

The Vinyl Chloride NESHAP and Federally Permitted Releases

40 CFR 302.6(a) requires that releases of listed chemicals above the defined reportable quantity (RQ), be immediately reported to the National Response Center (NRC). Immediately is generally interpreted to mean within an hour of becoming aware of a release above the RQ. However, §302.6 exempts "federally permitted" releases from this reporting requirement. This exemption applies only to reports to the NRC and not to those that may be required by states to other agencies, i.e., the state police.

Of particular interest to our industry is the federally permitted release exemption as afforded by the Vinyl Chloride NESHAP. For the purposes of this discussion, the following definitions will be used:

*Release – an emission of vinyl chloride that is explicitly prohibited by the Vinyl Chloride NESHAP. Examples are emissions (in **any** quantity, even less than the RQ) of vinyl chloride from relief valves or rupture disks due to overpressure and manual vents (by operator or computer, intentional or accidental). Also prohibited are exceedences of the 10 ppm 3-hour time-weighted average that applies to all process vents.*

Leak – any interruption of containment of vinyl chloride from equipment in vinyl chloride service (as defined in the NESHAP) that is not defined as a release in the definition above.

Attachment A is a flow chart that can be used to determine whether an emission of vinyl chloride qualifies for the federally permitted release exemption. This discussion generally follows the flow chart. In general, releases (as defined above) in excess of the RQ are not federally permitted because they are prohibited¹ and must be reported to the NRC. On the other hand, a large portion of the vinyl chloride NESHAP addresses leaks (as defined above) from equipment in vinyl chloride service and describes the technology and work practices to be used to minimize them. In a few instances, the regulation even specifies how much of a leak is acceptable, i.e., equipment openings and loading/unloading lines. These emissions (leaks), since not prohibited, are allowed and therefore exempt from the CERCLA/EPCRA reporting requirements.

On December 21, 1999, the EPA published Interim Guidance on the CERCLA Section 101(10)(H) Federally Permitted Release Definition for Certain Air Releases. Section III of this guidance states: "Releases of hazardous substances or EHSs that are controlled by and in compliance with health-based and MACG-based NESHAP limits and other control provisions that are directed at controlling those substances, therefore, qualify for the CERCLA/EPCRA federally permitted release exemption."

A note of caution: To take advantage of the federally permitted release exemption, the permit, regulation, or whatever vehicle you are using to claim that the release is federally

¹ ALJ decision *In re Borden Chemicals and Plastics Co.* [CERCLA] EPCRA 003-1992 (Order Granting Partial Accelerated Decision Concerning Liability, Feb. 18, 1993).

permitted must be federally enforceable. Typically, this means included in a federally enforceable permit such as a Part 70 (Title V) operating permit. An example would be to have fugitive emissions permitted in your Title V air permit. This would cover leaks of VCM from process equipment in vinyl chloride service. Violations for emissions in excess of permitted levels would be federally enforceable.

To be covered by the NESHAP and therefore qualify as a federally permitted release, the emission must come from equipment in vinyl chloride service as defined in §61.61(l). This includes equipment that contacts or contains liquids that are at least 10% vinyl chloride by weight or gases that are at least 10% vinyl chloride by volume. The exception here is vinyl chloride tank cars. Railcars are not covered² under the NESHAP; only the unloading and loading of the cars are addressed in §61.65(b)(1). For example, a line in vinyl chloride service that develops a leak at a flange is covered by the NESHAP and qualifies as a federally permitted release exempt from reporting. An emission of vinyl chloride (above the RQ) from the vent on a water charge tank due to a leaking charge valve on a reactor may not be exempt from reporting because the charge tank is not in vinyl chloride service. Leaks (above the RQ) from valves on vinyl chloride railcars are not covered (see footnote 2) and do not qualify for the CERCLA reporting exemption.

Process vents (that exceed the RQ) such as reactor vents, inert vents, and incinerator exhausts, must meet the 10 ppm 3-hour time-weighted average in order to qualify for the reporting exemption. Exhaust gases are those fluids that are intended to be emitted to the atmosphere, either directly or indirectly (such as through a control device). The NESHAP clarifies in §61.61(x) that leaks are not exhaust gases and not subject to the 10 ppm limit. If the emission violates the NESHAP 10 ppm standard, then it would not be federally permitted and if it exceeded the RQ also, would have to be reported to the NRC. An exception to this would be an equipment opening in accordance with §61.65(b)(6)(i). This section allows 25 gallons or 2% (at STP) of the equipment's containment volume, whichever is larger, to be vented from equipment that is to be opened and is exempted from meeting the 10 ppm 3-hour time-weighted average standard. Depending on the size of the vessel, this allowed emission could be very large.

Releases of vinyl chloride from relief valves or rupture discs from overpressure incidents are explicitly prohibited by the NESHAP. Because these events violate the NESHAP, they can not be federally permitted and do not qualify for the reporting exemption. Although a *release* less than the RQ would not have to be reported to the NRC as a violation of the NESHAP, it would have to be reported as required by §61.65(a).

The standard actually allows in §61.65(a) "emergency relief valve discharges." These are defined as discharges that could not be avoided by taking measures to prevent the discharge. The Agency has historically taken a very hard line on emergency discharges and in practice asserts that most, if not all, discharges could have been prevented.

² Internal Memorandum, USEPA, June 27, 1979, Edward E. Reich to David Ullrich, Subject: Vinyl Chloride Tank Cars.

Relief valves are required to be operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background, in §61.65(b)(4) and §61.242-4 of subpart V. If a leak from a relief valve exceeded the RQ without exceeding the 500 ppm limit, it would not have to be reported to the NRC.

Manual venting of gases from equipment in vinyl chloride service to the atmosphere is prohibited. These vents must be routed through control devices to meet the 10ppm 3-hour average. Manual vents include those that are initiated by operators or computer, intentional or accidental. The exception is "emergency vent valve discharges" on a PVC reactor. However, the definition of an emergency discharge is subject to the same limitations as emergency relief valve discharges discussed earlier.

Generally, all emissions of vinyl chloride outside of relief valve discharges, manual vents, and exhaust gases, are considered leaks. Work practices required by §61.65(b)(8) were designed to minimize emissions from these leaks. §61.65(b)(8)(i) even goes so far as to say

A reliable and accurate vinyl chloride monitoring system shall be operated for detection of *major* (emphasis added) leaks and identification of the general area of the plant where a leak is located.

It is important to note that the standard does not limit the amount of the leak or mechanism (e.g., pinhole vs. pipe rupture, gasket leak vs. complete failure, etc.) by which it occurs. It only addresses the work practices by which these emissions are to be minimized. In fact, it acknowledges that some of the leaks may be "major."

In United States v. Conoco, Inc., No. 83-2518, the judge ruled that the subject emissions "resulted from unintended breaks in the system. These occurrences constituted 'leaks.' In both cases, Conoco used acceptable VC work practices and immediately remedied the problems which caused the subject leaks." Further, "fugitive or unintended releases of VC will occur. Such episodic, pre-exhaust-phase discharges are not illegal provided that certain work-practice standards are complied with to minimize such occurrences."

In summary, emissions of vinyl chloride, if not expressly prohibited, are defined as leaks and are permitted, even in excess of the RQ. Assuming compliance with the parts of the standard that address fugitive emissions and federal enforceability, leaks of vinyl chloride qualify as federally permitted releases and are exempt from reporting under §302.6.