

6-22-77

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MEMORANDUM

Changes in (40 CFR 61) National Emission Standard for Hazardous Air Pollutants (Subpart F) Vinyl Chloride.

Additions to the preceding memorandum concerning the proposed changes.

Significant Items

1. Replacement of any major equipment prior to the production of stripped resin will be considered a new source subject to the 5 ppm limit.
2. Incineration as practiced by UCC will provide compliance with the 5 ppm limit on vents.
3. Any resin not previously produced in a plant is a "new" resin and must be stripped to 100 ppm VCM concentration.
4. June 2, 1977 is a "bench mark day". It is important to document that plant capacity, equipment, emissions, expansions, compliance plans and products were in existence prior to that date. Changes in products capacity and equipment after that date may become entangled in red tape and the offset policy and have to be postponed indefinitely.
5. The consensus was that no company could consider expansion of an existing facility for one to two years.

On June 22, 1977, the VC-PVC Safety Assoc. Manufacturing Technology Committee SPI met with Ms. Susan Wyatt, Mr. Jack Farmer, Mr. Fred Porter, Mr. Rich Biondi, and Mr. Ron Naveen of EPA to discuss the proposed amendments to the Vinyl Chloride Standard. Ms. Wyatt and Messrs. Farmer and Porter were from EPA's Standards and Development Division. Mr. Biondi from Enforcement and Mr. Naveen was an EPA attorney. The discussion was recorded and an official transcript prepared for the hearing record.

The SPI group consisted of Mr. John Lawrence SPI Technical Director, Mr. Gary Baise, Fairbanks, Diamond and Beveridge Counselors. Mr. R. W. Laundrie, General Tire, Mr. R. N. Wheeler, Union Carbide, Mr. W. Madden, Firestone, Ms. Gerry Daigre, Dow, Mr. B. Barton, Borden, Mr. J. Mullins, Shell Chemical, Mr. J. Barr, Air Products, and Mr. W. C. Holbrook, B. F. Goodrich.

A series of questions were posed to the EPA group with little result obtained or expected. These questions are attached. Items of interest gleaned from the rather vague answers are as follows:

1. New replacement PVC reactors, oxychlorination reactors, and similar major equipment prior to the appearance of stripped

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resin will be viewed as new sources subject to the 5ppm emission limit and other features of the amendments. Used replacement equipment probably would not be considered new sources. A used plant transferred from one owner to another and maybe even to a new location would not be considered a new source. The position of a new plant built entirely of used equipment was not clear.

2. EPA believes that oxygen costs no more than equivalent compressed air. They expect to force the use of oxygen for oxychlorination reactors. They concede there may be some problems and it may even cost more in energy.
3. EPA believes that control equipment designed to have no more than a one hour excursion above 10ppm any time the plant is operating will probably average 5ppm or less, thus there should be no problem in meeting a 5ppm maximum with a one hour excursion above 5. They concede that this may be difficult but if you recognize that you cannot meet 5 maximum 12 months before the 3 year limit and apply for an interim permit at a public hearing, you may be allowed to operate between 5 and 10 maximum for another three years. This interim permit granting will require 180 days. Proprietary information revealed in writing will be protected. Mr. Naveen noted that if proprietary information was the basis then the public hearing was a sham, though they felt public participation was important in permit setting. EPA knew of no new control technology other than that discussed in the Standard Support Document.
4. EPA specified that a new resin had to be strippable to 100ppm (500ppm for dispersion) but other than the fact that it was a resin not previously produced in that plant they could not define a new resin. They expect this to be defined by industry in its comments. They knew of no new technology for improved stripping, thus, "old" resins could continue at the old standard limits.
5. Mr. R. Biondi agreed to provide some immediate interpretations on what EPA meant when it discussed projects "commenced" before June 2, 1977 and those commenced afterwards. The EPA group seemed startled by the fact that engineering work was considered investment by Internal Revenue, and therefore engineering could be a part of construction. The status of work on compliance programs for the old standard not under contract June 2, 1977 was vague.
6. The offset policy i.e. no new plants or expansions of old plants within an 8KM radius of an existing source, was little understood by both parties. Mr. Naveen stated that EPA was writing a general policy for this item, but

he did not volunteer any details. The problem is as follows:

Typical 150MMM PVC plant

Fugitive emissions	12.87 KG/HR
Resin from stripper	
at 100ppm	0.78
Other	<u>0.15</u>
Total permitted	13.80 KG/HR

Fugitive emissions are viewed as unidentifiable and may even be scaled up or down based on plant size. If fugitive emissions are scaled to plant size then an expansion to 400 from 150 yields 17.16 KG/HR; thus, all stripped resin would have to have a negative concentration of vinyl chloride. If fugitive emissions were held constant then reducing the resin from the stripper to 10ppm would permit a 5% plant expansion. If fugitive emissions are ignored, which is politically difficult, then reducing the stripped resin concentration to 50ppm would permit a 72% expansion.

Miscellaneous - Air Products and Chemicals appears to be planning a monomer plant project for \$100,000,000 either near Pensacola or Calvert City.

R. N. W.
R. N. W.

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

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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, *usage*
(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

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 \$20-25 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?

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(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.

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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

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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 1700 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?

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(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.