Air Products and Chemicals INC.

ESCAMBIA PLANT

INTEROFFICE MEMORANDUM

To: E.A. Primeau

Date: October 18, 1974

Copies: R.E. Jones
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From: J.G. Tolar

Re: Chemical Cleaning Solvent Recovery-Pilot Plant Program

The pilot plant evaluation of the recently developed process for recovering DMF is expected to start up October 29th, and run for approximately four weeks. Both a solid bowl centrifuge and a rotary drum filter will be evaluated for the polymer-DMF separation step. The delay has been due to the delivery of the centrifuge. Assembly of the equipment is essentially complete. Tie-in with existing equipment will be made after the centrifuge has been installed.

The following summarizes the program we expect to follow. Suggestions for modifications or additions are encouraged.

I. Centrifuge Evaluation

Variables to be investigated to find maximum feed rate with best cake dryness and low solids in the effluent. The same precipitation procedure will be used during these evaluations.

A. Speed (RPM's)
B. Temperature of slurry fed
C. Weir height
D. Feed point
E. Cake wash in centrifuge

II. Precipitation Evaluation

Variables to be investigated using the optimum centrifuge conditions, the maximum feed rates will be determined for cake dryness and low solids in the effluent.

A. Location of steam injection
B. Temperature control during precipitation
C. Water content of slurry
D. Steam addition rate
E. Extraction water-steam mixing for precipitation determine a maximum amount of water usable.
F. Flash drum bottoms purge to precipitation-effect

III. DMF Extraction from Cake

Evaluate the effectiveness of using precipitation tanks for extraction of DMF from cake with water.

IV. Rotary Drum Filter Evaluation

A. Drum speed
B. Cake form time
C. Vacuum
D. Slurry temperature fed
E. Cake washing on drum

V. Dehydration Column Monitoring

During the distillation of effluent from these evaluations, monitor feed, overheads, product and bottoms for DMF, formic acid, DMA, and water.

VI. Corrosion Studies

Corrosion probes will be placed in the following locations to monitor corrosion on various alloys.

A. Precipitation tanks
B. Dehydration column bottoms
C. Middle of dehydration column
D. Dehydration column feed tank
E. Wet DMF storage tank
F. Extraction water storage tank

J. G. Tolar

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