

Laundie

STANDARD SUPPORT AND ENVIRONMENTAL IMPACT STATEMENT

Emission Standard for Vinyl Chloride

October, 1975

EPA-450/2-75-009

Comments by Union Carbide Corporation

Preface

The preparation of an environmental impact statement as well as a standard support document by EPA represents a mature action on the part of a governmental agency to thoroughly evaluate all aspects of a proposed control action. The data and conclusions may be subject to question but the expressed purpose of EPA to study thoroughly its proposed emission standard for vinyl chloride is exceedingly admirable and greatly appreciated.

Summary

Page 1 - 2 The proposed standard does not apply to ethylene dichloride production via the reaction of ethylene and chlorine and since these plants emit no vinyl chloride, there is no reason to regulate them under this proposal. This is not clear in the summary.

Page 1 - 4 The projected reduction in fugitive emissions can hardly be based on best judgement if neither the total fugitive emissions nor the effect of the proposal are measurable. The reduction in fugitive emissions projected is an arbitrary guess.

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Page 1 - 5 Synthesis of ethylene dichloride by reaction of ethylene and chlorine are not covered by the standard proposed.

Page 1 - 7 Emissions from opening reactors should more properly be 0.002 Kg/100 Kg of reactor product. The 0.001 Kg limit appears to be based on an error in calculation.

Page 1 - 13 In its consideration of alternatives, EPA failed to consider a highly logical alternative, i. e., establish an interim vinyl chloride emission standard based on measurable emissions followed by a permanent standard when missing data became available.

Page 1 - 17 Table 1 - 4 The line in the matrix relating to a more stringent standard should be deleted. EPA set the most stringent standard it could based on best available technology; therefore, the line relating to a more stringent standard has no meaning particularly since the various impacts could not even be guessed at and were shown as no impact.

EPA credited its economic and inflation impact for the effect of the OSHA vinyl chloride standard since some of these costs would reduce costs due to the EPA standard. It did not credit the air impact for the effect of OSHA. The effect of OSHA would most certainly offset the increase from industry growth, thus the primary air impact of a delayed standard would be the same as no standard.

" Page 1 - 28 The projected increase of six to 38 percent in water use by PVC plants as a result of the standard is subject to a variety of interpretations. Most certainly more steam and cooling water would be required, but these rarely end up in the waste disposal system. In general, these streams are recycled, thus the net plant consumption of water would likely not be measurably affected.

Page 1 - 29 The statement that if polymerization occurred on the carbon it could be regenerated by oxidizing the polymer is pure conjecture. Since activated carbon is more easily oxidized than PVC, removal of the PVC polymer by oxidation leaving the carbon is unknown technology.

Page 1 - 32 The diversion of the hundreds of millions of dollars from the investment in new production facilities to simply invest for maintaining the status quo in the PVC industry does not enhance the long or short-term productivity of man and his environment. Resources, men and material are being committed to reduce ambient concentrations of vinyl chloride. The public health may be protected at a public cost.

2. Rationale for Regulating Vinyl Chloride

Page 2 - 5 The continued reference by EPA to an occasional vinyl chloride concentration peak of 33 ppm represents extreme confidence in a single unconfirmed analysis by a method of analysis under development. Deletion of this one item from the report would improve its credibility, particularly among knowledgeable people.

The assumption that the VC-PVC industry will continue to grow at a rate of 10% per year is not supported by fact. No new PVC resin plants have been planned in the United States since the OSHA standard was promulgated. The new plants now being completed were under contract prior to VC controls.

6 Page 2 - 6 The discussion of the effect of the OSHA standard shows a lack of full understanding of the regulation. At levels of 1 ppm or less in the work space air, normal ventilation techniques are ineffective; thus, the employer must reduce concentration by work practice and engineering controls. The standard requires exposures of 1 ppm or less without respect to use of respirators. Some transition time is permitted using respirators. Engineering plans must be submitted promptly to OSHA providing for reduction of exposures to less than 1 ppm. There is no deadline for completion of the plans, but the OSHA officer must be concerned that proper progress is being made. The results of the OSHA regulation will be uniform in all plants, the method of obtaining results is left to the operator or owner.

Page 2 - 7 As noted previously, EPA did not consider the alternative of setting an interim standard on measurable emissions. A delay until additional toxicological or epidemiological data is available is unthinkable, but a partial delay until a proper emission survey is made with the effect of OSHA is reasonable and logical. Control of VCM via Section 112 of the Clean Air Act is the most logical legal move considering other legal alternatives. It is obvious that there is no good legal system for control. The requirement that industry invest \$198,000,000 in new facilities and have them operating within two years is impossible.

enlarge
② Page 2 - 17 The expressed concept of "socially acceptable risk" is a commendable attitude on the part of EPA. It is, however, difficult to believe that "socially acceptable risk" cannot be related to cost as well as other desirable attributes.

Page 2 - 20 EPA's understanding of industrial economics is hazy at best. A multi-product company with a PVC division will not go out of business if PVC becomes unprofitable, but it will certainly discontinue manufacture of PVC more quickly than a single-product company making PVC. The probability of company failure is not a proper measure of economic impact. The disappearance of jobs and facilities is a direct measure of impact.

Page 2 - 29 EPA's decision to exempt PVC fabricating plants from control is highly commendable. Technically, it is a proper decision while it may not be a good political decision, i. e., there are many apparently knowledgeable people favoring a much broader standard.

Page 3 - 10 "For this reason (there are several gas streams which are not measured as accurately) material balance values for fugitive emissions from vinyl chloride plants are less accurate than material balance values for fugitive emissions from polyvinyl chloride plants."

The precision of the estimate of fugitive emissions from VCM plants is poorer because it is a smaller residue from an overall material balance calculation, not because of more accurate measurement in either plant. This statement should be removed or modified per the comment.

• Page 3 - 11 "The process (suspension) involves the mixing of a weighed amount of vinyl chloride in a metered amount of water, catalyst and suspending aids."

Weighing is not universally used for vinyl chloride charging and neither is metering for the other components.

Page 3 - 13 "Because of equipment failure, power failure, or operator error, run away reactions occasionally occur in the reactors."

The reasons cited do cause runaway reactions; however, these are not the sole reasons. On occasion trace contamination of raw materials or for unexplained reasons there are runaway reactions.

Page 3 - 17 "Most polyvinyl chloride producers assume that the unaccounted for loss in polyvinyl chloride plants consists primarily of vinyl chloride vapor emitted to the atmosphere."

This is an unwarranted assumption on the part of EPA and stems largely from the built in bias of the initial Section 114 inquiry. EPA's own contractor set the fugitive losses as 50% solid and 50% gas based on its review of the data submitted. Assuming the true value is 25% solid and 75% gas, it is difficult to visualize how the EPA proposal can capture all the 75% gas loss and 60% of the solid loss.

Page 3 - 17 The discussion of the material balance accuracy is incomplete. All measuring devices have a systematic error that is constant and a precision error that may be $\pm$ some value. EPA addresses itself to the

precision error only when it discusses weighing as $\pm 1/2$ percent. Admittedly the precision errors tend to cancel over a period of time but the systematic error remains. Assuming that the error in overall material balance is 1% which would be very good, the error in the fugitive emissions estimate could be off 130% if EPA's contractor value is used and 66% if EPA's value is used.

Page 3 - 22 "3.2.24 Solvent Polymerization"

The description of this process bears no relationship to the data submitted by Union Carbide Corporation in May, 1974. This error was pointed out in a subsequent letter to Mr. Don R. Goodwin dated March 26, 1975. Since this information has been supplied EPA twice, there seems to be no need for restating it here. Either the proper process data should be shown or this section should be omitted.

Page 3 - 24 "Because the process is continuous, emissions from the reactor area are relatively low."

This is a remarkable understatement. Ignoring the fugitive emission category ^{AS} ~~is~~ of no value, ^A A measurable loss occurs in the monomer recovery

system. All other current major loss categories are estimated to amount to 0.000005 lbs./lb. of resin produced.

Page 3 - 28 The ethylene dichloride facilities operated by Union Carbide Corporation at Taft, Louisiana and Texas City, Texas are a reaction of ethylene and chlorine. This fact should be noted here and in subsequent references.

Page 3 - 30 The facilities of Jennat Corporation are used to produce latex.

Page 3 - 39 Table 3 - 7 shows an emission from process waste water 0.025 pounds per 100 pounds of PVC. Since there is no identifiable waste process water stream and reactor flush water is covered by the reactor opening emission, this is erroneous and should be removed. (No process water emission was identified by EPA's contractor - Houdry.)

Page 3 - 40 Table 3 - 8 shows an emission from process waste water of 0.011 pounds per 100 pounds of PVC. Since this process uses no water this is obviously an error. No process water emission was identified by EPA's contractor - Houdry.

Page 3 - 41 Table 3 - 9 is erroneous. The solvent process has no reactor opening loss, no stripper loss, no reactor safety valve vent losses and no process water loss. Currently, item G is approximately 0.0005 pounds per 100 pounds of product. The monomer recovery system loss is approximately correct. Since emissions from the solvent process are already only 10% of the suspension process, the process should be exempt from the standard proposed.

Page 4 - 3 Adsorption

The probability of peroxide formation on the activated carbon bed when used to scrub gases containing oxygen as well as vinyl chloride has been pointed out to EPA. It should also be noted that no tests of scrubbing vinyl chloride from air streams have ever been conducted on a plant or pilot basis; therefore, this should be considered unproven technology.

Page 4 - 4 Refrigeration

The discussion of refrigeration appears to be superfluous since it is already widely used by industry and it cannot, except under extreme conditions, reduce vinyl chloride in the vent streams to 10 ppm.

Page 4 - 71 4.12.5 Purge Water System

The calculation shown for vinyl chloride emission to the air per reactor opening is erroneous. The vinyl chloride concentration is in volume or mol

percent and must be converted to weight percent before use in the calculation. Substituting the proper conversion yields an emission of 0.00002 instead of 0.00001 pounds per pound of resin.

Page 6 - 9 Table 6 - 2 on vinyl chloride mass emission reduction is in error with regard to uncontrolled emissions from a PVC solution plant. The data supplied EPA on this size plant in 1974 was 36 pounds per hour, not 53 pounds per hour. In a letter dated March, 1975 this emission was reduced to 1.8 pounds per hour. On the same basis current uncontrolled emissions are 0.9 pounds per hour. With the proposed EPA standard this could be raised from 0.9 to 1 pound per hour.

Page 7 - 15 7.7.2.3 Dispersion Polyvinyl Chloride Model Plant

The discussion of control and no control of water from the centrifuge is confusing. A representative dispersion PVC plant contains no centrifuge and makes no resin water separation until drying in the spray dryer.

Page 7 - 40 The Jennat Corporation PVC plants discussed are latex plants where some vinyl chloride is used in the manufacture of some products. These plants should not be lumped into other PVC operations and assumed to be shut down.

Exception is also taken to the method of estimating job loss, i. e., since these four plants represent less than one percent of total industrial capacity they also represent less than one percent of employment. Thus, 30 people would be unemployed. The number of people in a plant depends on process and design factors and, unfortunately, does not vary directly with production.

Page 7 - 41 Raw material price rises do not translate directly into equivalent price rises in finished or fabricated products. Business working capital rises requiring a return for its use. The multitude of sales taxes, property taxes and the like are based on material costs; thus, a raw material price increase pass through must be 10 to 20% higher just to maintain profitability at the same level.

Page 7 - 88 Table 7 - 13

Item 8A - Where does all the water come from to be totally stripped?
Dispersion resin plants dispose of process water via the spray dryer.

Page 8 - 1 8.1 Selection of Emission Sources to be Covered by the
Proposed Standard

This section should be revised as follows:

"For the reasons explained in Chapter 2, EPA has determined that ethylene dichloride-vinyl chloride plants and polyvinyl chloride plants using

the suspension, emulsion or bulk processes are to be covered by the proposed standard."

The discussion of PVC resin processes in Chapter 3, as well as the report of EPA's contractor, shows that EPA has not developed an understanding of the solution polymerization process operated by Union Carbide and that emission data submitted by Union Carbide has been ignored. For these reasons, establishment of a standard covering these facilities should be postponed as EPA did for miscellaneous sources until it has the opportunity to fully study this process. Since the air emissions from these two plants currently total approximately ten pounds per hour, no serious hazard would develop from such a postponement.

EPA could consider that the Union Carbide Corporation solution polymerization process constitutes best available technology as a whole due to the fact that there is no reactor opening emission, no stripper emission, no reactor safety valve emission and no process water emission. Resin is discharged from the stripper at approximately 5 ppm residual vinyl chloride content. Dry resin from this process contains no detectable residual vinyl chloride. If Union Carbide Corporation operated its solution polymerization plants according to the letter of the proposed standard, it would increase emissions - not decrease them.

Page 8 - 2 "Second, the definition of stripper for all resins except bulk resins includes 'in the slurry form'."

Vinyl chloride is wholly removed from solution polymerized resins while they are in solution and prior to formation of a resin slurry. Thus, by definition there is no stripper in the solution polymerization process.

Page 8 - 2 Based on data reported to EPA by individual companies in the spring of 1974 and assembled by EPA's contractor, Houdry, fugitive emissions of VCM represented approximately 20% of the total emissions from polyvinyl chloride plants using suspension dispersion or bulk processes.

Page 8 - 3 "For several of the fugitive emission sources the proposed standard applies only to those pieces of equipment 'in vinyl chloride service.'"

The term "in vinyl chloride service" is not well defined to achieve EPA's objective in excluding pieces of equipment. It should be redefined as follows:

(2) "In vinyl chloride" service means that a piece of equipment contains as a major component a liquid that is at least 10% by weight vinyl chloride or a gas that is at least 10% by volume vinyl chloride.

A vacuum stripper with side or bottom entering agitators would obviously be exposed to liquid well below the 10% by weight limit, yet the vapor space in the stripper would probably exceed the 10% by volume limit. The need for double mechanical seals on such agitators is not apparent, yet by the present definition double seals would be required. An alternate approach might be to define "in vinyl chloride service" in terms of the fluid contacting the equipment in question.

Page 8 - 16 The proposed averaging of all grades in any one resin type over a 24-hour period is overly restrictive and tends to favor large multiple-line plants as opposed to single-line plants.

EPA's objective in reducing peak ambient concentrations of VCM also has merit. In an effort to secure something of each, stripped resin residual VCM content could be averaged over a 28-day period if the 24-hour average did not exceed twice the 400 ppm limit on any day in the period.

Page 8 - 20 "The proposed standard limits the emissions of vinyl chloride from opening reactors to 0.001 Kg/100 Kg of product."

As noted earlier this standard is based on an erroneous calculation and should more properly be 0.002 Kg/100 Kg of product.

This is another area that would benefit greatly from the averaging of emissions across resin grades. As noted in the discussion the rate of reactor fouling varies depending on reactor design and the recipe for a particular resin. Reactors operating on a single resin grade do not all foul at the same rate.

EPA is in effect edicting that each reactor meet the limit. This puts the plant manager in a position of either operating a reactor longer than he believes is safe and running a risk of loss of control or reporting excessive reactor emissions to EPA. In the interest of improved plant safety, averaging reactor opening emissions should be permitted.

Page 8 - 21 A major factor in reaching a zero emission limit for relief discharges is operating with a clean reactor, thus the averaging proposed previously for reactor opening emissions is important. A reactor opening emission limit should not force the plant operator to use a badly fouled reactor.

Page 8 - 22 "For the purposes of the proposed standard, operator error is considered to be preventable."

In case of operator error, exactly who is to be held responsible, the operator or the plant manager? This statement goes beyond normal legal

responsibility based on negligence. If an operator is improperly trained, then the plant manager can be held responsible. If an operator makes an error in judgment after careful consideration of all factors, it is doubtful if EPA could enforce this statement.

Page 8 - 22 Fugitive Emission Sources

Union Carbide Corporation in its earlier comments questioned the need for EPA control in the area of unaccounted for material, i. e., EPA's "fugitive emissions" and the accuracy of EPA's estimate of "fugitive emissions." It also strongly endorsed the concept of control of measurable significant emissions if indeed control is required. Within the group of items for control of fugitive emissions only one represents a significant measurable emission, opening of major equipment for cleaning and maintenance that is not being controlled by the present OSHA standard for vinyl chloride.

Page 8 - 25 Loading and Unloading Lines

The limit 4.1 liters (1 gallon) is confusing. Assuming that the metric limit is correct then the proper gallonage is 1.08 gallons. Union Carbide presently reduces unloading hose pressure to six pounds gauge and emits 3.2 gallons of gas per hose as compared to the proposed limit 1.08 gallons. This emission amounted to 24 pounds of vinyl chloride emitted to the air at South Charleston, West Virginia for the entire year of 1975. EPA's proposal would reduce this to 7.5 pounds per year and require an investment of \$50,000 to \$100,000 for more elaborate purge equipment.

Slip gauges are being rapidly phased out for tank car gauging of vinyl chloride. Most of Union Carbide's tank cars are equipped with sealed gauging systems and a complete elimination of the slip gauges will occur in 1976.

This area is amply controlled by the OSHA vinyl chloride standard on a performance basis, i.e., the work space air must have less than 1 ppm VCM concentration. The only area of EPA concern should be when leakage is ducted to the atmosphere, in which case it becomes a measurable vent.

On reciprocating pumps, Union Carbide Corporation informed Mr. Don R. Goodwin of EPA that it was attempting to reduce pump emissions through use of dual packing systems. This work is still ongoing and is not a proven technology. For reciprocating machinery glands there is no such item as a mechanical seal as implied by the proposed standard. Mechanical packing is universally used. Union Carbide Corporation will continue its work in this area, but it would like to be able to secure relief in this area if the dual packing system proves unworkable. Since this is a part of the solvent polymerization process which emits the least VCM of any PVC process, we feel that exempting these pumps from control is not an unreasonable request.

EPA's excessive concern for relief valve leakage is based primarily on reactor or polymerizer control problems and a general lack of knowledge in this area. A properly selected, installed and maintained relief valve is less likely to leak than any given shut off valve in an industrial plant. Union Carbide Corporation sets its relief valves at least 10% higher than the vessels normal working pressure. The valve seats are lapped and the valve leak tested at its operating pressure. If a relief valve is actuated it is removed, cleaned, the seats relapped and the assembly leak tested. If a relief valve is in service for six months in polymer service it is removed for cleaning and checking. If a valve is in clean service it is cleaned and checked annually. A recent survey of 76 relief valves in the dispersion resin plant showed no leakage by any relief valve. A relief valve is a rugged device machined to close tolerances as compared to a rupture disc which is basically a thin metal diaphragm that must be very carefully installed to avoid premature failure. Even a carefully installed rupture disc can leak or fail after a period of use due to metal fatigue or minor corrosion. EPA's statement that a rupture disc is less likely to leak than a relief valve is largely based on theory rather than industrial practice. Truly a thin metal diaphragm is less likely to leak than a lapped valve seat but only so long as the comparatively fragile disc maintains its integrity. When a relief valve is actuated by itself it vents off dangerously high vessel pressure and reseats. When a rupture disc and relief valve are in series and the vessel relieves, most of the time pieces of the rupture disc lodge in the relief valve seat and prevent

its closing when the pressure is relieved. An even more dangerous situation arises when the rupture disc leaks vessel pressure into the space between it and the relief valve, thus effectively raising the vessel relief pressure by 100%. Such a situation leads to vessel rupture. This can be avoided by venting the space between the rupture disc and the relief valve to the air but then another potential emission source is created. The chemical industry has the knowledge and know how to select proper relief devices for its equipment. Union Carbide believes safety valve leakage is not a problem and the specification of relief devices should be left to those who fully understand the hazards involved. Leak testing of relief devices on a regular basis should certainly be viewed as an equivalent to the proposal if not superior to it.

Page 8 - 28 Manual Venting of Gases

The requirement that all gases manually vented be ducted through a control device shows that EPA does not fully understand PVC plant operations nor does it fully appreciate the violence of an uncontrolled vinyl chloride polymerization. The request by industry was for emergency manual venting to be considered the same as a relief valve release, i.e., something to be avoided if humanly possible but permissible to prevent disaster. PVC polymerizations are generally catalyzed by the decomposition of an organic peroxide into free radicals. These free radicals then initiate the polymer chains. For a controllable polymerization the peroxide catalyst is selected carefully based on

the planned temperature of polymerization and the peroxides rate of decomposition at that temperature. A reactor producing 1,000 pounds of resin per hour generates 700,000 BTU/HR which must be removed. A loss of reactor cooling in the absence of relief devices would cause the vessel to rupture within an hour. Assuming the reactor operated at 100 psi gauge and 123°F, a relief valve would be set at 120psi gauge. When the relief valve actuated the temperature would be 134°F and the rate of heat generation would probably be 1,400,000 BTU/HR. If the reactor had been manually vented when all control was lost at 123°F the rate of venting to control the reactor would have been 62 pounds of VCM per minute. If the relief devices are wholly relied on the rate of venting would be 124 pounds of VCM per minute. When a prudent plant operator loses cooling and/or power he adds reaction short stop and manually vents some VCM to maintain control until the short stop is fully effective. If he has a functioning vapor recovery system he uses it but many times this is also not functioning for the same reason (loss of cooling). In resin manufacturing, depending on individual plants and processes, relief devices can become fouled and inoperative. Therefore, the prudent plant operator would try and control before they are actuated if possible and, even when they are actuated, it is prudent to supplement their venting with manual vents. The outright ban on manual venting of reactors to the air is the most hazardous item in the proposed standard.

Page 8 - 28 Sample Flask

This control, if needed, should apply to monomer manufacture only and to pure vinyl chloride samples taken in a PVC plant. The technology on which

this control is based was developed by Dow to handle samples of refined monomer and the projected losses from sampling are based on samples taken in a monomer plant. Flushing samples back into a process is a very simple matter for a liquid chemical. Sampling reactor slurry and other resin containing material is not amenable to this type of control. Consideration should also be given to routing control samples versus non-routine sampling for process "trouble shooting." A routine sample might be taken once an hour as opposed to a process trouble shooting sample that might be taken once or twice a year. The definition of equipment in vinyl chloride service is also troublesome in regard to sampling. A resin slurry sample drawn from a vessel containing slurry with 1% contained vinyl chloride and 20% vinyl chloride in the vapor space is hardly an emission source. EPA should consider limiting the scope of this control to routine samples containing 20% vinyl chloride monomer by weight.

Page 8 - 28 The formalized leak detection program is clearly an Occupational Safety and Health Standard overlap. The OSHA Standard requires a time-weighted average vinyl chloride concentration of 1 ppm in the work space air. To achieve this work space concentration each manufacturer has fixed monitoring and portable monitoring equipment. When leaks are detected they expeditiously are repaired. The whole thrust of the OSHA Standard is to reach and maintain concentrations below 1 ppm in the work space air. Union Carbide Corporation would have no objection to providing EPA access to its OSHA monitoring records as evidence of its good faith in controlling vinyl chloride leaks.

These records clearly show when leaks occur, how long they are allowed to continue and when they are repaired. We fail to see the need for a written program approved by the Administrator. A reasonable equivalent to the proposed formal program would be to exempt any owner or operator whose fixed monitors show that the average work space concentration of vinyl chloride is 1 ppm or lower and who maintains records of the fixed monitoring data. A plant whose average concentration of vinyl chloride in the air is 1 ppm can hardly be a major emitter of monomer to the ambient air.

Page 8 - 29 In process waste water, controls proposed lack realism in the specification of vinyl chloride concentration only. A waste water stream carrying less than 0.1 pound of vinyl chloride from the process per day should be considered for exemption, particularly if it could not be easily combined with other streams for treatment or otherwise controlled.

Page 8 - 32 Format of the Standard

Material Balance - EPA's discarding of the material balance as an emission control device is greatly appreciated. As noted earlier, material balance data becomes meaningless at the emission levels EPA is attempting to control. EPA should also have eliminated the material balance data from its estimate of fugitive emissions.

stripper in polyvinyl chloride plants"

The choice of the word stripper implying a specific item as opposed to the word stripping imposes a hardship on the small plant operator as well as those operating older plants. A basic polyvinyl chloride plant could consist of a pressure vessel which was at various times in its operating cycle a polymerizer, a stripper and a slurry blend or storage tank. As plants grew larger, specialized vessels were installed for specialized functions; thus, a plant now could have a charge mixer, a reactor, a blowdown tank, a vacuum stripper and a slurry blend tank. The use of specialized vessels for the various process steps makes EPA's enforcement problem easier, but for the resin producer who uses the same vessel for two functions and operates batchwise there is a considerable penalty. Opening a stripper for cleaning falls under the normal vessel opening limitations while opening a reactor-stripper falls under the tighter reactor opening limitation. Strippers must be cleaned as well as reactors, and reactor-strippers foul more rapidly than reactors. The producer who operates a batch vacuum stripper has problems if he uses inert gas to transfer the stripped slurry out of the stripper. This gas is exposed to stripped slurry and should be exempt from control if the resin in the slurry is less than 400 ppm monomer. Yet it is a stripper vent and subject to control.

Union Carbide Corporation recommends that the reference to a specialized equipment item, i. e., stripper be changed to reference to a specialized operation, i. e., stripping.

Contrary to the statement that the proposed standard specifies emission limitations for individual emission points, this is manifestly untrue. The proposed standard specifies a limit on emission concentration, not on emission itself and it specifies equipment in an area already covered by another government agency and in an area where its justification for control is questionable. It is quite possible to specify emission limits based upon measured emissions. This approach has been implemented in Germany where it was supplemented with an ambient concentration at the nearest residence. The Germans are quite proud with some justification that they have regulated air emissions for many years and that they do this with a great deal of pragmatism. Emissions to the environment in Germany are controlled by one agency while emissions into the work space are controlled by another. They see no need for overlapping regulations.

If EPA truly wanted to set a standard based on best available technology then they would not have based their standard for all processes on results they obtained on a suspension resin PVC process. The only way a general standard can be set is to pick specific measurable emission points and to write a standard for each. Lacking this, then standards should be written for each process. The injection of the fugitive emissions concept into the standard does nothing except make the regulation unduly complicated without really changing the resultant ambient air concentrations of vinyl chloride. A preferred way out of EPA's

regulating problem is to write an interim standard for known measurable emissions and to continue study of the problem.

Page 8 - 41 Initial Report

EPA has insisted upon continuous fixed analyses on all vent stacks and control devices along with semi-annual reports and permanent records. An initial report covering these items appears to be a useless exercise in reporting since the owner-operator every six months gives EPA a report highlighting all the emissions in excess of the standard that he has had.

Page 8 - 45 Recordkeeping

Keeping records of leaks found and repaired is an exercise in futility. If the leaks are repaired the level of VCM concentration in the work space air will be normal as indicated by the permanent detector. A written log of each leak found and fixed will either require a great deal of work to be sure it is understandable in a year or it will not be more than another piece of paper that is useless.

Page 8 - 46 The discussion of particulate emission from a suspension resin plant is enlightening. Is this the same particulate that EPA assumed was VCM fugitive emissions?