



ESCAMBIA PLANT
INTEROFFICE MEMORANDUM

To: *[Signature]* Mr. R. E. Jones-

Date: July 17, 1974

From: J. E. Greasel

Copies: E. A. Primeau

Re: VCM Storage

I understand the following:

1. Current VCM storage capacity is 120,000 gallons or 6 tankcars.
2. Current usage is 1-1/2 tankcars per day.
3. Storage capacity is equivalent to 4 days usage.
4. Unloading system will handle 2 cars per day.
5. Loaded cars are normally received in groups of 4 - 6, each 2 - 4 days.
6. New Conoco policy effective 1 January 1975 allows 7 days free time before demurrage charges begin.
7. With present system and usage, little demurrage should result if cars are spotted at plant on a "first in - first spotted" basis.
8. However, there will be only 2 - 4 days of VCM requirements in storage.
9. If more equivalent days of capacity are desired, then tankage should be added.
10. Tankage probably cannot be justified on demurrage savings.
11. We should proceed with discussions with Conoco to liberalize demurrage policy.
12. What are your desires?

[Signature]
J. E. Greasel

JEG:fls

AP00034873

Firm Releases Results of Study

Air Products and Chemicals Inc., has completed medical examinations of 492 employees and found no link between exposure to polyvinyl chloride (PVC) and a rare form of cancer, according to a company statement.

The study was prompted by a B. F. Goodrich report in January that during a 27-month period, three workers in its Louisville, Ky., plant had died of cancer of the liver (giosarcoma).

Air Products employees

examined were from plants in Pace and Calvert City, Ky.

Air Products Group Vice President for Chemicals said, "Results of medical testing of our current employees, and our review of the death certificates of our former employees, show no case of cancer of any kind related to employee work experience."

Medical examinations were conducted in combination with a compete program to reduce employee exposure to PVC at Air

Products plants, a company spokesman said. The program was spurred by announcement of the three PVC-related deaths at Goodrich.

Physicians reported no case of cancer among the employees. They did find one case of bone deterioration of the hand (acroosteolysis) which the company said was known to be related to PVC operations.

Dr. Paul Kottin, a pathologist and former dean of the Medical school and Vice President for Health

Sciences at Temple University, Philadelphia, Pa., headed the medical study.

He reported his findings at U.S. Department of Labor hearings.

Medical examiner for the Pace plant was Dr. Barkley Beidleman of Pensacola.

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PVC Fabrication Suspect in Deaths

Death from cancer by vinyl chloride-related causes took an ominous turn last week, when it was learned that a sixty-year-old employee of General Electric Company's Bridgeport, Conn., works who had operated machines that processed various plastics, including polyvinyl chloride, died of angiosarcoma, a rare form of liver cancer previously thought to have been related only to vinyl chloride manufacture.

Another death by the same malady occurred to an accountant in a PVC fabricating plant in Stratford, Conn. The name of this firm was not disclosed.

The report of death by angiosarcoma in the PVC fabrication industry would seem to make prospects for the future of this resin doubtful in many areas. Previously, the rare cancer had been linked only to those in contact with vinyl chloride gas. Connecticut health officials cautioned that the link between the two deaths by angiosarcoma and PVC might be coincidental.

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R. E. JONES

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OSHA Propose VCM Rule Too Stringent

Chemical industry witnesses last week warned that the proposed Occupational Safety & Health Administration standard covering the exposure of workers to vinyl chloride monomer is too stringent and will cause great economic consequences for the industry and its workers if adopted. The statements came from a long list of industry witnesses as the OSHA hearing in Washington continued into its second week.

John L. Nelson, vice-president of manufacturing for B.F. Goodrich Chemical Com-

pany, the industry's largest PVC maker with 330 million pounds of capacity at five plants, as well as a billion pounds of monomer capacity at Calvert City, Ky., told the hearing a no-detectable level of VCM in its operations is not technically feasible nor is full-time use of respiratory protection by workers.

He says the company will be forced to shut down its PVC and monomer operations if the standard is adopted. Goodrich, he says, has embarked on a multi-million-dollar program to generate new technology which might make possible further reductions in levels of vinyl chloride exposure.

The American Chemical Society, however, took issue with industry spokesmen and

endorsed the "no-detectable" standard. In a statement given by Dr. Stephen T. Quigley, ACS pointed out the lack of available data establishing a safe level of exposure to vinyl chloride and concluded that "even the potential threat of exposure to vinyl chloride justifies the adoption of the proposed standard."

Dr. Walter Harrea of Uniroyal, Inc., representing the Rubber Manufacturers Association, said that "no prudent manufacturer, knowing that VCM is capable of causing cancer, will expose men at concentrations likely to cause harm."

However, he asked OSHA not to overlook our competitive system. A new criterion, he explained, has entered the marketplace and the energies of the large companies will be turned loose to solve the problem. He asked what is available to take the place of VCM and urged OSHA to keep the standard as simple as possible.

Richard P. Carter, director of government relations, environmental affairs, for Johns Manville, Inc., expressed concern about two distinct goals of the standard.

On the one hand, he said, there is the recognized necessity to protect workers exposed to potential hazardous amounts of VCM and on the other hand that PVC resin has become "a critical component in an enormous variety of products upon which a

substantial portion of our economy is dependent."

He urged OSHA achieve a balance between the two factors in its final standard.

He also expressed concern that the standard could well result in stopping or reducing the available resin available for the firm's PVC pipe and pipefitting plants, resulting in closing those operations and with the elimination of 800 jobs. Johns Manville would lose about \$91 million in sales and investments of about \$41 million in its PVC pipe and pipefitting units, he said.

From data submitted at this hearing, he said, there is reason to believe that it would be both economically and technologically unfeasible for both the VCM and PVC resin industry to comply with the proposed standard by Oct. 5, 1974, or reasonably soon thereafter.

Robert I. Martin, president of Rimar Manufacturing Co., a processor and fabricator, expressed deep concern about the result that the standard would have on the small fabricator and that it could result in pricing them out of the world market.

Louis J. Bibri, vice-president of Armstrong Cork Co., a larger user of PVC resin, said that the proposed standard was not written with compounder and fabricator in mind. He pointed out that there is a vast difference between VCM and PVC resin and suggested that performance standard would be more meaningful.

He suggested that OSHA recognize the difference between the types of manufacturing operations and employer exposure

CMR 7/15/74

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J.L.N.
JAN

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Goodrich Discusses New Unit PVC Makers Begin Changes

At last week's Occupational Health and Safety Administration hearings in Washington on vinyl chloride, Goodrich revealed publicly for the first time that it was constructing a "new facility" for the production of PVC in Louisville, Ky. (see news story P.4). The news was met with surprise in some quarters for, despite the great number of new plants coming on-stream in the next several months, Goodrich, the largest PVC producer in the world, has steadfastly maintained that it was not contemplating any expansions (other than a proposed plant in Alberta, see CMR 7-1-74, P.7).

Approximately 1 billion pounds of new annual capacity for the U.S. PVC industry is scheduled to be completed within the next year. There will not be enough monomer available to feed this new capacity, even if, as has seemed indicated in recent weeks, monomer producers are able to again operate at full potential. There is not enough monomer capacity, even announced, to support such broad PVC expansion, industry people have been saying. In addition, since the beginning of the year, VCM toxicity problems have suddenly cast far more troubling clouds over future PVC production capabilities.

The feeling has been that no monomer producer was going to invest any "megabucks", as one industry source said, in new plants until the OSHA problems were resolved, and that no PVC producer, unless already committed, was going to invest in new units until not only something happened at OSHA but until there was some significant change in the monomer supply picture. So it was strange, it seemed, for Goodrich, who was not committed — some thought luckily — to risky expansions for the time being, to announce that it was going to have a new facility on-stream in a year. It not only announced the new unit but announced it at the OSHA hearings themselves, saying at the same time that if OSHA's proposed non-detectable exposure rule were adopted it, Goodrich, would have to get out of the business.

NEW REACTORS

Contacted for more details about the new Louisville unit, a Goodrich spokesman said that the "new facility" would be housed in current plant buildings. The Louisville plant is one of the oldest in the country and also the site of discovery of the first American angiosarcoma deaths linked to vinyl chloride. The spokesman said that the new production potential being added consisted in the replacement of some older reactors by new, larger reactors. He added that the project amounted to "making more efficient use of (existing) buildings." Goodrich declined to call the project either an "expansion" or a "one to one replacement" of current potential. The company would say only that the project would result in "no significant increase" of total company capacity.

So the truth seems to be that Goodrich is not expanding, and they never claimed to be; but are instituting engineering changes which may not only be mandated by the mere age of existing units but also by the desire to get a head start on practical measures to reduce VCM levels. The larger reactors, as the Goodrich spokesman explained, contain less potential for leaking, having fewer valves, pumps, reducing venting operations, etc.

Producers who are scheduled to expand during the next few months are also known to be taking similar measures to build-in some safeguards in anticipation of OSHA regulations, which most feel will be less strict than that proposed. Robintech, who with Shin-Etsu is constructing a 220 million pound plant in Freeport, Tex., says that it is also going to use larger computer controlled reactors to reduce emission potential. A spokesman for Certain-TEED, which is completing its first plant (300 million pounds) in Lake Charles, La., says that engineers are going through the facility and making changes in anticipation of stiffer rules.

This spokesman points out that new plants may have to be particularly careful about air levels, for, in his view, while operating plants may be given deferrals in achieving whatever reduced air levels are finally put into law, new plants may not be able to operate at all until full compliance is achieved. In this view the engineering advantages owned by companies with new plants making it easier for them to adjust to regulations may also make them more liable than companies with older plants for failure to achieve early compliance with those regulations: Georgia Pacific, another company entering the PVC market for the first time, with a 220 million pound plant in

Plaquemine, La., declined to be specific about engineering safeguards being built-in to their first plant, but a spokesman said that the facility "will be safe in every detail."

Another engineering change, besides larger reactors, which may become popular in the future in response to VCM regulations is the bulk process of production which is now only used exclusively by Hooker. Bulk process involves no water and consequently no VCM effluents. It is also said to leave up to one-third less residual monomer after polymerization than suspension and dispersion processes. These could be important advantages.

Goodrich's announcement last week, then, points up the action industry is anxious to take in reducing VCM levels in anticipation of regulation, while calling for easier "technically feasible" regulations, and rather than being what seemed a response to former (ancient) market conditions — expansion, it is an early response to the new market era — reprocessing.

R.E. Jones

AP00034877

Cosmo: mixed reviews

It was cosmetics show time at the New York Coliseum last week. On stage: CosmoExpo 2, the second annual trade show and conference for the cosmetic, fragrance, toiletry and proprietary industries. And like many a show on Broadway, it received mixed notices.

The primary reaction was that this year's show was bigger and better attended than last year's. According to Robert Grayson, of sponsoring Grayson Associates, registration of exhibitors was up to 180, from about 120 last year.

But some exhibitors were disappointed by the product mix. They felt there was too much emphasis on packaging—glass and plastic bottles, caps, tubes, aerosols, labels and decorating materials. Exhibits by manufacturers of cosmetic and toiletry items and suppliers of raw materials were relatively few. Others, however, noted that there were more of these exhibitors than there were last year and saw this as an encouraging sign.

Grayson Associates has been working to broaden the appeal of the show, conceived to bring suppliers and marketers together (*CW*, Sept. 27, '72, p. 37). For example, a small "machinery row" for packaging, processing and labeling equipment made its debut. And seminar sessions in the morning were expanded, to include technical and research and development topics as well as marketing.

New Products: Some companies found the show a good time to introduce new products:

- The Lacquerite Division of Supronics Corp. (Livingston, N.J.) showed off its new nail enamel technology. The enamels are "seashell" finishes—include pink in the bottle but with a blue flash on the nail, and orange with a red flash.

- Both Richford American Corp. (New York) and Bakan Plastics (Kansas City) exhibited mechanical aerosols capable of producing fine mists.

- NL Industries touted the benefits of Bentone-gelled perfume systems, said to help prolong fragrance release.

- Meyercood Co. (Carol Stream, Ill.) showed a high-speed decal application process for cylindrical glass containers for cosmetics and pharmaceuticals.

Other companies found the show an opportunity to reinforce corporate marketing. Among them: Union Camp Chemicals, out to boost its stake in the cosmetics industry, and Gentry International (Fair Lawn, N.J.), an essential oils house beefing up its work in compounded fragrances.



EXPLOSION AND FIRE at Nypro plant caused 29 deaths, \$96 million in damage.

Blast will hurt nylon

The explosion and fire that last week destroyed the Nypro plant in Flixborough, England, killing 29 persons and injuring more than 100, virtually wiped out the U.K.'s sole supply of caprolactam—the chemical intermediate essential for producing nylon-6.

Moreover, according to Britain's National Coal Board, which owns 45% of Nypro (Dutch State Mining owns the rest), the destruction of the 70,000-tons/year plant may have significant repercussions on world nylon production. It accounted for one-seventh of total world caprolactam output.

Courtaulds was Nypro's biggest customer (about 35,000 tons/year), and British Enkalon, a subsidiary of Holland's Azko, was No. 2 (25,000 tons/year). Production of caprolactam at Flixborough was below capacity.

Only last June, Nypro had brought a new, \$36-million, 50,000-tons/year caprolactam unit onstream at the six-year-old, \$48-million complex. The explosion is being tentatively blamed on a cyclohexane leak—one of the highly flammable materials used in making caprolactam—but Nypro officers say they are still uncertain about the origin.

Although Courtaulds and British Enkalon are reluctant to comment on the effects of the explosion on their nylon production, both companies are scrambling for alternative sources. So far, neither company is willing to say how much is available and at what price, although DSM, which has a reported caprolactam

capacity of 336,000 tons/year, "would do everything possible" to assure supplies to the British nylon makers, according to London sources.

Although it will take two years to rebuild the Flixborough plant, at an estimated cost of \$96 million, the benzol-based cyclohexane that was supplied by Stavely Chemical (45% owned by the National Coal Board, 45% by British Steel, 10% Continental Oil) could be shunted to other caprolactam facilities.

VCM probe goes outside

The Environmental Protection Agency last week asked 27 producers of vinyl chloride monomer and polyvinyl chloride to supply detailed information on VCM emissions into the air from their plants. EPA says the data will be used to help it decide whether rules to restrict the emissions are necessary.

Acting under the Clean Air Act of '70, EPA already is taking air samples outside some of the 14 VCM and 35 PVC plants on which it has requested data. A spokesman says the agency also expects to study liquid and solid wastes from the plants.

EPA has asked the 27 companies to supply information about:

- Points in the manufacturing process where there may be vinyl chloride emissions and in what quantities.

- Emission control procedures that have been or could be instituted, and cost estimates for installation and operation of necessary equipment.

- Any results of ambient air studies the firms may have made by using their own monitoring equipment.

For several months before the EPA air study began, workplaces had been the major areas of concern in investigation of the possibility of a link between VCM and angiosarcoma, a rare liver cancer. Nineteen cases of angiosarcoma had been confirmed among health records of dead and living VCM and PVC plant workers. Now, the focus has broadened to include the possibility of health hazards to persons living near the plants. The *New York Times* reported last week that New York state lists six cases of angiosarcoma—three of them are persons who had worked in Goodyear Tire & Rubber's Niagara Falls PVC plant, and three are women who had lived in the Niagara Falls-Buffalo area. Goodyear, however, says its own monitoring of air around the plant has turned up no measurable amount of VCM contamination. It also disputes the *Times*' assertion that one victim had lived downwind from the plant.

A vote for oxo alcohols

W.R. Grace and Commonwealth Oil Refining said last week they had reached agreement on (1) new, higher prices of feedstocks for their Oxochem Enterprise joint venture in Penuelas, Puerto Rico, and (2) plans to expand capacity of the unit 70%. Grace also hiked tabs on oxo alcohols and said it plans to build later in this decade another 500-million-lbs./year plant for this product.

The agreement, retroactive to Jan. 1, came after about two years of negotiations in which Corco sought an increase in prices of the propylene it supplies to Oxochem from its Puerto Rico Olefins joint venture with PPG Industries. Corco claims that Oxochem had been getting the propylene at below cost because of escalating crude oil prices Corco has had to pay.

Neither Grace nor Corco would say what the new prices would be, what the total additional cost to Grace will be, nor why the negotiations took so long.

The expansion at Penuelas will lift capacity of the unit, which came onstream in '71, to about 500 million lbs./year by '76. A Grace spokesman says the boost reflects the company's feeling that oxo alcohols are a "good business" for the company. Indication of that is seen in new prices posted by the company last week, effective June 15. Isobutanol is slated to go to 16¢/lb. from 14¢, n-butanol to 17¢/lb. from 16¢, 2-ethylhexanol to 18¢/lb. from 17¢.

Grace says the site for the additional plant has not been selected, and it has not yet decided whether the unit will be a joint-venture or solo effort.

Dow looks at the desert

Add Dow Chemical and Saudi Arabia to the rapidly growing list of U.S. chemical companies and Arab countries planning petrochemical joint ventures. Dow Chemical Europe said last week it had entered into a letter of intent with Petromin, the national petroleum firm of Saudi Arabia, to evaluate a joint effort to produce petrochemicals in that country.

Cost of the project, according to Dow Europe President Zoltan Merszei, could eventually be about \$400 million. Dow says the site has not been decided, nor is it known when the project would be completed or which petrochemicals would be produced.

The venture is apparently the first involving Saudi Arabia and a major U.S. chemical company. But several other U.S.

chemical firms, including Du Pont (with Iran) and Ashland (also with Iran in a deal that may fizzle), recently negotiated joint ventures with Arab countries to gain access to their crude oil supplies.

Dow also has been acquiring domestic energy companies and facilities. So far this year, for example, it has leased 12 Louisiana oil producing wells owned by Quintana Production and bought a 20% interest in U.S. oil and gas producing properties of McMoran Exploration.

Tariff cuts mean little

Last week's U.S.-Common Market agreement calling for European Community tariff cuts on several products is less important to U.S. chemical companies in itself than in its probable effect of spurring passage of the stalled trade bill. Enactment of that measure, in fact, appears to have been the Common Market's prime objective in making the concessions.

To compensate the U.S. for loss of trading advantages with Britain, Denmark and Ireland when the three countries entered the Common Market, the EC will cut tariffs on polyamides to 16% from 17.6% and on antiknock preparations based on tetraethyl lead to 13% from 15.8%. The tariff cuts in these and other products will begin Jan. 1 and affect up to \$1 billion/year worth of U.S. exports.

Du Pont notes that only 4-5% of total U.S. nylon shipments, and also 4-5% of Du Pont's, are exported and most of those are in specialty products such as Qiana. Since U.S. producers cannot now meet nylon demand, exports to the EC are unlikely to increase substantially, the company adds. Another producer says that the percentage tariff reduction corresponds to an extra 1¢/lb. on staple nylon. This, the company says, might make a difference in normal times but not now, when yarn is on allocation and prices can be raised with regularity.

Progress on Bill: Reacting to the concessions and to other developments, the Senate Finance Committee last week began to mark up the trade bill in executive sessions. Committee Chairman Russell Long (D., La.) privately has assured the Administration that he wants to move the measure through the Senate by the end of this month.

One chemical observer, however, rates the bill's chances of enactment still at less than 50% and says its failure would markedly hinder this year's international trade negotiations.

Trying to sew up a pact

Production ground to a halt in the men's and boys' apparel industry last week as 110,000 members of the Amalgamated Clothing Workers of America walked off their jobs. However, manufacturers of synthetic fibers said the strike would not affect them unless it is prolonged.

The workers, who struck 750 plants nationwide, demanded higher wages, cost-of-living allowances, better health and pension plans and more fringe benefits. The walkout did not affect clothing workers outside the men's and boys' field. Under the union's expired three-year contract, the workers' average wage was \$3.50/hour.

Talks between the strikers and clothing manufacturers broke off when the walkout began, but were slated to resume later in the week at the Federal Mediation and Conciliation Service offices in Washington.

Synthetic fiber producers did not seem worried about the strike. "The clothing makers are not direct customers," said a Celanese spokesman, noting that it would take some time for the strike's effects to reach fiber producers. Monsanto stated that fibers for the fall season are already at the mills, adding that spring of '75 would be the earliest the company could be affected.

Du Pont said that if the strike lasts two or more weeks "we would expect the effects to be quite widespread." None of the firms CW talked to believed that a prolonged strike would lead to plant closings and layoffs.



MACHINES lie idle in New York after 110,000 garment workers walked off jobs.

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