

PVC SAFETY GROUP
STEERING COMMITTEE

Sheraton Hopkins Hotel
Cleveland, OHIO

Friday, June 24, 1977
9:00 A.M.

SUMMARY:

- 1 - The committee agreed that a request should be made to EPA requesting a hybrid-type hearing on the proposed Vinyl Chloride Standard with a postponement on the date from July 19.
- 2 - Mr. Steven Schaefer was appointed to coordinate the development of the industry's position for the public hearing.
- 3 - The Manufacturing Technology Committee will proceed immediately to prepare background material for the proposed hearing.
- 4 - The Communications Committee will gear up to develop support for the industry's action on the proposed Standard in general and the hearing in particular.

ATTENDEES:

Gary H. Baise, Beveridge, Fairbanks & Diamond, One Farragut Square South, Washington, DC
J. T. Barr, Air Products & Chemicals, P. O. Box 538, Allentown, Pa 18105
Albert J. Beveridge, Beveridge, Fairbanks & Diamond, One Farragut Sq. S. Washington, DC
Walter Connelly, Firestone, Akron, Ohio 44307
Ronald L. Davis, Dow Chemical Company, 2030 Dow Center, Midland, Michigan 48640
R. B. Downey, B. F. Goodrich Chemical Co. 6100 Oak Tree Blvd. Cleveland, Ohio 44131
H. J. Fast, B. F. Goodrich Chemical Co. 500 S. Main Street, Akron, Ohio 44318
R. Ferrante, Hill & Knowlton, Inc. 633 Third Avenue, New York, NY 10017
R. W. Fortenbach, Shell Chemical Co. One Shell Plaza, Box 2463, Houston, Texas 77001
J. E. Hadley, Jr. Keller & Heckman, 1150 17th Street, N.W. Washington, D.C. 20036
R. L. Harding, Jr. SPI, 355 Lexington Avenue, New York, N.Y. 10017
W. C. Holbrook, B. F. Goodrich Chemical Co. 6100 Oak Tree Blvd. Cleveland, Ohio 44131
J. Jaglom, Pantasote Co. of N.Y. 26 Jefferson Street, Passaic, New Jersey 07055
D. Karnes, Firestone, 1200 Firestone Parkway, Akron, Ohio 44307
R. Laundrie, General Tire, One General Street, Akron, Ohio 44329
J. R. Lawrence, SPI, 355 Lexington Avenue, New York, N. Y. 10017
J. R. Marchiando, Air Products & Chemicals, P. O. Box 538, Allentown, Pa 18105
D. C. Nuechterlein, Dow Chemical USA, 2020 Dow Center, Midland, Michigan 48640
F. X. Ritter, Tenneco Inc. P. O. Box 365, Piscataway, New Jersey 08854
G. Rozand, Tenneco Chemicals Inc. P. O. Box 365, Piscataway, New Jersey 08854
R. D. Savage, B. F. Goodrich Chemical Co. 6100 Oak Tree Blvd. Cleveland, Ohio 44131
S. W. Schaefer, Diamond Shamrock, 1100 Superior Avenue, Cleveland, Ohio 44114
M. M. Swetonic, Hill & Knowlton, Inc. 633 Third Avenue, New York, N. Y. 10017
T. R. Torkelson, Dow Chemical Company, Corporate Medical Dept. 2030 Dow Center,
Midland, Michigan 48640
T. Walker, Firestone Plastics Company, P. O. Box 699, Pottstown, Pa 19464

- 1 - Chairman Nuechterlein opened the meeting by calling for self introductions and an approval of the Minutes for the meeting of April 13 with a correction on the listing of members of the Steering Committee to include B. F. Goodrich.
- 2 - Mr. Laundrie reviewed the meeting of the Manufacturing Technology Committee with EPA Engineering Staff at Durham on June 22. A copy of the questions directed to EPA was distributed and it was indicated that a transcript of the discussion will be provided.
- 3 - Dr. Torkelson reported on the activities of the Health Committee indicating the importance of conducting a study to establish past exposure concentrations to document the difference between human and animal response to vinyl chloride exposure. (see copy of report attached). It was agreed that the Health Committee continue to study the feasibility of developing such a record and that it should first involve a review of the effort made along these lines in 1974. It was also requested that the Health Committee report back to the Steering Committee on this.

Dr. Torkelson reported that Dr. Cooper has suggested that a review of earlier public statements regarding the hazards of vinyl chloride could be made and set in perspective with the actual experience. This will be reviewed by the Communications Committee for a recommendation that can be approved for an expenditure up to \$6,500 by Chairman Nuechterlein.

REDACTED

REDACTED

REDACTED

7 - Mr. Downey outlined the PR options available to support the industry's actions:

- selected contacts by PR staff with media (Hill & Knowlton)
- activate briefing teams to work in New York and Washington
- contact Senate and House EPA oversight committees
- also consideration will be given to involving share holders, SPI's political support system, special stories that might be developed by working with selected media contacts (to be pursued by Hill & Knowlton).

8 - The meeting was adjourned at 2:00 P.M.

Respectfully submitted,

John R. Lawrence
John R. Lawrence
Technical Director

Attachments

6/27/77

SPI-10719

PROPOSED QUESTIONS FOR EPA STAFF
REGARDING PROPOSED AMENDMENTS TO
THE NATIONAL EMISSION STANDARD
FOR VINYL CHLORIDE

June 22, 1977
Durham, North Carolina

SPI Manufacturing
Technology Committee:
Robert Laundrie, Chairman
John Lawrence, Technical
Director

SPI-10720

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which may or may not be needed by the plant. Current prices of oxygen, which also presumes purchase of nitrogen, are on the range of \$120-25 per ton. This increase in price reflects primarily the increased cost of fuel to produce and deliver the oxygen. We believe you have failed to recognize that an oxygen based technology is more energy intensive than air based systems. The increased energy consumption may be between 30 and 50 million BTU's per hour. This should be considered by EPA before promulgating new standards. Were you aware of this change in oxygen costs? Based on these real world costs, do you believe oxygen technology is still economical?

(c) Concerning the use of oxygen technology for new oxychlorination plants, the EPA economics assume a nearby available source of oxygen. This can only exist where there is already a concentration of oxygen consuming industry and therefore implies that new sources must locate near old sources to gain any economic advantages. On the other hand, the offset policy, as we understand it, may well require the dispersment of new sources of vinyl chloride. If a new source were to locate at a remote location, it is not likely that any source of oxygen could be enticed to locate there for such a small offtake unless much higher prices were paid for the oxygen.

These two parts of the proposal appear to be in conflict. Are they in conflict? Were you aware of this practical problem? Do you see this as a problem? If not, why not?

II. SECTION 61.63-64

(a) Under the current standard, it is presumed that a 10 ppm allowable emission is a 1-hour average standard. To meet this on a continuing basis, industry has designed and installed a certain reliability into the abatement devices. Is it the intention of the proposed revision to also require a 5 ppm, 1-hour average compliance? If so, we believe that industry will actually have to install additional control devices which appears contrary to EPA's stated intention of not requiring changes or additions to equipment installed to meet the existing 10 ppm standard. Now would you clarify the reasoning by which the new lower emission level of 5 ppm was chosen, and how it is to be achieved by existing equipment while maintaining the 3-hour not-to-exceed provision of the present standard. Lower limits will mean more excursions, unless new technology, of which we are not aware, exists.

(b) We need a definition of what is meant by a new grade of resin. Will small changes in molecular weight, comonomer content, or other

physical properties constitute a new grade? There are many grades and types which cannot yet meet the present standard completely, and we have no foreseeable technology to change this situation. How will this requirement be administered?

(c) We believe it will be extremely difficult for small plants who specialize in acetate copolymer or dispersion resins to maintain their market position under this "new grade resin" rule. Have you considered the difficulties this may cause the small plants?

(d) We have polled the dispersion resin companies and find that there is no new technology for stripping dispersion resins to 500 ppm. By October, 1978, there is a consensus that most companies will be in compliance with 2000 ppm on most products. Even then, some resins will have to be discontinued. You seem to imply in the preamble, "that for some resins, companies have already developed stripping technology which would meet the proposed amendment." We would agree with you regarding certain suspension resins, but you surely do not believe that is the case for dispersion resins, do you? If so, tell us what we are missing?

(e) We are concerned as to what you mean by "commenced." For existing sources, subject to the Standard issued on 10/21/76, which have not yet

received an approved compliance schedule or have not actually started construction, does this new proposal reduce their allowable emissions from 10 ppm to 5 ppm? What happens if you have been negotiating contractual obligations before June 2, but they are not signed until after June 2, 1977? Assume your waiver is approved on June 3, or later, and you enter into the first contractual obligation on September 1, 1977, pursuant to the approved waiver? What if the construction work is to be performed by an in-house construction firm and no contracts have been signed. Work is to commence July 1, 1977 pursuant to a waiver granted before June 2, 1977. Assume the waiver is granted after June 2, 1977. What then?

III. SECTION 61.68

(a) A plant could well develop several emission limits, e.g. new and old reactors, new and old grades, etc. There would then be no single correct calibration gas. Why is there felt to be any substantial loss of accuracy at 5 ppm if the instrument is calibrated at 10 ppm?

IV. SECTION 61.72

(a) We are concerned with some of the requirements regarding the hearing on interim permits. Could you explain in greater detail what guidelines will apply to that hearing? What will be the basis for a decision as to granting the permit? Will detailed proprietary information be requested? We are concerned it would be divulged as the result of the hearing.

(b) There is a conflict between the preamble and the regulation as to the timing of the application. Would you please explain which is correct?

V. SECTION 61.73

(a) Regarding the offset policy, is the basis for the 8 km ruling derived from dispersion studies such as those made by E. Burt, or shown in the Standard Support Document or the Risk Assessment Document, or on ambient monitoring? We need a better understanding as to the basis for this choice of separation distance.

(b) Will emissions below those permitted by the standard be bankable for future use? Will this continue to be so if there are future revisions in emission levels? Will emissions be measured in ppm or in pounds?

(c) How are fugitive emissions to be handled? Will they be scaled directly according to plant size from the estimates used in the Standard Support Document? Will an operator get credit for classes of fugitive emissions not present in that plant, such as loading and unloading? Assume delivery is by pipeline. How will these credits be estimated? Are fugitive emissions to be considered non-reducible for offset purposes?

(d) The Standard Support Document ascribes 29 lb/hr of fugitive emissions to a typical suspension plant, and 0.8 lb of reducible emissions to a typical monomer plant, after these changes. Therefore, polymer plants can never be built next to a monomer plant, or expanded by offsets, if fugitives are considered irreducible. We are concerned about the increased emissions from loading and unloading, and the added amount of vinyl chloride in transit if plants cannot be built within pipeline distance. Have we interpreted this policy correctly? Could we have a quantitative estimate of the "considerable increase in ambient air concentration" stated to result from adjacent plants? Our calculations do not show it to be negligible.

ESTABLISHMENT OF PAST EXPOSURE CONCENTRATION IN VCM/PVC PLANTS

Many, including Dr. David Rall of NIEHS, have noted that rodents appear more susceptible to vinyl chloride induced angiosarcoma than humans. If this were not true the exposures of workmen to vinyl chloride in previous years would have resulted in hundreds of angiosarcomas in the U.S. rather than the 20-24 cases reported since 1961. This is extremely important to the vinyl industry since future animal studies will no doubt result in cancer at lower and lower levels of exposure, putting pressure on governmental agencies for more restrictive and expensive regulations.

It would be most useful if we could at least semi-quantitatively ascribe numbers to previous exposures. These estimates need not be precise, orders of magnitude will be adequate. They must be realistic and not under-estimates. Therefore, it is requested that each company thoroughly investigate all the methods which it can to realistically evaluate previous exposures of their employees included in the Equitable Environmental Health (Tabershaw-Cooper or MCA) study.

It must be remembered that prior to 1962 there was no accepted industrial hygiene guide for vinyl chloride. In 1962, the TLV committee of the American Conference of Governmental Industrial Hygienists suggested a time weighted average (TWA) of 500 ppm and in 1963 a ceiling of 500 ppm. Thus until 1963, there was no guide on peak exposures and an employee could have experienced less than 500 ppm as a TWA but have had peak exposures of several thousand parts per million for several minutes. Obviously controlling to 500 ppm as a ceiling could mean time-weighted-averages exposures well over 200 ppm.

The following are suggested as possible ways of documenting past vinyl chloride exposures. Each has serious limitations but please remember we only need to establish whether exposures were nearer 10, 100, 1000, 10000 or even 100,000 ppm in order to show a difference between people and rodents.

1. Odor - Odor is a highly variable response but certainly an odor suggests exposures of several hundred ppm based on Union Carbide data.
2. Explosimeter - The lower explosive limit (LEL) for vinyl chloride is about 3.5% (35000 ppm). Common practice was to control to 1/10 the LEL or 3500 ppm. Some plants had a practice of allowing entry into kettles when ventilation had reduced the concentrations to 1/10 the LEL; hence kettle cleaners and others may have had peak exposures of 3500 ppm (Note that this concentration for 1 hour per day would not have exceeded the old TWA of 500 ppm for 8 hours.) Furthermore 3500 ppm might not have been noticeably anesthetic since Mastromateo et al showed 10,000 ppm (1%) was necessary before even minor anesthetic effects were observed in human subjects.

3. Hot work permits - What practice was used for permitting welding and cutting in your plants? Were these documented? Are work practice manuals available? Were explosimeter readings made?
4. First Aid and Medical Calls - Are there any records of men being overcome or inebriated by vinyl chloride? Exposure much greater than 10,000 ppm would be necessary to produce these effects. Unconsciousness would indicate several hundred thousand ppm (20-30%).
5. Deliberate sniffing - This is hard to document but no doubt resulted in exposures to greater than 10,000 ppm.
6. Plant or Operation Logs - Some plants maintained diaries with narrative records describing leaks, spills, accidents, etc. Have these been kept? Interviews with old or retired employees may be of extreme value.
7. Operating manuals and procedures - Past plant practices may give clues to exposures concentrations. The following may give clues to past exposures: Tank entry procedures; frequency of cleaning kettles, filters, valves and other equipment, use of respirators, blowing or pumping of materials and frequency of spills.
8. Industrial Hygiene Measurements - Even limited measurements will be of value in documenting past exposures. Not only should company records be searched but federal, state or local industrial hygiene reports may be available.

It is recommended that a very small committee of industrial hygienists be formed to study this problem. They may wish to employ an outside consultant to coordinate company activities and to visit plants. This group could then assign estimated exposure concentrations to various operations such as changing filters, cleaning valves, etc depending upon whether the plant had indoor or outdoor construction, open sewers and other contributing factors. General ventilation design may be useful information. Based on estimates of the time spent by the employee in each operation a time weighted daily exposure could be calculated for job classification in each plant. This will require considerable time, expense and ingenuity, as well as commitment by each company, but it is essential in relating illness to degree of exposure.

Management must understand the importance of this problem. Unless we accurately describe the degree of exposure men had in years past, there will be no defense against more restrictive governmental controls imposed as the result of animal studies. The cost of these unnecessary controls will increase the cost of PVC. This cost must be weighted against legal and other considerations.

T. R. Torkelson
June 25, 1977

SPI-10728

INTRODUCTION

Once again, we appreciate the opportunity to meet with the staff of EPA. We hope this exchange will lead to a better understanding of what it is you propose to do regarding the National Emission Standard for Vinyl Chloride.

We would be less than honest if we told you we were happy to be here. Frankly, we thought all issues had been explored over the last two years regarding vinyl chloride, but apparently we were wrong. We are disappointed that changes would now be suggested without apparently any new information suggesting that changes be made. However, being responsible corporate citizens, we will work with you and attempt to improve, if we can, upon what we have already committed to do. But please do not ask us to do the impossible.

Now, we have some questions we would like to raise regarding the proposed amendments. I will go through the questions on a section-by-section basis.

I. SECTION 61.62

(a) In the proposed regulations preamble, (F.R. 28155), it is stated that new oxychlorination or PVC reactors installed at an existing plant will be subject to the new source standards. If this new equipment were installed as replacement items and would not increase production or emissions, we fail to see why they must meet the new standard. The EPA has recognized that replacement of pumps, etc. should not subject the plant to the new standard. For these reasons we do not see the need for a different approach on reactor vessels. Would you explain the rationale for suggesting this change now? Are the technical facts any different today than they were in October when the Vinyl Chloride Standard was promulgated?

(b) In proposing a 5 ppm standard for new oxychlorination plant vents, the EPA has concluded that oxygen technology is economic and can be applied to all the various basic technologies which exist. This conclusion is apparently based on a reference which quotes the price of oxygen at a level several years ago. Also, that quoted price (\$14.34/ton) was based on the co-purchase of nitrogen