

COMMENTS

BY

THE VINYL INSTITUTE
(A DIVISION OF)
THE SOCIETY OF THE PLASTICS INDUSTRY, INC.

REGARDING

U.S. EPA JULY 20, 1984
DRAFT PROPOSED AMENDMENTS
TO
40 CFR 61 - VINYL CHLORIDE

PRESENTED
AT THE
NATIONAL AIR POLLUTION CONTROL TECHNIQUES ADVISORY
COMMITTEE MEETING

DURHAM, NORTH CAROLINA

AUGUST, 1984

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Members of the committee and EPA representatives, I am W. C. Holbrook. I represent the Manufacturing Practices Committee of the Vinyl Institute. The Vinyl Institute is a division of the Society of the Plastics Industry and represents approximately 82 percent of the vinyl chloride production capacity and 63 percent of the polyvinyl chloride production capacity in the United States. U.S.A. member companies include:

Air Products and Chemicals, Incorporated
The BFGoodrich Company
CertainTeed Corporation
Vista Polymers, Incorporated
Borden, Incorporated
Dow Chemical U.S.A.
Tenneco Polymers, Incorporated
Shell Chemical Company
Occidental Chemical Corporation
ICI Americas
PPG Industries, Incorporated

We welcome this opportunity today to participate in this rulemaking process. We have carefully reviewed the July 20 draft proposed revisions to 40 CFR Part 61 and have developed specific comments thereon for your consideration.

We commend EPA for working toward improving the existing vinyl chloride standard. We strongly believe the standard needs to be updated to reflect our combined experience and knowledge gained since its promulgation in 1976.

Experience has shown that the industry has surpassed the expectation of the original standard in reducing vinyl chloride emissions. Data presented in the TRW report (EPA - 450/3-82-003, February, 1982, tables 4-3 and 4-4) show that actual emissions, including those from relief valve discharges, were less than half of those expected after regulation. Further reductions have continued since 1982, as shown by the Radian report of March, 1984.

Experience also has shown that, despite the various predictions of 12-20 cases of cancer per year in the general population due to vinyl chloride exposure, not one case ascribable to that cause has been found by the Center for Disease Control study started in 1964.

A study for the Agency has estimated that this industry has spent more than \$100 million per year in compliance efforts with the existing vinyl chloride standard, and will spend a total of \$760 million, 1979 dollars, through 1985. ("Cost of Clean Air" -- Battelle). We believe those figures to be reasonably accurate.

We are gratified that the Agency has recognized the effectiveness of these efforts, and has seen fit to draft proposed administrative and clarifying revisions to the standard.

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We support the Agency proposal to withdraw the revisions proposed in 1977. We believe the Agency has justifying documentation on which to base their action.

We are gratified that the Agency has reaffirmed that the emergency discharge provisions never required zero discharge, but instead was designed to regulate the occasional preventable event. The proposed standard will require further progress in our operations before we can meet it consistently, but we welcome the recognition that zero discharge is not possible or required and we also welcome a clear numerical requirement.

We are disappointed that the Agency has not agreed to our request for a de minimus exemption for emergency releases under 100 pounds. We believe that a health-based standard, such as this, should recognize a de minimus case, as the courts have done in *Monsanto Company vs. Kennedy*, 613 F.2d 947 (D.C. Cir. 1979), and as the Agency has done in a consent decree with Air Products and Chemicals, Incorporated regarding emergency discharges. (United States vs. Air Products and Chemicals, Incorporated, Civil Action No. 81-0029-P(J) (W. D. Ky.)) We request a reconsideration of our position in this instance.

We support the Agency finding that there is no significant new technology or control methods applicable to emissions control for this industry. We are doing the best that we know how to do, and we believe that the controls we have in place have, and will continue to, prevent any adverse effect to human health or the environment.

With regard to the specifics of the draft proposed revisions, we offer the following comments:

1. 40 CFR Part 61.61(1)

We do not understand the purpose of revising the definition of "in vinyl chloride service." EPA has provided no rationale, discussion or justification for doing such.

We believe that the proposed revision does not lend clarity to the existing standard, but rather adds confusion. The proposed revision does not reflect sound engineering application and would cause unnecessary regulation of many process equipment components.

We strongly recommend that the definition of "in vinyl chloride service" remain unchanged. In the event that this recommendation is not accepted, we request that Part 61.67(h)(1) be revised as follows:

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"Each piece of equipment within a process unit that can reasonably be expected to contain vinyl chloride is presumed to be in vinyl chloride service unless an owner or operator demonstrates that the piece of equipment is not in vinyl chloride service. For a piece of equipment to be considered not in vinyl chloride service, it must be determined that the percent vinyl chloride can be reasonably expected not to exceed ten percent by weight for liquid streams and ten percent by volume for gas streams. For purposes of determining the percent vinyl chloride content of the process fluid that is contained in or contacts equipment, procedures that conform to the methods described in ASTM Method D-2267 (incorporated by reference as specified in 61.16) shall be used."

We believe these changes are necessary to specify only those pieces of equipment that could be "in vinyl chloride service" under normally expected conditions. The use of the word "conceivable" would, in effect, place all equipment under the definition since it is possible to imagine some set of remote circumstances that may result in vinyl chloride entering any piece of equipment. For example, it is "conceivable" that vinyl chloride could, through a ruptured heat exchanger tube enter a refrigerant system. This would then require that the pumps and compressors in the refrigerant system comply with the requirements of 61.65(b)(3). The suggested change from "never" to "not" exceed ten percent is justified on the same basis as just described. It would be impossible to declare that something will "never" happen whereas judgments can be made that it is reasonable for something "not" to occur.

2. 40 CFR Part 61.61(o)

EPA has presented no rationale or discussion concerning revision of the definition of "ethylene dichloride purification." What is wrong with the existing definition? No justification has been presented for inclusion of storage tanks in this definition. No estimates of vinyl chloride emissions were presented. No cost impact for including storage tanks was provided. Absolutely no technical, environmental or economic justification was provided. Inclusion of "storage tanks" in this definition should not be considered unless it is demonstrated that storage tanks are a significant source of vinyl chloride emissions and that the cost associated with required controls is justified.

We recommend that the existing definition be retained and the proposed definition be deleted.

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3. 40 CFR Part 61.61(p)

The phrase "prior to sale or transfer off-site" should be deleted. "Vinyl chloride purification" should not be based on whether the product is sold or transferred off-site. Indeed, in some vinyl chloride manufacturing plants the product is used on-site to produce polyvinyl chloride.

4. 40 CFR 61.61(v)

We agree with EPA that a clear definition of "relief valve" would impart clarity to the standard. However, the draft proposed definition is not clear and can and will easily be misinterpreted and misapplied. The phrase "other pressure control systems" is vague and non-specific. It could be interpreted as covering such systems as the emergency shortstop addition system or even the refrigerated water system. Both of these systems truly are pressure control systems, but neither are in vinyl chloride service. We do not oppose the inclusion of pressure relief devices. We believe that the concept of "pressure relief" should be kept separate from "pressure control" which avoids occurrence of overpressure.

We are also concerned that this broad term could be interpreted to include the control systems on process vent streams being ducted to an emission control device. These control systems are designed to protect the control devices. As now drafted, the venting to the atmosphere through such a control system of an exhaust gas stream that is required to be controlled to 10 ppm in accordance with Sections 61.62(a), 61.63(a), 61.64(a)(1), 61.64(b), (c) and (d) and 61.65(b) could also be classified as a relief valve discharge. We believe that the discharge of an exhaust gas at a concentration greater than 10 ppm should be classified as an exceedance of the 10 ppm limit and not classified as a relief valve discharge.

We believe that 61.61(v) should be worded as follows:

"Relief valve means a pressure relief device including pressure relief valves, rupture discs, and manual vent valves used to protect process components from overpressure conditions. This term does not include exhaust gas stream bypasses of emission control devices."

This definition will cover all emergency release sources and falls in line with EPA's intent as stated on page 22 of the preamble to provide more efficient enforcement and to provide better understanding to plant operators. In the event that EPA is attempting to regulate equipment other than relief valves (as defined above) then they should clearly specify what equipment and for what purpose and include adequate justification.

5. CFR 61.62(a); 61.63(a); 61.64(a)(1), (b), (c) and (d)

EPA should clarify the proposed wording change by making it clear that such does not prohibit the combining of streams of less than 10 ppm vinyl chloride with streams of greater than 10 ppm vinyl chloride prior to such combined stream being controlled to the required 10 ppm limit. Additionally, we request that EPA clearly specify that the 10 ppm limit applies at the point of discharge to the atmosphere and not prior to control or prior to any stream combination.

EPA appears to be concerned about dilution as a means of compliance with the 10 ppm standard. We agree that dilution is not an acceptable control alternative.

Currently, in our plants, vents from a number of sources are collected together prior to control. Some of these vents could be below 10 ppm vinyl chloride and some above 10 ppm. EPA's proposed wording change should not prevent this type of activity and no new monitoring should be required at each exhaust gas source as a result of the language change.

6. 40 CFR 61.64(a)

Proposed revisions to proposed 61.64(a) appear in two places in slightly differing versions. First, there is a version starting at the bottom of page 48. Then on page 50 there is a slightly different version of (a)(1) and a new version of (a)(2).

We believe that the proposal would be easier to understand if the two versions of (a)(1) were consolidated and then immediately followed by the proposed changes to (a)(2). We recommend the following:

- (1) The concentration of vinyl chloride in each exhaust gas stream (actually discharged directly to the atmosphere) from each reactor is not to exceed 10 ppm (averaged over three consecutive one-hour periods), except as provided in paragraphs (a)(2), (f)(1) and (f)(2) of this section and 61.65(a).
- (2) The reactor opening loss from each reactor is not to exceed 0.02g vinyl chloride/kg (0.00002 pounds vinyl chloride per pound) of polyvinyl chloride, except as provided in (f)(1) and (2) of this section, with the product weight to be determined on a dry solids basis. In the bulk process, the product means the gross product of prepolymerization and postpolymerization.

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Our comments above in item 5 also apply here.

7. Proposed 40 CFR 61.64(f)(1) and (2)

We support the concept of combining the emission limits when a reactor is also used as a stripper. However, we believe the method for calculating conformance to the prescribed limit should include averaging as the current standard does for reactor opening losses (see 61.67(g)(5)(i)) and for residual vinyl chloride monomer levels in resins (see 61.70(c)(2)(v)).

8. 40 CFR 61.65(a)

We have several comments regarding this section. First, as with the current Section 61.65(a), the words "in vinyl chloride service" should be inserted in the first sentence of (a)(1)(i) after the word "reactors." This provides consistency with the existing standard and proposed Sections 61.65(a)(1)(ii) and 61.65(a)(2) and (3).

Second, we recommend that 61.65(a)(1)(i) be applied to the total of all reactors in a given plant rather than by resin type. In addition, the limit of four discharges per year should be deleted as it imposes dual requirements. We believe such changes would simplify data handling and reporting and create greater uniformity in requirements across the various plants throughout the industry. We feel the standard of 0.035 reactor discharges per 100 polymerization batches is stringent. It will require further progress in our operations before we can meet it consistently, but we welcome a clear numerical requirement.

We do see a problem in stating this standard this way since there is no such thing as a fractional discharge. We believe a mathematical rounding procedure should be used in determining compliance. Otherwise, it is possible that the number of actual discharges (for instance three) could cause the calculated ratio to just exceed the standard of 0.035 discharges per 100 batches, while one less discharge (two) would give a calculated ratio significantly under the standard of 0.035 discharges per 100 batches. At the extreme, it is theoretically possible that 1.99 discharges could be just under the standard while 2.01 discharges could be just over.

Therefore, we recommend that the phrase "0.035 discharges per 100 polymerization batches" in proposed (a)(1)(i) be replaced with the words "the number (rounded off to the nearest integer) which is the product of 0.035 times the number of polymerization batches."

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We also recommend that the calculations proposed for determining compliance in 61.70(d)(1)(i) and (ii) be revised to reflect such rounding. Rounding shall be in accordance with government standard procedures.

9. 61.65(b)(7)

We suggest that additional language be added to 61.65(b)(7) to allow the destruction of unused portions of samples rather than require that they be returned to the vinyl chloride process. This can be accomplished by inserting wording in 61.67(b)(7) as follows:

"Samples. Unused portions of samples containing at least ten percent by weight vinyl chloride are to be returned to the process or destroyed to 10 ppm or less, and sampling techniques are to be such that sample containers in vinyl chloride service are purged into a closed process system."

This would allow the flexibility of destroying unused samples without returning them to the process unit. In some situations, samples are sent to outside laboratories for analysis and it is more convenient to destroy the sample on-site rather than return it to the process. This change should not impact emissions of vinyl chloride in any way.

10. 40 CFR 61.65(b)(8)

We object to the imposition of additional leak detection and elimination program requirements. We see no environmental justification to add the recently promulgated Subpart V, NESHAPS requirements for benzene leak detection to this standard while at the same time retaining much of the original leak detection program of the current standard.

We would not object to and indeed we would welcome being given the option of either continuing with the leak detection and elimination programs we have in place or complying with Subpart V - National Emissions Standard for Equipment Leaks as published in the June 6, 1984 Federal Register beginning on page 23513. Such an option would enable large multi-product manufacturing complexes to standardize leak detection and repair programs throughout their complex rather than having separate programs for vinyl chloride, benzene, etc. At the same time it would enable those of us to continue with the successful programs we have in place if we so choose.

EPA has concluded that the standards promulgated under Subpart V reflect control levels for volatile hazardous air pollutants which are protective of public health. That should be more than adequate for vinyl chloride. At the same time, EPA has presented no concrete justification for revising the current

Section 61.65(b)(8). No estimate of reduced vinyl chloride emissions has been presented. No cost impact of the proposed revision has been provided. No specific control technology improvements have been specified. EPA has not identified what is broken with the current standard. So it rationally follows that either option should be adequate as a leak detection and elimination program. We therefore request that such option be incorporated into the revised standard.

11. 40 CFR 61.67(h)(3)

The phrase "...or the gas being combusted in the flare." is perplexing and seems unnecessary. We agree that representative samples are desirable, but do not understand the implications of specifically mentioning flares. EPA should either explain the intent of this phrase or delete it as redundant and unnecessary.

12. Page 62, Item 11

The notation appearing on page 62 of the typewritten draft needs to be changed from 61.68 to 61.67 Emission Tests.

13. 40 CFR 61.70(a)

Proposed revisions to 61.70(a) given on page 64 of the typewritten draft would set September 15 and March 15 as the dates for the semiannual reports and December 15 and June 15 for the new proposed quarterly relief valve discharge reports of proposed new paragraph 61.70(e).

Not all facilities are on the September/March semiannual report schedule of existing 61.70(a). Some existing facilities had initial compliance dates not corresponding to the final compliance date of the original standard, and thus were assigned other reporting schedules pursuant to 61.70(b)(1). Therefore, the Agency needs to make clear whether existing reporting schedules or the fixed schedules of proposed 61.70(a) will be controlling. If all facilities are to come into conformance with the proposed set schedule, an adjustment period should be allowed. If not, some provision needs to be made to 61.70(a) as proposed to authorize reporting on a schedule at variance with that given.

We propose the following wording in order to cause the least disturbance to the current program:

"Beginning with the first full three month period following the first regular semiannual report after the final promulgation of this revision, the owner or operator of an affected facility will begin to submit the reports required by new paragraph (e) of this section, and that

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the information required in (c), (d) and (e) be continued in the first regular semiannual report submitted after a full six month period following promulgation."

14. Finally, in the interest in adding clarity to the standard, as well as ease of enforcement, we suggest that EPA consider adding definitions to 40 CFR 61.61 for "relief discharges," "exhaust gas" and "leak." As is, a leak could in some cases be considered a relief discharge as could exhaust gas. Definitions based on specific features of each of the terms could be incorporated into the standard. For each, features such as purpose, character, controllability, desirability, accountability and occurability could be used in developing an appropriate definition.

For example, exhaust gas has a purpose and is a result of process operations. It is desirable and intended. It has a character of being routine. It is controllable by treatment. It can be monitored and its occurrence is continuous or semi-continuous.

A relief discharge, on the other hand, is episodic and its purpose is safety. It is controlled by avoidance and it is necessary to protect life and property. It can be accounted for by estimation.

Finally, a leak has no purpose, it is not desirable and it is near impossible to account for. It is a result of a malfunction. It is episodic and it can be controlled by repair.

That concludes our comments, suggestions and requests. Again, we appreciate the opportunity to present our views on this proposal. Should you have questions, we will attempt to answer such here. Should you desire to meet with us to discuss our views in more detail, such will be arranged.

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