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INTERNAL CORRESPONDENCE

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CHEMICALS AND PLASTICS

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Mr. R. R. Patrick
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Mr. G. W. Sanders
Mr. T. R. Smith
Ms. M. E. Vrabel

Date February 16, 1977
Originating Dept. Water-Borne Coatings
Materials - IPF
Subject Air-Pollution Control
Task Force Meeting
February 15, 1977

cc: Mr. W. D. Bradbury
Mr. C. H. Greenert
Mr. H. V. Hooper
Mr. P. C. Payne
Mr. E. L. Peterson
Dr. D. L. MacPeck
Mr. J. A. Miller
Mr. D. H. Reed
Mr. A. E. Stafford
Mr. R. N. Wheeler

Ladies and Gentlemen,

On February 15, we met to review work progress since the last meeting and to confirm action plans for each location using vinyl chloride. Major observations are as follows.

Status of EPA Relations

All waiver requests and compliance programs were filed early in December.

On February 1, Tucker received a reply from EPA dated January 28, stating that the waiver and compliance plan was acceptable if the schedule dates were modified slightly. No ruling has yet been made on the equivalency requests. Tucker was given 15 days to reply if the revised schedule could not be met. On February 10, a reply was submitted to EPA which stated that we feel we can meet the schedule as revised by EPA assuming that an early ruling on the equivalency requests is received and equipment suppliers and contractors perform as we think they should.

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Somerset has received no official reply. Phone conversations with the regional EPA office confirm that EPA has the waiver requests and that they look reasonable. No ruling has been issued because of a heavy work load on the office.

Torrance has received no official reply. Regional personnel have visited the plant twice, the last time on February 11.

Permanganate Scrubber

Laboratory data presented by Randy Patrick indicates that removal of vinyl chloride from vent streams is feasible. Reaction ratios are about eight pounds of permanganate per pound of vinyl chloride. Reaction products include a solid manganese dioxide.

Based on the laboratory data, Byron Hill estimates a column packing height of 25 feet and a column diameter of 30 inches to lower vent stream contents from 7.65 percent (Milt-32) to below 10 ppm using a flow rate of 31 cfm. A column height of about 29 feet would be needed to get below 1 ppm in the exit gas.

A preliminary flow diagram was developed by Jane Brymer and is shown in Figure 1. Installation costs are estimated to be about \$175,000. Operating costs to support 10 MM pounds of Milt-32 production where vinyl chloride venting amounts to about 1.5 pounds per batch are estimated at \$6,000 per year for permanganate and electric power. No estimate of operator manpower, maintenance or waste disposal cost was made. These costs are additive to the operating costs of the TETA scrubbing systems.

The permanganate scrubber appears to be a viable alternative for treating vents of small amounts of vinyl chloride that can be segregated from other operating vents. Examples of these are Milt-32 or UCAR-508 operations.

Incinerator. Review of Quotations

Appendix A contains the investment cost estimate, operating cost comparison and installation schedule based on information from five potential suppliers. The A.R.I. and the Trane units appear to be the leading candidates.

Total operating cost for the Trane unit is estimated to be \$44,000 per year. The TETA operating costs of about \$38,000 per year would be eliminated because the incinerator can treat the existing vent streams. The net increase in operating expenses would therefore be about \$6,000 per year.

The incinerator is the ultimate vent disposal device. All vent streams in the existing and planned product mix can be treated with the incinerator.

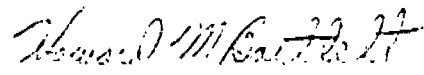
Revised M-32 Process

Procedural revisions for post heating and post catting have been made which reduce the vapor phase vinyl chloride concentration to less than one per cent and the vinyl chloride concentration in the latex to less than 200 ppm. The batch cycle times are essentially the same as for the original procedure.

Action Plan Review

1. Torrance will investigate the feasibility of piping the Milt-32 vent stream to the ethylene cracking furnace in the C/P plant which is estimated to cost about \$100 M. The following steps are needed.
 - A. Clearance from APCD
 - B. Clearance from EPA
 - C. Clearance from the Torrance C/P plant management.
 - D. A work order quality cost estimate
2. If step (1.) is not feasible, Torrance will plan to install a permanganate scrubber. GWS
3. Somerset will plan to install an incinerator. REP
4. Tucker will plan to install an incinerator. JRH, CHG
5. Research and Development will finish the laboratory work required to support the design of the permanganate scrubber, and publish the data. While Torrance may not install a permanganate scrubber, permanganate scrubbers may be needed at a later date for Garland and Puerto Rico. RRP
6. The Engineering Department will proceed with selection of the incinerator vendor and cooperative development with the plants of the final purchase specifications. MAB
7. The Engineering Department will proceed with the design of the permanganate system as required to support the Torrance installation. BJB, BYH

Very truly yours,

A handwritten signature in cursive script, appearing to read "Howard M. Bartlett".

Howard M. Bartlett

jr
Attachments

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