CONOCO

Interoffice Communication

To R. D. Gamblin - Houston

From J. A. DeBernardi

Date January 27, 1982

Subject 1981 VCM Plant Objectives

Attached you will find a summary of the results obtained in 1981 related to the accomplishment of the subject objectives.

J. A. DeBernardi

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NAME: J. A. DeBernardi

PART A QUANTIT. E GOALS

	Results 1980	Objective 1981	Results 1981
SAFETY			
1. Have no lost-time injuries in 1981.	0	0	No lost time injuries in 1981.
2. Limit medical cases to three in 1981 assuming one plant turnaround during the year.	4	3	Five medical cases occurred in 1981.
3. Limit total injuries during plant turnaround period to four assuming one plant turnaround in 1981. During normal operation limit total injuries to 16.			
Normal Operations: Permanent	16	12	7
Casual & Temporary	2	4	1
Turnaround: Permanent	2	1	1
Casual & Temporary	3	3	7
	23	20	16
4. Deregulate the one remaining regulated area in the plant by December, 1981.	One regulated area deregulated	Remaining regulated area deregulated by December, 1981.	Deregulation of the remaining regulated area in the plant (T/C loading rack) occurred in December, 1981.
5. Fill the Safety Director position by March, 1981.	-	March, 1981	Safety Director, position filled June 1, 1981.
6. Complete slide/tape show for revised respiratory protection program by June, 1981.	-	June, 1981	This project was completed in December, 1981.
ENERGY			
1. Operate at an energy usaage rate during 1981 based on 609 MM lbs. of VCM production and one plant turnaround not to exceed 4,430 BTU/lb. of VCM production.	4,580.9 BTU/#VCM 10.3% reduction from 1972	4,430 BTU/#VCM 13.6% reduction from 1972	Energy usage was 4,965 BTU/lb. of VCM production representing a 3.09% reduction from 1972 base year. Results in this area were severly impacted by production cuts caused by poor market conditions.
Basis: Energy consumptions based on the adjusted CMA calculation basis.			
2. Establish use of light ends as monitor flame in the on-line vent gas incinerator on a continuous basis by June, 1981.	Light ends used on test basis. Not economical for use continuously 'till muriatic acid sales established	June, 1981	Intermittent usage of light-ends during 27% muriatic acid production runs accomplished. Continues to be uneconomical to use the material as a monitor flame if acid production can not be sold. Acid quality related to color prevents sale of all acid production to Reagent at this time. Light-ends will be used to produce quantity of 27% acid required by Reagent.
3. Define energy savings projects with potential energy savings totaling 200 MMM BTU/yr. Definition to include preliminary process design and cost estimate, and economic calculation.			704MMM BTU/yr. energy savings projects defined in 1981.
4. Impliment a formal evaluation system for energy savings projects installed in the process, as well as a monitoring system to assure long term effectiveness of the projects.			Evaluation and monitoring system in place and in use in 1981.
5. Develop two economically attractive energy reduction projects. Include one project in the 1982 Capital Budget.	Two in 1981 Capital Budget	One in 1982 Capital Budget	Two economically attractive energy projects remained in 1982 Capital Budget following Houston review.

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PART A. QUANTITATIVE GOALS

	Results 1980	Objective 1981	Results 1981
PRODUCTION & COSTS			
1. Produce 609 MM lbs. of VCM as budgeted provided there are no external restrictions related to this rate (market conditions, raw material supply, natural gas supply).	608.2MM lbs. VCM	609 MM lbs. VCM	VCM production for 1981 totaled 465.6MM lbs. Market conditions severely limited production potential for the year accounting for essentially all of the production shortfall.
2. Meet budgeted variable cost efficiencies. (Price variances are excluded.)	($222.2M) Unfavorable	As budgeted	Efficiency variance for 1981 was unfavorable at $1.453M. This var. is composed of EDC/VCM negative $901M, Incinerator negative $552M. Major contributors to the negative var. in EDC/VCM area where processing supplies & utilities var. attributable to reduced prod. rates. Major negative contributor in the Incin. area was utilities caused by inability to produce sales grade acid for Reagent Chem.
3. Meet budgeted maintenance costs (one turnaround in 1980).	($567.8M) Unfavorable	As budgeted	Maint. cost variance for 1981 was favorable at $212.3M. Profitability improvement program in 1981 is the major contributor to this var. A negative var. in Maint. Materials detracted from maximum potential savings for the year.
4. Have recycle EDC by-pass project on line and successfully operating by March, 1981.	-	March, 1981	Project was in full operation in April, 1981. Energy audit of the project indicates it meets or exceeds economics presented for project approval.
5. Resolve problems related to muriatic acid sales specifications such that acid will be saleable by June, 1981.	Acid does not meet specifications	June, 1981	Reached agreement on 27% acid specs. with Reagent & began producing & shipping acid in 3rd Quarter. Project using carbon-bed to bring acid to sales grade quality was developed but has marginal economics related to risks. Carbon-bed project included in 1982 Capital Budget. Economics will be re-evaluated before submitting for approval.
6. Complete the 1981 plant turnaround on schedule and within budget.	T/A Time - 22 days T/A Cost - $994.1M	T/A Time - 19 Days T/A Cost - $1,124M	T/A schedule revised to 26 days due to expansion work and VCM market conditions. T/A completed in 22 days. T/A AFE'd for $963M. T/A cost was $229.9M in excess of AFE amount. Major contributor to the overrun was the maintenance material account.
7. Develop two economically attractive cost savings project. At least one project to be included in the 1982 Capital Budget.	Three in 1981 Capital Budget.		One project remained in the 1982 Capital Budget following Houston review.
PERSONNEL			
1. Maintain a non-union field and office workforce at the VCM Plant.	Non-represented status maintained	Maintain non-union workforce	Non-union status maintained in 1981. No organizational attempts since September, 1974.
2. Maintain a minority hiring rate that assures minority representation in the field workforce that is equal to or greater than availability statistics (1981 avail. stats. 20.5%).	Minority representation at 22.9%	20.5% Min.	Minority representation in field workforce at end of 1981 was 22.8%.
3. Maintain a female hiring rate of 25% into the field workforce.	Female hiring rate 25%	Female hiring rate of 25%	No permanent females were hired in 1981. One "other" category employee was hired in 1981 to fill an opening caused by resignation. At year-end have one female on temporary payroll leading to permanent employment to fill open position in Operations Department.
4. Recruit three Process Engineers into the plant organization in 1981 (1 female, 2 other)	Minority - 1 Other - 1	Female - 1 Other - 2	Five process engineers recruited in 1981. Four "other", one minority (female).
5. Establish and impliment a supervisor candidate identification program by June, 1981		June, 1981	Program was not completed in 1981.
6. Fill the approved plant Inspector position by March, 1981.	-	March, 1981	Inspector position filled April, 1981.
7. Provide supervisory training in non-union status maintenance to two supervisors.	Two supervisors attended training	Two supervisors to training course	One supervisor received non-union maintenance training in 1981.

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PART A. QUANTITATIVE GOALS

	Results 1980	Objective 1981	Results 1981
ENVIRONMENTAL CONTROL			
1. Operate the plant's secondary system within effluent concentration parameters (excluding system by-passes caused by heavy rains).	Four violation notices filed BOD_5 - 2 pH - 1 TSS - 1	No non-compliance reports filed.	Five non-compliance notices issued to EPA in 1981. All related to non-compliance with minimum pH level of effluent water.
2. Operate plant EPA-VCM emission control equipment with compliance factors as follows:			
a) Incineration System	99.62%	99.8%	99.82%
Oxy Vent	99.15%	99.5%	99.26%
Ship Loading Carbon Beds	100.0%	100.0%	100.00%
Steam Stripper System	99.66%	99.8%	99.95%
Vent Blower System	99.64%	100.0%	100.00%
b) No plant shutdowns are caused by incinerator system failures.	No plant shut-downs	No plant shut-downs	No incinerator failures caused a plant shutdown in 1981.
3. Complete new incinerator flame arrestor system and have on line by expiration of existing State vent variance on Direct Chlorination reactor vent	-	April, 1981	Flame arrestor systems were in operation during the 1st quarter of 1981 prior to expiration of variance issued by the State for the Direct Chlorination reactor vent stream.
4. Obtain the new NPDES water permit for the expanded VCM Plant by December, 1981	-	December, 1981	All required information and paper work was submitted to EPA on time. An extension of the plant's present permit was granted. Governmental and regulatory red-tape prevented attainment of a new permit in 1981.
MISCELLANEOUS			
1. Complete asset register review of EDC/VCM section of plant by December, 1981.	-	December, 1981	EDC/VCM section asset register review completed in 1981. Approximately $186M of obsolete equipment will be written off the asset register as a result of the review.

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PART B. STRETCH GOALS

	Results 1980	Objective 1981	Results 1981
ENERGY			
1. Develop two economically attractive energy reduction projects. Include both projects in 1981 Capital Budget.	Two in 1981 Capital Budget	Two in 1982 Capital Budget	Two projects remained in the 1982 Capital Budget following Houston review.
2. Define energy saving projects with potential energy savings totaling 400 MMM BTU/yr. Definition to include preliminary process design and estimate and economic calculation.			704MMM BTU/yr. energy savings projects defined in 1981.
PRODUCTION AND COSTS			
1. Produce 650 MM lbs. of VCM in 1981	608.2 MM lbs. VCM	650 MM lbs. VCM	VCM production for 1981 totaled 465.6MM lbs. Market conditions severely limited production potential for the year.
2. Attain a favorable maintenance cost variance of $300M	($567.8M) Unfavorable	$300M Favorable	Maintenance cost variance for 1981 was favorable at $212.3M.
3. Develop two economically attractive cost savings projects. Include both projects in 1981 Capital Budget.	Three in 1981 Capital Budget	Two in 1982 Capital Budget	One project remained in the 1982 Capital Budget following Houston review.

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PART C. NON-QUANTITATIVE GOALS

	Results 1981
1. Initiate program through Ponca City R&D to develop possible use of transfer line exchanger system on outlet of VCM cracking furnaces.	Initial contact and discussions with R&D were made. No serious development activities related to the project occurred during the year.
2. Review suggestions made by Energy Audit Group and outline program to impliment appropriate programs.	Suggestions and recommendations were reviewed and discussed. Those with merit and minimum risk were submitted in the plant's preliminary 1982 Capital Budget.
3. Review recordkeeping requirements of Federal and State environmental and OSHA laws and purge files of all materials not required to be held by law.	Progress made related to OSHA records. Purging of files of unnecessary materials began in late 1981. No action taken on Federal and State environmental records during the year.
4. Evaluate need and cost of changeover of plant warehouse accounting system to inventory system. If justified, impliment program to accomplish the changeover.	Minor evaluation work done in 1981. Basis of justification not developed durir year. Project for change over was not initiated.
5. Provide plant input and coordination related to design of grass roots PVC plant at Lake Charles location.	Two plant employees served on project team during 1981.
6. Provide one full time plant member to the plant expansion project team. Provide plant input and coordination of the project in a timely manner.	Two plant employees served on project team during 1981.