

SOURCES FOLLOWING THE STRIPPER

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This presentation addresses the area of control of most concern to the PVC Industry. Specifically, the Industry is concerned with the exceptions to the level of control defined in Sub-section (c)(6) for sources following the stripper. We appreciate this opportunity to discuss this subject with you. Our approach is to define the benefits and costs of these exceptions in order to provide factual bases for elimination of these exceptions.

The regulation as currently revised does not specify the point source control alternative included in the March, 1975, draft. Although the PVC industry has indicated that stripping is the preferred control alternative, this option may not be of general utility. First, stripping may be restricted by patents. One company has already announced patent filings. In addition, stripping may not reach the 2000/400 ppm standard for all resin grades. Although Paragraph (d) does provide the point source control alternative (equivalent control), we suggest this option should be the primary control basis to preclude the application requirement. We also suggest that the stripping alternative be included to provide for the preferred control alternative.

The current form of the regulation requires redundant control of the slurry blend tank vents, (c)(5). In the interest of achieving consistent control, we suggest that Paragraph (d) could be used with the point source control alternative as a basis for applying for an "or equivalent" variance. To illustrate, a rotary dryer with add-on point source control of the primary exhaust, would emit about 400 lb per MM lb PVC for a discharge concentration of 10 ppm (v/v). Point source control devices at other emission sources following the stripper; i.e., the slurry blend tank vents, would increase this value. Therefore, stripping to less than 400 ppm RVCN in the slurry precludes emissions following the stripper exceeding the emissions from the point source control alternative. These data also apply to exceptions (c)(7) and (c)(9) in Paragraph (c)(6) and to any other exceptions that may be proposed. In summary, we suggest that any exception to Paragraph (c)(6) is redundant, if the point source control alternative is available.

We also wish to address the subject of benefits to be achieved by the exception of controlling emissions from slurry blend tanks in addition to stripping below 400 ppm RVCN. The EPA has suggested that the currently used atmospheric vessels be replaced with pressure vessels to permit venting through an add-on control device without exceeding vessel pressure limitations. We suggest that the benefits will be negligible in terms of reduced VCl emissions. If this option were selected, the vessels would be designed to permit non-venting operation. The VCM which would be vented from the slurry blend tanks would be retained in the slurry and be vented from the dryer. Thus, the overall benefit would be small, but the cost would be unacceptably high, in the range of \$2 to 3 MM for a model suspension plant.

We would not mislead the EPA to suggest that this is the only alternative for control of the slurry blend tank vents. Speculative designs have been proposed for storing unstripped slurries in atmospheric tanks without a normally operating vent. The investment would be substantially less than the range above, but the emissions would not be affected substantially because again the contained monomer would for the most part be released in the dryer. We regret the use of qualitative terms in describing the affect on emissions. Due to other priorities, specific data on relative quantities vented is limited and questionable, especially with regard to sampling and analytical procedures. Direct data is not available because installation of control systems is incomplete. Although substantial effort toward calculation of emissions has been attempted, we would be reluctant to testify to their accuracy without commercial scale data for verification.

We also suggest that the slurry blend tank vents are a critical control area for compliance with a very stringent OSHA regulation. We do not anticipate elimination of routine visual level verifications in existing plants; the technology is not known. One alternative for protection of operating personnel is to collect the vents which must then be dispersed. Substantial investment has already been allocated for such systems. Add-on controls would require substantial additional investment. The preferred alternative would be to install the system to eliminate the normally operating vents and ~~divert~~ divert the emission to the dryer. Here again, we find that we achieve very little in benefit, but substantially complicate the operability of the plant.

Another most important factor for consideration is the ~~regulating~~ ^{resulting} intrinsic safety of the process after control revisions. An induced-draft tank vent system can be designed to preclude the existence of flammable mixtures in the slurry blend tanks. Add-on control devices for induced-draft systems are substantial more expensive than for natural draft systems, but the natural draft system would not necessarily prevent the formation of flammable mixtures. In addition, a central add-on control device would through connecting lines subject all slurry blend tanks to a fire should it occur in one. An induced-draft system would preclude this disastrous potential.

We also have comment on Exception (c)(7) in Paragraph (c)(6). Paragraph (c)(7) refers to relief valves "in vinyl chloride service." We suggest that by definition no vessel following the stripper is "in vinyl chloride service." The stripper itself is border-line depending on whether the RVCN contained in the water phase and in the solid PVC is considered "in the liquid state." This comment also applies partially to Exception (c)(9), in particular to: (i), (ii), (iii), (iv), and (vi).

The remainder of Paragraph (c)(9) is expected to add little to the control of emissions. We would not expect to encounter any violation of (c)(9)(v) or (c)(9)(viii) after the slurry has been stripped to less than 400 ppm. We suggest that (c)(9)(7) applied to sources following the stripper would also produce very little in terms of emissions reduction but could contribute substantially to the costs of administering the regulation.

We suggest that the EPA consider the 400 ppm in slurries in the same manner as OSHA has set a no-action level at 0.5 ppm. We feel that these levels are likely to be consistent especially downstream of the dryer. Specifically, we suggest that Paragraph (c)(6) be revised to delete the exceptions and the remainder to be reworded to give a no-action level. Thus, we as an industry can work toward a goal that will achieve the EPA's target on emissions and eliminate the substantial costs of continuing monitoring.

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GENERAL EMISSION CONCENTRATIONS

Throughout the revised draft standard, there is the requirement that exhaust gases to the atmosphere be controlled to a maximum vinyl chloride concentration of 10 ppm. See, for example 61.62 (a) (1), (a) (4) (iii), (a) (4) (iv) (B), (a) (4) (vi) (B), (b) (1), (b) (3) (i) (A) (2), (b) (3) (i) (B), (b) (3) (iv), (b) (3) (v), (b) (3) (viii) (B), (c) (1), (c) (2), (c) (3), (c) (4), (c) (5), (c) (9) (i) (A) (2), (c) (3), (c) (4), (c) (5), (c) (9) (i) (A) (2), (c) (9) (i) (B), (c) (9) (iv), (c) (9) (v) (B), and (c) (9) (viii) (B).

The Industry Presentation before NAPTAC on 25 March 1975 stated that there was no proven technology which can produce this result, and this position has not changed. Indeed, it is sustained by the EPA Support Document.

The statements on pages 18 and 19 of the revised document clearly show the developmental nature of the art here, and the speculative nature of the judgment made that these technologies can be developed, engineered, purchased, installed and brought to operational conditions within two years.

Promulgation of such a stringent standard that has such farreaching effects on a national industry, on the hours of "a source test on one incinerator" (concentrations and flow rates unspecified), "Pilot studies for carbon adsorption" and a "solvent absorption unit which was not designed specifically for vinyl chloride" are all too reminiscent of past actions ~~by their agency~~ which have proven unwise in the light of subsequent developments.

The original draft of the Standard Support Document stated that incineration was not considered suitable for this application. It also states, Chapter 5, page 21, that dilute streams are better controlled by means other than solvent absorption. It is concluded on page 5 of Chapter 5 that carbon absorption is not feasible for dilute streams. No new supporting data are available now that were not available then to sustain a claim that any of these methods can be applied to the broad spectrum of sources cited above. We refer you to the presentation of Mr. Madden, pages 36 - 42, of the referenced presentation before NAPTAC, for more details.

It may be possible that carbon absorption can be developed for use with concentrated streams such as the recovery vent in PVC plants, but this must await the results from the single commercial unit which has been in operation for less than three months. As recommended to you before, proper work practices and the best available technology can reduce the other streams to a suitably lower level. No justification can be shown for more stringent requirements on the basis of health or environmental effects.

We urge that these requirements be eliminated.

MATERIAL BALANCES

Section 61.64 (a) (4) requires that monthly material balances be submitted that "quantify all point and fugative source emissions."

During the February visit of industry representatives to the EPA offices in Durham, this point was discussed, and it was stated by EPA officials that they too agreed that short term material balances were not sufficiently accurate to be of value. Their conclusion was repeated in the original Standard Support Document draft.

We are, therefore, very surprised to find this requirement reappearing at this time. It is no more valuable now than it was three months ago. A substantial "unaccounted" segment will vary from month to month as inventory corrections are made. The only purpose that will be served is that critical economic data for a manufacturer will be spread on the public record for his competition to view.

We recommend that EPA abide by its earlier decision to eliminate this requirement.

MANUAL VENTING

The proposed standard requires that all manually vented gases be sent to a control device, (61.62 (a) (4) (iii), and (c) (9) (iv), Earlier statements have commented on the 10 ppm requirement of this device. This section deals with the need for direct venting to atmosphere under emergency conditions.

It is proper that all venting should, whenever possible, be taken to a recovery system, gasholder, empty vessel, or otherwise confined. This is the practice of the industry now, and will continue to be. There are infrequent but critical times, however, when the manual venting of a small quantity of gas to the atmosphere can prevent the later release, perhaps disastrously, of larger quantities. One example is in the event of a major power outage, as from a hurricane, when all available contained vent capacity is already utilized, and it is necessary to provide agitation to mix in shortstop to prevent a runaway reaction. EPA has recognized in the section on relief valves that there can never be 100% assurance that the safety devices will never be called upon to perform the duty for which they were designed.

Further, venting under emergency conditions through a nontrol device would well negate the purpose of the safety action because of the pressure drop through this device, as well as destroying the device, for example by blowing all of the carbon out of an absorption bed.

Therefore, we recommend that these sections be revised to permit manual venting to atmosphere in the event of emergency conditions that so require, and that those ventings be reported within ten days to the Area Director. We believe that the Area Director, rather than the Administrator, is the more appropriate person to notify in both these cases.

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AVERAGING OF RESIDUAL MONOMER
BY GRADE

The proposed standard requires that reports on residual monomer be made for each grade 61.64 (a) (1) (iv). It also considers all sources downstream of the stripper in compliance if the residual monomer at that point is below 400 ppm for suspension resins and 2000 ppm for dispersion resins (c) (6).

We request that grade averaging be permitted to determine compliance. There are still some materials which industry has not been able to reduce to these concentrations, despite serious effort. These include certain vinylacetate copolymer, and very low molecular weight homopolymers, for example. Obviously, if an entire plant running at an emission rate of 400 ppm is acceptable, it makes no difference if this comes from two products at 400 ppm each or equal parts of resins at 500 and 300 ppm.

This change will provide the incentive for producers to try to improve beyond the prescribed limits, and protect a small but important segment of the industry for which the needed technology has not yet been developed.

EFFLUENT

The proposed standard requires that the effluent from ethylene dichloride plants be held to no more than 5 ppm (a) (4) (vi), to 5 ppm in vinyl chloride plants (b) (3) (viii), and to 6 ppm in PVC plants (c) (9) (viii). (The reason for these differences is not clear.)

We assume that this means the aqueous effluent stream, although it is not so stated. We also assume that the centrifuge effluent is exempt if the stripped resin is below 400 ppm, although section (c) (6) is not adequately clear on this point. If this is not true, there is again double abatement of the same stream.

The reason for the choice of these concentrations is not given, nor has EPA reported on any commercial application of this technology. We request clarification of the assumptions listed above, and demonstration of proven technology to reach the prescribed concentrations. We also wish an explanation of the rationale for the choice of the concentrations proposed.