

TO	Distribution	AT		DATE	March 3, 1977
FROM	P. Scheiner	AT	Burlington	COPY TO	D. C. Coldiron J. K. Jacob J. P. Sandstedt E. V. Schenke C. G. Thompson File ESR - 1005
SUBJECT	WATER STRIPPER MEETING IN FLEMINGTON ESR - 1005				

A meeting was held in Flemington on March 2, 1977 to discuss the proposed design for the Water Stripper. Attending the meeting were the following:

J. T. Sweeney
W. Fogelsanger
R. Fanter

W. Hughes
E. Schwartz
P. Scheiner

1. W. Hughes presented a Process Flowsheet (SK-1) for review.
2. Feed storage requirements can be substantially reduced due to the elimination of the water fill technique for vessel entry. W. Hughes to reevaluate feed storage requirements.
3. The feed filtration problem was discussed at length. The potential for PVA formation could have a major impact on unit performance. R. Fanter is to collect water samples for evaluation.
4. The source of cooling water for the overhead condenser was discussed. Mr. Sweeney stated that well water may not be available. Mr. Hughes will determine the net effect of using river water for cooling.
5. The Stripper will utilize approximately 250 #/HR of steam. No interest was expressed in using flash steam for this service.
6. The Water Stripper Design will include a new Vacuum Pump (approximately 2 HP) and a new Booster Compressor. Mr. Sweeney stated that no additional capacity is available in the existing recovery compressors.
7. A nitrogen blanketing system will be used for the existing Barometric Tank and any new vinyl acetate receiver to be installed. This blanketing system will vent to the suction side of the new Vacuum Pump.
8. Mr. Hughes will review the possibility of eliminating the overhead receivers by dropping condensate directly to the existing Barometric Tank.
9. Another meeting will be set-up for next week to review the modified design.

P. Scheiner
P. Scheiner

PS/ib

CAR-1

T n n c Chemicals
CAPITAL APPROPRIATION REQUEST
SUMMARY *John Sanderson*

CAR NO

TYPE

01

DIVISION/
BUSINESS GROUP Polymers & Plastics LOCATION Burlington, N. J.TITLE EPA/OSHA SEALS FOR PUMPS

DIV.	RESPONSIBILITY	ASSET	ACCT.
5	1	0	8
4	2	0	0
4	4	1	

AUTHORIZATION IS REQUESTED TO EXPEND NEW FIXED CAPITAL OF \$ 92,500.00 FOR: retrofit of existing 21 pumps on MVC service with approved double mechanical seals. Included is the pressurization eqipt. and elec. warning & shut-down system. Please refer to attachments for further details.

FINANCIAL SUMMARY (THOUSAND DOLLARS)			AUTHORIZATION AMOUNT (THOUSAND DOLLARS)	
	FIRST YEAR MOS. 19	AT CAPACITY 19	REQUEST	BUDGET
NET SALES - UNITS ()	NOT APPLICABLE		FIXED ASSETS	\$92.5
- \$/UNIT			WORKING CAPITAL	NIL
- DOLLARS			OTHER ASSETS	NIL
NET OPERATING INCOME (BEFORE TAXES)			TOTAL NEW CAPITAL	\$92.5
CASH FLOW			TRANSFERRED ASSETS	NIL
BREAKEVEN VOLUME	NOT APPLICABLE		TOTAL PROJECT CAPITAL	\$92.5

RETIRED ASSETS* CADR. NO.

CADR ATTACHED ☐ YES ☐ NO (EXPLAIN)

*OTHER THAN RIK

PROFITABILITY				TIME SCHEDULE	MONTHS AFTER FINAL APPROVAL	LEAVE BLANK
	NEW CAPITAL	INCLUDING TRANSFERS	BUDGET			
AVERAGE ROI, %	NOT APPLICABLE			START OF EXPENDITURE	2 Mos	
DCF, %				COMPLETION OF EXPENDITURES	8 Mos	
PAYOUT, YRS				IN SERVICE DATE	8 Mos	
				PROJECT LIFE, Yrs	10 Yrs	

STRATEGY		PROJECT TYPE							
PRODUCT LINE	N/A	XX 01	EPA POLLUTION	04	DEFENSIVE / NON PROFIT	07	EXPANSION	99	OTH:
RETURN ON NET ASSETS EMPLOYED:		02	SAFETY/HEALTH INSURANCE	05	COST REDUCTION	08	R & D		
BEFORE PROJECT % AFTER PROJECT %		03	REPLACEMENT & REPAIR	06	NEW PRODUCT	09	ENERGY		describe
	(AT CAPACITY)								

DIVISION APPROVALS		STAFF REVIEW		CORPORATE APPROVALS	
	DATE		DATE		DATE
V.P./GENERAL MANAGER		DIRECTOR - ENGINEERING		PRESIDENT	
DIRECTOR - FINANCE		DIRECTOR - PROJECTS		EXEC. VICE PRESIDENT	
BUSINESS DIRECTOR		MGR. - GENERAL ENGINEERING		VICE PRESIDENT	
DIRECTOR - MARKETING		INDUSTRIAL HYGIENE		VICE PRESIDENT	
DIRECTOR - OPERATIONS		ENVIRONMENTAL PROTECT.		VICE PRESIDENT	
<i>P. Scarito</i> 3/7/77		SAFETY & LOSS PREVENT.		DIRECTOR - BUDGETS	
WORKS/PLANT MANAGER P.R. Scarito		ENERGY		DIRECTOR - CORP. PLANNING	
<i>A.C. Siegel</i> 3/7/77					
<i>A.C. Siegel</i> 3/7/77					
PREPARED BY N. J. Quist		PROJECT COORDINATOR			

90-2515 8-78

COLORITE 018269

ENVIRONMENTAL PROTECTION, ENERGY CONSERVATION
OSHA, SAFETY, LOSS PREVENTION, TOXIC SUBSTANCES

DIVISION/
BUSINESS GROUP Polymers & PlasticsLOCATION Burlington, N.J.TITLE EPA/OSHA SEALS FOR PUMPS

CAPITAL APPRO. No. _____

Define the implications of each requirement after discussing them with the appropriate Division/Corporate Manager of each discipline.

ENVIRONMENTAL PROTECTION

This project prevents loss of vinyl chloride into the atmosphere.

ENERGY CONSERVATION

This does not apply to this project.

OSHA, SAFETY, LOSS PREVENTION

This project is solely for the purpose of complying with regulations governing release of VCM to the environment, and the exposure of personnel to VCM.

TOXIC SUBSTANCES

Vinyl chloride.

INVESTMENT & DEPRECIATION DETAILS

DATE 3/7/77DIVISION /
BUSINESS GROUP Polymers & PlasticsLOCATION Burlington, N.J.TITLE EPA/OSHA SEALS FOR PUMPS

CAPITAL APPROP. No. _____

(THOUSAND DOLLARS)

FIXED ASSETS:

LAND

LAND IMPROVEMENTS

LEASEHOLD IMPROVEMENTS

BUILDINGS

MACHINERY & EQUIPMENT (MFG.)

POLLUTION FACILITIES

TRANSPORTATION EQUIPMENT

OFFICE FURNITURE & EQUIPMENT

LABORATORY FURNITURE & EQUIPMENT

OTHER

TOTAL NEW FIXED ASSETS

TRANSFERRED ASSETS

TOTAL PROJECT CAPITAL

NEW CAPITAL	DEPRECIATION RATE, %	ANNUAL DEPRECIATION
	0	0
\$92.5	10	\$9.25
\$92.5	10	\$9.25
NIL		
\$92.5	10	\$9.25

(A)

RETIREMENTS

GROSS BOOK VALUE	DEPRECIATION RATE, %	ANNUAL DEPRECIATION
0.0		0.0

(B)

NET ANNUAL DEPRECIATION (A) - (B)

\$9.25

(THOUSAND DOLLARS)

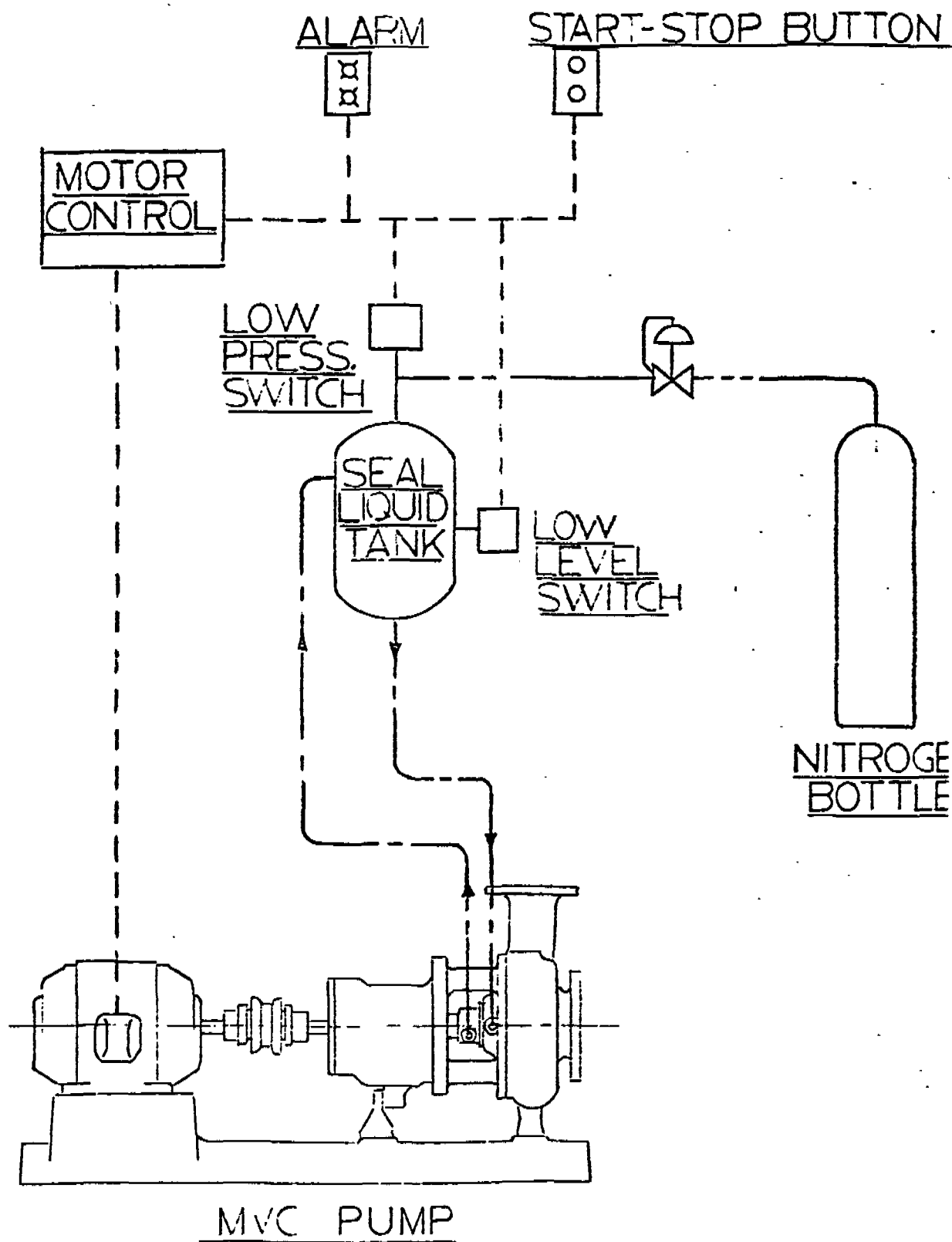
FIXED & WORKING CAPITAL EXPENDITURE ANALYSIS

	FIRST YEAR					2nd Yr.	3rd Yr.	4th Yr.	TOTAL
	1st. Qtr.	2nd. Qtr.	3rd. Qtr.	4th. Qtr.	TOTAL	19 78	19 ____	19 ____	
ACCOUNTS RECEIVABLE									
INVENTORIES									
LESS ACCOUNTS PAYABLE	0	15	30	40	85	7.5	0	0	92.5
TOTAL WORKING CAPITAL		0	0	0	0	0	0	0	0
TOTAL FIXED ADDITIONS	0	15	30	40	85	7.5	0	0	92.5
TOTAL FIXED & WORKING CAPITAL	0	0	0	0	0	0	0	0	0
CUMULATIVE	0	15	45	85	85	92.5	0	0	92.5

TENNECO ORGANICS & POLYMERS DIVISION PISCATAWAY, NEW JERSEY
 SUMMARY SHEET

TITLE EPA/OSHA SEALS FOR PUMPS

ITEM	DESCRIPTION	UNIT COST	SUBCON-TRACT	EST'D. LABOR	EST'D. MAT'L.	EST'D. TOTAL
1.	Seal Assemblies	\$850				\$17,850
2.	Pressure Pots	\$180				\$ 3,780
3.	Nitrogen Regulators	\$125				\$ 2,625
4.	Nitrogen Bottle Deposit	\$ 25				\$ 525
5.	Pipe Fittings	\$ 80				\$ 1,680
6.	Pressure Switch	\$140				\$ 2,940
7.	Liquid Level Sensor	\$180				\$ 3,780
8.	Alarm-Shutdown Readout	\$200				\$ 4,200
9.	Mech. Labor 16MH x \$18.75	\$300				\$ 3,360
10.	Shop O/Haul LAB. 8 x \$10	\$ 80				\$ 1,680
11.	Misc. Elec. Fittings	\$150				\$ 3,150
12.	Conduit & Wire	\$250				\$ 5,250
13.	Replacement Pump Parts	Not Included				
14.	Elec. Labor		\$750			\$15,750
15.	Spare Seals & Parts					\$ 5,000
	Land or Site Cost					
	Freight & Allowances					
	Construction Equipment for Job					
	Hand Tools & Materials for Job					
	Security Services					
	Legal Services					
	Outside Technical Services (Drafting)		20 M/Days @ \$145			\$ 2,900
	Sales Tax 5% on \$53,000					\$ 2,650
	Insurance					
	State & Local Permits					
	Temporary Office Help					
	Office Materials					
	Engineering (\$120/day/man)					
	Travel & Subsistence					
	Interest					
	Escalation LLM + Sub-contracts					
	SUB-TOTAL:					\$77,120
	CONTINGENCY: 20%					\$15,380
	SUB-TOTAL:					\$92,500
	OVERHEAD:					---
	GRAND TOTAL:					\$92,500
ESTIMATE NO.:		REVISION NO.:				
ESTIMATOR N. J. Quist				REMARKS:		
DATE: 3/3/77						
APP/ACCT. NO.:						
ESTIMATE RELIABILITY:						
CLASS: (A)		+10% - 5%				
B		+25% - 10%				



CAPITAL APPROPRIATIONS REQUEST

March 7, 1977

TITLE: EPA/OSHA SEALS FOR PUMPSI. NEED FOR PROJECT

The existing pumps handling vinyl chloride in liquid form are fitted with mechanical seals of the "single" design. The normal leakage through single seals ranges between 100 & 1,000ppm, whereas the OSHA limit is 10ppm. To achieve this low level, the pumps must be retrofitted with "double" mechanical seals, complete with pressured barrier fluid supplied by an individual pressure pot.

II. SCOPE OF PROJECT

A total of 21 pumps require retrofit, using seals that have been tested and approved by Engineering for compliance with the OSHA limits. The following list of pumps is covered:

<u>Item #</u>	<u>Description</u>	<u>Quantity</u>
41202	Monomer Transfer--Goulds	1
41206	Monomer Transfer--Goulds	1
41205	Vaporizer Feed--Peerles	1
41207	Vaporizer Feed--Goulds	1
41306	Copolymer Reactor Charge--Goulds	2
41340	Copoly. Recovered Monomer Recirc.-- Goulds	1
41103	Copoly. Recovered Monomer Charge-- Goulds	1
41335	PVC Recovered Monomer Charge--Goulds	1
41323	Plast. Recovered Monomer Charge-- Goulds	1
41329	PVC Monomer Charge--Goulds	1
41326	Plast. "A" Fume Scrubber--Goulds	1
41828	Plast. "B" Fume Scrubber--Goulds	1
41804	Homogenization Feed "A"--Goulds	1
41805	Homogenizing "A"--Si-Hi	3
41825	Homogenization Feed "B"--Goulds	1
41826	Homogenizing "B"--Si-Hi	3

COLORITE 018274

March 7, 1977

II. SCOPE OF PROJECT (Continued)

In addition to the new seals themselves, the following auxiliaries form part of the installation:

- (1) Pressure pot, approx. 3 gallon capacity for use with glycol/glycerine/water barrier fluid and nitrogen pad.
- (2) Nitrogen bottle w/regulator, or equivalent supply, to apply controlled pressure to the pressure pot.
- (3) Pressure switch and liquid level sensor, both mounted on the pressure pot, to shut down the pump in event of loss of either nitrogen pressure or barrier fluid level.
- (4) Alarm system tied to the pressure switch and to the liquid level sensor above, to alert the operators to the failure or impending failure, and thus minimize the number and size of monomer releases from failed seals. The alarm will be in the form of a running light and located in the operators' area.

III. ALTERNATIVES

No alternative to the use of double seals is known at this time.

IV. PROJECT POSTPONABLE

NO.

V. PROJECT TIMING

Compliance with VCM Regulations require that purchasing of the retrofit seals begin on April 1, 1977, and that the project be complete on February 1, 1978.

N. J. Quist

NJQ:pjd
3/7/77