

INTER-OFFICE MEMO

TENNECO CHEMICALS, INC.

TO S. R. Sheeran

AT Saddle Brook

DATE October 28, 1975

FROM W. P. Anderson

AT Saddle Brook

COPY TO

SUBJECT VINYL CHLORIDE MONOMER REDUCTION - NEW JERSEY PVC PLANTS

You asked that I look into this program and give you my estimate on the probability of success. A second question concerned the possibility of building a new Shin-Etsu type facility to replace existing capacity at the Burlington Site.

I have gone over the engineering projects on the list attached with Dr. Lobo, Mr. Miringoff and other engineers. The opinions which follow are subjective judgements since I have not attempted to review the engineering in detail but have assumed that the various projects will accomplish their individual objectives.

I believe the substitution is out of the question for the foreseeable future for the reason that we do not know how to make dispersion polymer or suspension copolymer in the Shin-Etsu systems. These are targets for Research and Development projects but there is no assurance of success now.

The EPA and OSHA regulations are, as you know, separate but closely related matters. As a general statement I think it will be much easier to meet the EPA than the OSHA limits. My reasons are these:

1. EPA Regulations contain point source emission limits and specify certain practices. With the exception of the 2000 ppm limit for vinyl chloride on resin in dispersion slurry, the limits are based on demonstrated technology hence have been achieved somewhere, somehow.
2. The EPA Standards describes maintenance procedures, etc. but do not contain numerical limits for fugitive emissions.
3. OSHA on the contrary fixes a maximum vinyl chloride level in the ambient air without regards to its source.
4. EPA compliance date is at least two years further away than OSHA's.

The monitoring data I have seen shows a background not too far above the required level but show quite a few excursions some fairly high for both our plants. The excursions in general seem to be the result of accidents, leaks, errors, etc.

I think the engineering program offer a fairly high degree of assurance of meeting the EPA standards with the possible exception of the dispersion resin slurry limit. That limit of 2000 ppm depends at this time on success with the Fryma or some other as yet unknown technique.

October 28, 1975

I am less confident of meeting the OSHA 1 ppm time-weight average by April 1976. This is primarily because I think the excursions will have a substantial bearing on the OSHA limit but relatively little on the EPA limits.

I believe the odds of meeting OSHA limits are better at Flemington than at Burlington. The rationale for this opinion is the relative size and complexity of the two plants and my belief that a leak, spill, or other excursion at one of the units at Burlington can have some impact on the background for the other units. As a result I think a generally higher standard of operations and maintenance practices will be required at Burlington.

I am attaching to this memo a list of the VCM oriented projects obtained from Dr. Lobo. I have classified these as.

1. OSHA - that is, those primarily intended to reduce VCM in the work place but not necessarily contributing to a reduction of total emission of VCM.
2. EPA - those projects intended to reduce a total VCM emission from the plants of having little bearing on the VCM levels in the work place.
3. Joint - those which contribute substantially to both OSHA and EPA compliance.

W. P. Anderson

WPA:DJH
Enclosure

COSTS ARE \$1000

COLORITE 007809

VCM COMPLIANCE PROGRAM

COSTS ARE \$X1000

	PROJECT CLASSIFICATION		
	OSHA	TOUST	EPA
<u>FLEARNINGTON PLANT</u>			
1. INSTALL CANNED PUMPS (PUMPS BEING SELECTED)	"	100	
2. ISOLATE CONTROL BOARD & BUILD CLEAN ROOM (IN DESIGN)	255		
3. DEVISE REACTOR PURGE SYSTEM (A DESIGN UNDER TEST)		150	
4. IMPROVE LABORATORY VENTILATION	50		
5. INSTALL COMPUTER FOR MONITORING SYSTEM (LEASE COMPUTER @ \$90M-CYR SUBMITTED)		85	
6. EXTEND DRYER STACKS (IN DESIGN)	94		
7. PROVIDE MEDICAL FACILITY (UNDER CONSTRUCTION)	15		
8. PROVIDE MAINTENANCE DECONTAMINATION FACILITY (DESIGN COMPLETE)	25		
9. ISOLATE VCM RECOVERY COMPRESSOR AND VENT TO A CONTROLLED POINT	20		
10. ELEVATE VENT FROM WATER SUMP (DONE)	10		
11. INSTALL CARBON ADSORPTION UNIT			500
12. STRIP POLYMER RESIN (PROCESSING BE TESTED IN PLANT)			200
13. IMPROVE VCM UNLOADING FACILITIES			40
14. MODIFY BLEND TANK AGITATOR SEALS (DESIGN COMPLETE)		25	
15. DEVISE A CLOSED REACTOR OPERATION		175	
16.			

VCM COMPLIANCE PROGRAM

COSTS ARE \$X1000

	PROJECT CLASSIFICATION		
	OSHA	TOUST	EPA
16. RECOVER VINYL ACETATE FROM WATER (PROCESS DESIGN COMPLETE - THIS NOT A PART OF THE VCM REDUCTION BUT DUE TO NEIGHBORHOOD COMPLAINTS)			200
17. DISPOSAL SCHEME FOR CONTAMINATED RESIN		150	
18. IMPROVE VENTILATION IN PILOT PLANT (IN DESIGN)	100		
19. INCREASE CAPACITY PLANT ELECTRICAL DISTRIBUTION SYSTEM		100	
20. INCREASE TOWER CAPACITY		100	
21. EXHAUST SYSTEM TO HANDLE FUGITIVE LEAKS	300		
22. REACTOR AREA VENT SYSTEM AND STACK (IN DESIGN)	125		
23. IMPROVE GAGES ON VCM TANKS (DONE)	14		
24. INSTALL BREATHING AIR SYSTEM (DONE)	2		
25. INSTALL VCM MONITORING SYSTEM (DONE)		410	
26. OSHA ORIENTED PRODUCTS INCLUDED IN FLUORINATION CONVERSION (DONE)	493		
27. WASH WATER STRIPPING TO REMOVE VCM			100
28. MISCELLANEOUS MODIFICATIONS	26		
29. TOTALS	1529	1245	1040
TOTAL PROJECTS \$ 3864			
CONTINGENCY 500			
TOTAL PROJECTED 4364			
LESS COMPLETED 955			
REMAINING 3409			

COSTS ARE \$ X1000

COLORITE 007812

COSTS ARE \$1000

COLORITE 007813

VCM CONTAMINATED PAPER

COSTS ARE \$ X1000

	PROJECT CLASSIFICATION		
	OSHA	JOINT	EPA
GENERAL			
18. BUILD METAL FACILITY (UNDER CONSTRUCTION)	19		
19. BUILD MASK DECONTAMINATION FACILITY (CAR SUBMITTED)	25		
20. MAINTENANCE DECONTAMINATION FACILITY (IN DESIGN)	50		
21. MONITORING COMPUTER (LEASE COMPUTER AT \$65 - CAR SUBMITTED)		110	
22. VCM MONITORING SYSTEM (INSTALLED)		750	
23. BUILD EXHAUST SYSTEM TO REMOVE VCM FROM FUGITIVE LEAKS.	150		
24. STRIP VCM FROM WASTE (WIPED)			170
25. INSTALL CANNED DUMPS (TEST PROGRAM UNDERWAY)		150	
26. EXPAND BOILER CAPACITY		100	
27. EXPAND COOLING TOWER CAPACITY		100	
28. INSTALL SECOND VACUUM CLEANER	50		
29. IMPROVE VENTILATION IN LABORATORY	13		
30. DUST ABATEMENT PROGRAM (QUESTION IF THIS APPLIES TO INCLUDE HERE)	225		
31. ISOLATE VCM RECOVERY COMPRESSOR	200		
32. PROVIDE SPARE PARTS FOR COUNTERGRAPH	16		
33. PROVIDE RESPIRATORS (DONE)	40		

COSTS ARE \$X1000

COLORITE 007815