

INTER OFFICE MEMO **TENNECO CHEMICALS, INC.**

TO	C. G. Thompson	AT	Piscataway	DATE	April 3, 1975
FROM	W. Miringoff	AT	Burlington	COPY TO	H. B. Carr W. C. Champion W. F. Gabel Dr. R. T. Gottesman Dr. L. Gross Dr. P. A. Lobo R. S. Miller Dr. M. Rosen G. I. Rozand P. R. Scarito A. C. Siegel J. T. Sweeney T. T. Zuhl J. W. Poarch J. J. Zullo P. E. Burlington P. P. Flemington ✓File
SUBJECT	PROCESS ENGINEERING MONTHLY REPORT - MARCH, 1975				

A large effort was expended by the P.E. group on activities related to the Dispersion Resin Plant.

These activities included stripping trials with nitrogen sparging of various products which in general resulted in slurries at or below 2000 ppm VCM after six hours of residence time in the strippers.

Changes were made to the "B" plant additives control system which brought the level of shipable product from 60% to over 96% of the 1750 foam resins produced.

Detailed evaluations of the charging system for dispersion resins were carried out in order to see how this part of the process effects the product variation. Preliminary indications show that the variations in ΔP have a relationship with the end product polymer rheology. This activity is related to the Dispersion Task Force and will lead to a formal set of recommendations for follow up programs.

The Burlington plant formulations were rewritten to arrive at stripping conditions to yield products with less than 10 ppm VCM. After several days of operation at these conditions market problems dictated a change in stripping of copolymer product. All of the products made resulted in VCM values under 10 ppm except 390 which was 11.6 ppm.

Plant trials were developed to produce 10.5/R product for Nixon with less than 2 ppm residual VCM. As of this writing the conditions of stripping had not produced the desired low level VCM. The data is being reviewed to arrive at new stripping conditions.

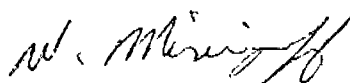
PROCESS ENGINEERING MONTHLY REPORT

April 3, 1975

P.E. developed start-up formulations for 315 compolymer for the Flemington Plant. P.E. participated in the successful start-up and is in the process of adjusting formulations to bring the product into specifications range. The major current problem is the unexpected shift in particle size which produces an unacceptable large quantity of fines in spite of the lower than normal gelatin levels. A full evaluations program is being developed to determine the cause of this problem.

The environmental VCM reduction program was reviewed with manufacturing and the most critical areas of activity were selected for early action. The engineering department developed a preliminary manpower and capital expenditures program which is being reviewed by management.

For other activities by P.E. please refer to the monthly report by J. W. Poarch and the attached report by F. B. Richardson.



W. Miringoff

WM:mc
Att.

INTER-OFFICE MEMO **TENNECO CHEMICALS, INC.**

TO	W. Miringoff	AT	Burlington	DATE	March 27, 1975
FROM	F. D. Richardson	AT	Burlington	COPY TO	H. B. Carr W. C. Champion R. S. Cole Dr. L. Gross J. W. McBroom J. W. Poarch P. R. Scarito A. C. Siegel J. T. Sweeney J. J. Zullo P. E. - Burlington Pilot Plant-Flemington File
SUBJECT	PROCESS ENGINEER REPORT MARCH, 1975				

Homopolymer Stripper Condenser

Several follow-up calculations were made to check the pressure drop limitations for specific installation arrangements developed by project engineering. We requested a quotation from another vendor on the second condenser because the one price we have been quoted seems quite high.

Canned Pumps for VCM Service

In the last two monthly reports I have referred to a canned pump being on order for testing at Flemington; this was an error on my part. I have learned from Ed Schutz that when he was ready to place that order it developed that the Chempump model quoted was not available with an explosion proof motor. Two alternatives quoted did not have satisfactory characteristics. Therefore, there is no pump on order and other manufacturers are being checked for a suitable pump in this moderate service range.

We are also looking for a canned pump for situations requiring motors over 20 horsepower. Further information from Chempump shows that their motor is this size range have never been approved as explosion proof when both the atmosphere around the pump and the liquid in the pump presented explosion hazard. A total of six pumps at the two plants have motors in this size range.

Vinyl Acetate Recovery from Waste Water

Data was collected on the amounts of water phase and vinyl acetate phase collected in the barometric sump during stripping. Stripping conditions varied widely during the month and each set of conditions results in a different amount of water being taken overhead. Data is presented in the attached table.

Design of flasher system for recovering the vinyl acetate will be made using the maximum water rate. Hopefully a standard stripping condition will be settled on at a later date to allow a tighter design. Some elements of the system would not operate as well if oversized by a large factor.

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VCM Reduction Project List

Review of the jobs involved in the VCM reduction program was completed. Some were amended or re-estimated. They were assembled into groups which would form reasonable projects. This was passed on to W. Miringoff for further organization.

Reactor Water Fill System

Ed Schuetz has developed a new approach to the reactor water fill system wherein the centrifuge effluent would be used. Work has begun on translating this into flow sheets for the Burlington systems.

FDR:mm

F. D. Richardson

The first part of the paper discusses the importance of the study of the history of the United States. It is argued that the study of history is essential for a full understanding of the present. The second part of the paper discusses the importance of the study of the history of the United States. It is argued that the study of history is essential for a full understanding of the present. The third part of the paper discusses the importance of the study of the history of the United States. It is argued that the study of history is essential for a full understanding of the present.

Table I
Barometric Strip Measurements for Copolymer Stripping

Stripping Conditions	No. of Batches	H ₂ O Phase per Batch	VAM Phase per Batch
190°F - Up & Down - Max. Vacuum	2	50.2 gal	60.7 gal
same	2	44.4	32.7
same	2	53.7	35.1
same	3	60.7	24.1
same	2	82.9	18.7
Weighted Average	11	58.6	33.3
200°F - One Hour Hold - Limited Vac. (~600 mm Hg abs)	2	120.3	35.0
190°F - One Hour Hold - Max. Vac. (~350 mm Hg abs)	2	158.8	42.0

Table II
Overhead Collected by Time Period
for Copolymer Strip at 190°F With One Hour Hold

Time Period	Time Elapsed	H ₂ O Phase Collected	VAM Phase Collected
Heat up to 190°F	55 min	70.1 gal	56.1 gal
First 20 min. at temperature	20	65.4	18.7
Second 20 min " "	20	70.1	9.3
Third 20 min " "	20	84.1	0
Cool Down	30	28.0	0
Total	145 min	317.6 gal	84.1 gal