
**The Society of the
Plastics Industry, Inc.**



355 Lexington Avenue
New York, New York 10017
(212) 573 9400

September 7, 1976

Mr. Don R. Goodwin
Emission Standards & Engineering Division
Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Dear Mr. Goodwin:

After reviewing the proposed EPA Vinyl Chloride Standard, members of SPI have raised an issue regarding the portion of the Proposed Standard relating to the Laboratory and Research and Development facilities.

In SPI's initial comments to EPA on the Proposed Standard for Vinyl Chloride we proposed that polymerization reactors of 500 gal. or less capacity be exempt from the standard. After reviewing current and complete industry data, the SPI now agrees with the EPA that 50 gal. is the appropriate cut-off point for exemption, based on examination of the data presented in Exhibits A and B; however, SPI respectfully requests that EPA reconsider its requirements for reactors between 50 and 1100 gallons capacity.

The difficulties created in meeting the current proposal by EPA, in paragraph 61.64 go beyond the fact that costs far outweigh the benefits derived. It is true that larger reactors tend to be installed near production facilities for convenience of monomer supply; however, please be advised that several are at research facilities. Other research reactors are at a sufficient distance from the production equipment that their interconnection is not feasible. Long runs of vacuum or slurry lines are not practical, especially in climates where sub-freezing conditions are experienced. Line plugging, burning of resin, and excessive pressure drops will make these lines inoperative. There are also problems with synchronization of remote operations and availability of equipment.

In the short time we have focused on this issue, we have had confirmation from Air Products, Conoco, Firestone, Goodrich, Tenneco and Union Carbide that they will experience some or all of the problems raised above.

Two of the major purposes for which pilot-scale equipment is used are development of improved products and processes, and the solution of plant production problems. In the first case, it is often impossible to obtain adequate scale-up data from a 50 gal. reactor. This is becoming more important as reactor size increases in modern plants. In the second case, it is necessary that equipment be available

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immediately to resolve production problems, and that the polymerizer be as similar to production equipment as possible.

Another problem arises when the research facilities are using different comonomers from those in use at the production plant, which is a frequent occurrence. Common use of a single recovery/abatement facility is not possible under these circumstances.

The spirit of the Proposed Standard calls for the use of the best available technology, to encourage innovations and to minimize potential losses by encouraging research and providing means for performing needed studies on the smallest practical scale. Any regulation that discourages the use of research equipment will limit innovation and improvement in the industry, and will lead to more developmental work being done in production equipment, where the potential for major releases is increased. We believe the present wording of the standard will inhibit use of research facilities, not only because of the cost of compliance, but because of restrictions on the flexibility of operations. For example, in several installations the interconnection of research and production equipment would take the operation of the research equipment out of the hands of trained engineers and put it under the jurisdiction of production labor because of the wording of union contracts. As another example, the rate and timing of the termination and recovery of unreacted monomer at the end of a batch can affect the properties of the product, and to depend on a product-oriented facility for this important service is not realistic.

We, therefore, request that 61.60(b) and (c) be amended to read as follows:

(b) Research and development equipment of 50 gal. or smaller capacity shall be exempt from this subpart. Equipment larger than 50 gal. but no greater than 1100 gal, shall be exempt, except that total combined emissions from all sources shall be no more than 0.05 lb. vinyl chloride per lb. of vinyl chloride charged to the reactor. Each operator of such facilities shall submit a standard operating procedure to the agency for approval of its plan to meet this requirement.

The attached data in Exhibit B show that eight companies would reduce their emissions substantially in complying with the SPI proposal, while company G is already in compliance. The resulting total emissions would be about 68,000 lbs, per year, less than that emitted by reactors of 50 gal. or less, and less than 25% of current emissions. These 9 companies represent 45% of industry capacity, and include many of the major producers.

Finally, we want to address the cost-benefit issue raised by the proposed Research and Development Regulation. The Agency has declared it does not want to require a technology when it will create costs which are grossly disproportionate to the benefits derived. SPI believes the proposed Research and Development Regulation creates a problem which to date EPA has sought to avoid--namely grossly disproportionate costs for the removal of small amounts of monomer. For example the cost of compliance with

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the SPI proposal has been estimated at about \$90,000 for one research facility in excess of 50 gal., while compliance with the EPA proposal will be about \$400,000 per facility. The cost of the SPI proposal is equivalent to \$.42 per lb. versus \$7.19 per lb. of VC removed if the EPA level of 10 PPM is adopted. At least two companies have confirmed the magnitude of these estimates, based on our yet incomplete survey. These are disproportionate costs for the removal of only 68,000 lb/yr of monomer of the entire country.

Based on the foregoing SPI contends that the proposed EPA VC Standard relating to laboratories and Research and Development facilities limits and restricts the flexibility of operation of these facilities while at the same time imposing disproportionate costs for the removal of so little monomer.

We thank you for the opportunity to present these views.

Very truly yours,



John R. Lawrence
Technical Director

EXHIBIT A

EMISSIONS DATA ON
LABORATORY AND PILOT FACILITIES
($\leq$ 50 GAL. SIZE)
UTILIZING VINYL CHLORIDE

<u>Company Code</u>	<u>Reactor Size</u>	<u>Number of Reactors</u>	<u>PVC Produced #/yr</u>	<u>Emissions # VCM/# PVC</u>	<u>Emissions # VCM/yr</u>
A	50 gal.	2	30,000	.013	400
B	0.4	6	1,084	.082	89
B	3.25	1	987	.101	100
C	50	1	17,000	.165	2,800
D	.5	1	192	.25	48
D	.8	4	2,112	.33	697
D	.8	2	696	.104	910
D	15	6	23,100	.25	5,775
D	30	1	960	.25	240
D	30	2	28,800	.43	12,384
E	5	3	400	15.1	6,075
E	10	1	100	30.38	3,038
F	.5	1	380	.066	25
F	10	2	27,338	.058	1,600
F	50	2	136,687	.079	10,800
G	.5 to 2	11	16,000	.014	225
H	15	1	5,468	.17	928
H	10	1	608	.164	100
I	.5	7	2,245	.049	110
I	50	7	75,634	.063	4,870
J	5	4	76	.105	8
J	30	1	5,285	.061	321
K	2.5	1	1,823	.055	100
K	10	1	606	.05	30
L	12.5	4	15,480	.1	1,548
M	30	2	34,172	.011	375
N	10	2	66,582	.329	21,920
N	30	1	24,698	.111	2,740
O	.05	1	1,200	1.41	1,700
O	1	7	1,063	.329	350
O	10	2	304	.164	50
			521,080		80,355

EMISSION DATA ON
LABORATORY AND PILOT FACILITIES
(>50 GAL. SIZE)
UTILIZING VINYL CHLORIDE

<u>Company Code</u>	<u>Reactor Size</u>	<u>Number of Reactors</u>	<u>PVC Produced #/yr</u>	<u>Emissions # VCM/# PVC</u>	<u>Current Emissions #VCM/yr</u>	<u>Projected Emissions @ 0.05 control</u>
B	300 gal.	1	36,450	.137	5,000	1,823
D	1,100	2	888,000	.29	257,520	44,400
E	300	2	113,812	.087	10,000	5,690
G	50-100	5	10,000	.05	500	500
G	750	2	50,000	.04	2,000	2,000
H	200	1	72,900	.234	17,045	3,645
I	200	1	2,430	.079	192	122
I	220	1	12,029	.258	3,110	601
I	500	-	7,594	.008	60	60
I	1,000	1	33,413	.134	460	1,670
J	300	1	31,894	.081	2,582	1,595
L	200	1	24,000	.1	2,400	1,200
O	100	1	6,075	.164	1,000	304
O	500	1	1,519	.066	100	76
O	600	1	364,500	.011	4,000	4,000
			1,654,616		305,969	67,686

minutes



VCM/PVC PRODUCERS GROUP EPA TECHNICAL COMMITTEE

EPA - Emission Standards
& Engineering Division
Durham, North Carolina

Wednesday, September 8, 1976 - 6:30 PM
Thursday, September 9, 1976 - 8:30 AM

ATTENDANCE:

For Industry:

G. Baise, Beveridge, Fairbanks & Diamond
F. C. Dehn, PFG Industries
W. C. Holbrook, B. F. Goodrich
J. R. Lawrence, SPI
C. Loechelt, Ethyl Corp.
W. W. Madden, Firestone
J. P. Sandstedt, Tenneco
R. N. Wheeler, Union Carbide

For EPA:

Jack Farmer
Don Goodwin
Susan Wyatt

1. The EPA Technical Committee met on the evening of September 8, to review its position on R&D facilities with respect to EPA's Proposed Standard on Vinyl Chloride. It was agreed that the position stated in the letter on SPI stationery (copy attached) should be submitted. However, several members urged that the proposed change in the regulation be presented as an alternative to the language in the most current Draft Standard.
2. In meeting with Mr. Goodwin and his staff on September 9, the industry's position as presented in the SPI letter was presented with the recommendation SPI's suggested language be considered as an alternative to EPA's most recent version of the Standard.

Mr. Goodwin explained that his work on the Standard is basically completed and that there would be difficulties to make any changes or delay its issuance as it now reads. He indicated that he did understand the concepts of the problem but he would like to have more information on the specific facilities having such problems and the costs involved in conforming to the Standard as it now reads.

Mr. Goodwin indicated that if sufficient information can be supplied rapidly, he would consider introducing some language into the preamble of the Standard when it is published indicating some late information on R&D facilities is being reviewed that may require certain changes to be made in that area of the Standard. He emphasized that this is an unusual procedure and that he would need to have supporting facts

before he would propose changes in the Standard. He further indicated that he was concerned about alternate interpretations of the Standard for R&D facilities as this would cause confusion with enforcement.

3. There were no other significant comments made by the industry with respect to the proposed Standard. Mr. Goodwin did indicate that his people will be working with the Enforcement Division of EPA as it prepares its guideline Document for use by EPA's field enforcement staff.
4. In a post-meeting discussion, the industry representatives agreed that John Lawrence send EPA a letter confirming our position on the September 7 letter being used as an alternative approach. It was further agreed that all members of the VCM/PVC Producers Group be contacted and encouraged to supply EPA with the following:
 - . A description of the operating procedures that would be followed to verify compliance with the requirement that total combined emissions from all sources not exceed 0.05 lb of vinyl chloride per lb of vinyl chloride charged to the reactor.
 - . Description of R&D facilities, identifying where they are located with respect to production equipment and the type of neighborhood surrounding the facility.
 - . Information on the technical problems relating to compliance with the Standard as it now reads vs. the proposed alternative.
 - . Information on the cost of compliance with the Standard as it now reads vs. the proposed alternative.
5. The meeting concluded at approximately 12:00 noon.

Respectfully submitted,

John R. Lawrence

John R. Lawrence
Technical Director

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September 13, 1976

Mr. Don R. Goodwin
Emission Standards & Engineering Division
Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Dear Mr. Goodwin:

Following up on our meeting with you on September 9, we want to be sure that you understand that the proposed paragraph (b) included in my letter of September 7 is to be considered as an alternative to be added to the language of paragraph 61.60 of the proposed Standard.

We understand the problems that might be posed by the enforcement of such an alternative without a specific understanding of the measuring and record keeping procedures that would be used to verify compliance. Therefore, as you suggested, I am asking that our PVC Producers Group contact you with information on the operating procedures they would follow to show conformance with the suggested alternative that total combined emissions from all sources in existing 0.05 lbs of vinyl chloride per lb vinyl chloride charged to the reactor.

In addition, I am asking that those companies interested in using this alternative supply you with the following:

- . Description of the R&D facilities identifying where they are located with respect to production equipment and the type of neighborhood surrounding the facility.
- . Information on the technical problems relating to compliance with the Standard as it now reads versus the proposed alternative.
- . Information on the cost of compliance with the plan as it now reads versus the proposed alternative.

We appreciate having had the opportunity to meet with you to discuss this important matter to our industry.

Very truly yours,

A handwritten signature in cursive script that reads "John R. Lawrence".
John R. Lawrence
Technical Director

JRL:gm

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R. N. WHEELER, JR.

September 13, 1976

TO: PVC PRODUCERS GROUP VOTING REPRESENTATIVES
EPA TECHNICAL COMMITTEE

You will find attached the Minutes of the Committee Representatives with the EPA Technical Staff on September 9 in Durham, North Carolina. You will note that although Mr. Goodwin understands the problems we face in the research and development facilities meeting the proposed EPA Standard, he indicated that it would be extremely difficult to change the plan before it is published. However, he did indicate that if sufficient supporting information can be made available to him, he will give this matter his best consideration. Therefore, it is urgently requested that all of you who have a concern for the present plan to be changed to allow for the alternative proposed in the SPI letter of September 7, supply the following information directly to Mr. Goodwin as rapidly as possible:

- . Information on the operating procedures they would follow to show conformance with the suggested alternative that total combined emissions from all sources in existing 0.05 lbs of vinyl chloride per lb vinyl chloride charged to the reactor.
- . Description of the R&D facilities identifying where they are located with respect to production equipment and the type of neighborhood surrounding the facility.
- . Information on the technical problems relating to compliance with the Standard as it now reads versus the proposed alternative.
- . Information on the cost of compliance with the plan as it now reads versus the proposed alternative.

I would appreciate your keeping me and Mr. Gary Baise of Beveridge, Fairbanks & Diamond informed on any such correspondence that goes directly to Mr. Goodwin. In the event that there is any confidential information that you do not wish to be retained in confidence in the SPI files, please advise me of your activities and, if possible, copy Mr. Baise with a list concerning information for retention in his files.

The urgency of our response cannot be over emphasized if we are to give Mr. Goodwin an opportunity to make an intelligent review of our situation and hopefully approve changes in the plan.

Please contact me if there are any further questions.

Very truly yours,

John R. Lawrence

John R. Lawrence
Technical Director

JRL:gm
Attachment

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