	(2)	1	-	58	(9)	1	14	(14)	-	1	50
Maintenance Material	17	3	1	4	3	-	1	-	29	(7)	1	13	(12)	-	2	24
Utilities	8	13	10	13	2	-	-	-	46	(8)	14	(18)	(3)	-	(7)	31
Other	(4)	(4)	4	16	3	-	-	13	28	23	(5)	21	12	-	28	79
Total Spending	80	19	19	29	9	(3)	1	13	167	4	12	22	(13)	-	21	192
IV. Spending (Rate)																
Facility Services & Overheads	(4)	-	2	1	-	1	-	-	-0-	-	1	3	3	-	7	7
Non-Facility Services & Overheads	3	2	1	1	1	-	-	-	8	4	4	2	2	-	8	20
Depreciation, Taxes, & Insurance	8	3	-	1	-	-	-	-	12	(7)	3	(8)	3	-	(2)	3
Labor, Salaries, Fringes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Spending (Rate)	7	5	3	3	1	1	-	-	20	(3)	8	(3)	8	-	13	30
TOTAL PRODUCTION RELATED VARIANCES	80	35	(1)	37	10	1	1	13	176	34	47	(150)	(132)	-	(235)	(25)
B. V. Purchase Price Variances																
Raw Material	(45)	-	-	1	-	-	-	(225)	(269)	(3)	(65)	(26)	(35)	-	(126)	(398)
Purchased Utilities	(43)	(3)	(7)	(6)	(1)	-	-	-	(60)	(10)	(85)	(27)	(17)	-	(129)	(199)
Feedstock Mix	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (Maint. Mat'l, op. sup's., etc.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Purchase Price	(88)	(3)	(7)	(5)	(1)	-	-	(225)	(329)	(13)	(150)	(53)	(52)	-	(255)	(597)
C. VI. Business Variances																
Volume	-	37	11	25	10	3	(8)	5	83	(27)	146	54	42	-	242	298
Systems Variance	-	-	-	-	-	-	-	-	-	18	-	-	(19)	-	(19)	(1)
Other	-	-	-	-	-	-	-	-	-	-	-	(44)	-	-	(44)	(44)
Total Business Variances	-	37	11	25	10	3	(8)	5	83	(9)	146	10	23	-	179	253
TOTAL PRODUCT COST VARIANCE FROM STD.	(8)	69	3	57	19	4	(7)	(207)	(70)	12	43	(193)	(161)	-	(311)	(369)
BUDGETED VARIANCES																
D.VII. Budgeted Variances from Standard																
Raw Material Cost	(6)	-	-	-	-	-	-	-	(6)	(56)	-	-	-	-	-	(62)
Purchased Utilities Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volume	17	(62)	(19)	(29)	(12)	(2)	(5)	-	(112)	19	45	-	7	-	52	(41)
Spending	-	-	-	-	-	-	-	-	-	(3)	-	-	-	-	-	(3)
Systems	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	15
Total Budgeted Variance	11	(62)	(19)	(29)	(12)	(2)	(5)	-	(118)	(25)	45	-	7	-	52	(91)
VARIANCE FROM BUDGET																
VIII. Variances from Budget																
Production Related	63	35	(1)	37	10	1	1	13	159	18	47	(150)	(139)	-	(242)	(65)
Purchased Price Related	(82)	(3)	(7)	(5)	(1)	-	-	(225)	(323)	43	(150)	(53)	(52)	-	(255)	(535)
Business Related	-	99	30	54	22	5	(1)	5	212	(24)	101	10	23	-	134	322
TOTAL VARIANCES FROM BUDGET	(19)	131	22	86	31	6	(2)	(207)	48	37	(2)	(193)	(168)	-	(363)	(278)

AP0041852

Air Products and Chemicals INC.

ESCAMBIA PLANT

COST VARIANCE SUMMARY
$(000)

Period Reported JULY Y-T-D

ITEM	AGRICULTURAL: Ammonia	Nitric Acid	83% AN Solution	AN Prills	Urea	UAN Solution	Bay Sol	Inbound NH3	Total	POLY VINYL CHLORIDE	INDUSTRIAL CHEMICALS: Methanol	Methyl Amines	Higher Amines	Idle Plant	Total	TOTAL ESCAMBIA PLANT
PRODUCTION - BUDGET	80,608	155,070	174,763	139,030	15,969	41,248	12,330	11,804	652,892	62,430	21,290	30,704	52,119	-	112,113	---
- ACTUAL	73,607	136,516	153,021	132,781	17,540	45,841	2,916	32,608	597,560	60,890	24,025	22,770	50,085	-	96,880	---
ACTUAL VARIANCES																
A. PRODUCTION RELATED																
I. Raw Material Conversion	2	6	164	59	-	(1)	3	-	233	(15)	38	(293)	695	-	440	658
II. Volume																
Throughput	(40)	-	-	-	-	-	-	-	(40)	62	-	(347)	(257)	-	(604)	(582)
Upstream	(128)	-	-	-	-	-	-	-	(128)	(76)	-	(60)	(29)	-	(89)	(287)
Offgrade	-	-	-	-	-	-	-	-	-	51	-	-	-	-	-	51
III. Spending (Use) (At Std. $/Unit)																
Labor	7	1	1	58	4	(2)	2	-	71	59	89	(24)	8	-	4	134
Maintenance Labor	(16)	10	9	(4)	(5)	(2)	8	2	2	-	72	5	(53)	-	24	26
Maintenance Material	(62)	(42)	16	(15)	(3)	(3)	3	1	(105)	(68)	(55)	(5)	(86)	(1)	(146)	(319)
Utilities	(32)	151	15	122	8	-	1	-	265	(5)	(211)	(16)	233	(1)	5	265
Other	43	39	38	105	23	3	-	33	358	165	(88)	19	214	-	145	668
Total Spending	(50)	159	73	346	27	(4)	14	36	591	151	(262)	(21)	317	(2)	32	774
IV. Spending (Rate)																
Facility Services & Overheads	(23)	3	19	10	1	1	-	-	11	10	19	14	50	-	83	104
Non-Facility Services & Overheads	18	9	3	7	3	-	-	-	40	30	28	10	18	-	56	126
Depreciation, Taxes, & Insurance	99	36	35	8	-	-	-	-	178	(36)	16	10	54	(20)	60	202
Labor, Salaries, Fringes	-	-	-	-	-	-	-	(1)	(1)	-	-	-	-	-	-	(1)
Total Spending (Rate)	94	48	57	25	4	1	-	(1)	228	4	63	34	122	(20)	199	431
TOTAL PRODUCTION RELATED VARIANCES	(126)	213	294	430	31	(4)	17	35	890	177	(161)	(687)	848	(22)	(22)	1,045
B. V. Purchase Price Variances																
Raw Material	(11)	1	-	11	-	-	-	(1,612)	(1,611)	234	(38)	(97)	86	-	(49)	(1,376)
Purchased Utilities	(9)	3	4	5	-	-	-	-	3	6	(41)	(17)	16	-	(42)	(33)
Feedstock Mix	-	-	-	-	-	-	-	-	-	-	-	-	(243)	-	(243)	(243)
Other (Maint. Mat'l, op. sup's., etc.)	-	-	-	-	-	-	-	-	-	(1)	-	-	12	-	12	11
Total Purchase Price	(20)	4	4	16	-	-	-	(1,612)	(1,608)	239	(79)	(114)	(129)	-	(322)	(1,641)
C. VI. Business Variances																
Volume	-	(163)	(43)	127	61	15	(65)	7	(61)	(231)	155	41	98	-	208	26
Systems Variance	-	-	-	-	-	-	-	-	-	147	-	-	(39)	-	(39)	108
Other	-	-	-	-	-	-	-	-	-	(5)	-	(44)	(116)	-	(160)	(165)
Total Business Variances	-	(163)	(43)	127	61	15	(65)	7	(61)	(89)	155	(3)	(63)	-	89	(31)
TOTAL PRODUCT COST VARIANCE FROM STD.	(146)	54	255	573	92	11	(48)	(1,570)	(779)	407	(85)	(804)	656	(22)	(255)	(627)
BUDGETED VARIANCES																
D.VII. Budgeted Variances from Standard																
Raw Material Cost	40	-	-	-	-	-	-	(1,273)	(1,133)	170	-	-	-	-	-	(963)
Purchased Utilities Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volume	64	117	35	125	21	6	2	-	370	(37)	(200)	(12)	9	(4)	(207)	126
Spending	-	-	-	-	-	-	-	-	-	6	-	-	-	(8)	(8)	(2)
Systems	-	-	-	-	-	-	-	-	-	141	-	-	-	-	-	141
Total Budgeted Variance	104	117	35	125	21	6	2	(1,273)	(763)	280	(200)	(12)	9	(12)	(215)	(698)
VARIANCE FROM BUDGET																
VIII. Variances from Budget																
Production Related	(190)	213	294	430	31	(4)	17	35	826	208	(161)	(575)	839	(10)	(7)	1,087
Purchased Price Related	(60)	4	4	16	-	-	-	(439)	(475)	119	(19)	(114)	(129)	-	(322)	(678)
Business Related	-	(280)	(78)	2	40	9	(67)	7	(367)	(200)	355	(3)	(63)	-	289	(276)
TOTAL VARIANCES FROM BUDGET	(250)	(63)	220	448	71	5	(50)	(397)	(16)	127	115	(792)	647	(10)	(40)	73

AP0041853

PRODUCT COST VARIANCE STATEMENT 8/19/76

FORWARD REPORT

Facility Pace

M$ ( ) Unfavorable Variance from Standard

July, 1976

Period Year End FY1976

	Ammonia	Nitric Acid	83% AN	Prills	Urea/Sol.	Methanol	Amines	PVC	Total
Production (000)									
Budget	94,300	176,474	197,908	153,312	18,005	27,400	112,338	76,116	-
Actual	88,807	166,988	179,179	147,450	21,130	30,825	88,153	76,450	-
A. Production Related Variances									
I. Raw Material Conversion	7	13	186	62	2	44	374	(35)	653
II. Volume									
a) Throughput	(56)	-	-	-	-	-	(707)	112	(651)
b) Onstream	(122)	-	-	-	-	-	(89)	(84)	(295)
c) Offgrade	-	-	-	-	-	-	-	84	84
	(178)	-	-	-	-	-	(796)	112	(862)
III. Spending (Use) (at std. $/unit)									
a) Labor	8	2	4	57	2	18	(12)	49	128
b) Maintenance Labor	65	15	5	(24)	1	86	(58)	(5)	85
c) Maintenance Material	9	(37)	15	(35)	3	29	(100)	(73)	(194)
d) Utilities	(15)	171	19	119	9	(227)	223	(15)	284
e) Other	42	39	35	190	28	(106)	233	185	646
Total Spending (Use)	109	190	78	307	43	(200)	286	136	949
IV. Spending (Rate)									
a) Facility Services & Overheads	(25)	4	21	11	2	19	72	10	114
b) Non-facility Services & Overheads	24	9	3	7	3	28	28	34	136
c) Depreciation, Taxes & Insurance	113	38	35	8	-	18	78	(54)	236
d) Labor, Salaries, Fringe	-	-	-	-	-	-	-	-	-
Total Spending (Rate)	112	51	59	26	5	65	178	(10)	486
TOTAL PRODUCTION RELATED VARIANCES	50	254	323	395	50	(91)	42	203	1,226

AP0004 1854

PRODUCT COST VARIANCE STATEMENT

FORWARD REPORT

8/19/76

Pace
Page 2

M$ ( ) Unfavorable Variance From Standard

July, 1976

Year End FY1976

	Ammonia	Nitric Acid	83% AN	Prills	Urea/Sol.	Methanol	Amines	PVC	Total
B. V. Purchase Price Variances									
a) Raw Material	(101)	1	-	11	-	(168)	(34)	198	(93)
b) Purchased Utilities	(89)	3	4	5	-	(211)	(1)	6	(283)
c) Feedstock Mix	-	-	-	-	-	-	(243)	-	(243)
d) Other (maint. mat'l, op. sup., etc.)	-	-	-	-	-	-	12	(1)	1
Total Purchase Price	(190)	4	4	16	-	(379)	(266)	203	(608)
C.VI. Business Variances									
a) Volume	-	(147)	(68)	(23)	12	445	(106)	(237)	(124)
b) Systems Variance	-	-	-	-	-	-	(39)	176	137
c) Other	-	-	-	-	-	-	(234)	(5)	(239)
Total Business Variances	-	(147)	(68)	(23)	12	445	(379)	(66)	(226)
TOTAL PRODUCT COST VARIANCES FROM STANDARD	(140)	111	259	388	62	(25)	(603)	340	392
VII. Budgeted Variances from Standard									
a) Raw Material Cost	22	-	-	-	-	-	-	-	22
b) Purchased Utilities Cost	-	-	-	-	-	-	-	-	-
c) Volume	-	-	-	-	-	-	(1)	1	-
d) Spending	-	-	-	-	-	-	-	-	-
e) System	-	-	-	-	-	-	-	171	171
Total Budgeted Variances	22	-	-	-	-	-	(1)	172	193
TOTAL VARIANCES FROM BUDGET	(162)	111	259	388	62	(25)	(602)	168	199
a) Production Related	50	254	323	395	50	(91)	43	202	1,226
b) Purchased Price Variances	(212)	4	4	16	-	(379)	(266)	203	(630
c) Business Variance	-	(147)	(68)	(23)	12	445	(379)	(237)	(397

AP0041855

PRODUCTION SUMMARY

	July		Year to Date		August		Plant
	Actual	Budget	Actual	Budget	Estim.	Budget	Inven.
Agricultural Chemicals (tons)							
Ammonia	7,366	8,382	73,607	80,608	7,600	8,382	3,031
Nitric Acid	17,215	10,470	136,516	155,070	15,900	9,450	325
83% AN	19,601	11,333	153,021	174,763	17,700	10,090	1,729
Bay-Sol	47	506	2,916	12,330	90	920	0
Prills	14,693	8,759	135,781	139,030	6,000	5,451	1,730
Urea	1,896	966	17,540	15,969	1,850	1,136	31
U-32	4,980	2,643	45,841	41,248	4,300	2,643	2,245
Industrial Chemicals							
Amines (M lbs.)	6,840	11,846	73,165	93,621	7,560	11,680	14,716
Methanol (M gals.)	3,406	2,630	24,025	21,290	3,400	2,630	2,099
Plastics							
PVC (M lbs.)	6,891	6,777	62,820	62,439	6,850	6,777	2,747

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