



PCm

Conoco Chemicals Company
Division of Conoco Inc.
P.O. Box 91, New Highway 25
Aberdeen, MS 39730

September 23, 1981

Mr. Charles R. Jeter
Regional Administrator
Region IV
United States Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30308

Dear Mr. Jeter:

At approximately 12:25 p.m. on September 16, 1981 our plant experienced a minor relief valve discharge. Pursuant to the National Emission Standard for vinyl chloride (40 CFR, Part 61, Subpart F, paragraph 61.65 a) we are reporting this incident to your office. This discharge was also reported to the National Response Center on September 16 under the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

The relief valve discharge occurred on the north fresh VCM charge filter in reactor module No. 1. The discharge occurred through a 3/4" X 1" relief valve with a 1" rupture disc between it and the filter. The relief valve setting was 275 psig. The rupture disc was rated at 300 psig at 72°F. The stack from the relief valve was approximately 10 feet above grade.

The release occurred when the equalization line from the filter to the fresh VCM receiver became plugged due to vinyl chloride polymerization. The filter was effectively blocked in and liquid full. As the ambient temperature increased, the liquid expanded, causing the rupture disc to blow and the relief valve to lift. The actuated valves that block in the filter had been closed since about 9:00 a.m. when a reactor was charged. The ambient temperature at that time was 70°F. By the time of the relief valve discharge, the ambient temperature had increased to 80°F.

When the discharge was discovered, the filter was taken out of service. The relief valve was isolated and the filter was evacuated.

No personnel were overexposed to vinyl chloride. The weather conditions at the time of the release were:

Barometric Pressure: 29.91 inches mercury
Temperature: 80°F
Wind Direction: North North East
Wind Speed: 0-2 miles per hour
Clear Skies

DTH 000084688

The amount of vinyl chloride released is estimated to be 20 pounds. This differs from the amount of vinyl chloride reported to the National Response Center (5 - 10 pounds) which was based on preliminary calculations. The calculation is based on the liquid expansion of vinyl chloride from 70°F to 80°F.

To prevent future discharges of this type from happening again, the following action steps have been or will be taken.

1. A portion of the equalization line from the filter to the fresh receiver was replaced and the balance was checked for pluggage on September 17.
2. An improved rupture disc holder that can be pretorqued in the shop was installed on September 17.
3. The relief valve was tested to insure relief at the proper pressure.
4. The relief valve discharge will be routed into the batch water strippers which operates at a low pressure. The relief valve will be modified to allow it to relieve to a variable back pressure.
5. The standard operating procedures have been changed to include a daily check of the filter to make sure that the equalization line between the filter and the receiver is open. This will be done by monitoring the charge filter pressure after reactor charge to make sure the pressure equalizes with the receiver pressure.

The reporting requirements of the standard pertaining to reporting relief valve discharges are summarized below:

Source: North Fresh VCM Charge Filter, Reactor Module No. 1

Nature: Discharge through relief system on North Fresh VCM Charge Filter, Reactor Module No. 1

Cause: September 16, 1981

Time: 12:25 p.m.

Approximate Discharge: 20 pounds

Method of Determining Discharge: Density Difference

Action Taken to Prevent Discharge: Filter taken out of service and evacuated

Measure Taken to Prevent Future Discharges:

- 1- Equalization line replaced
- 2- Improved rupture disc holder installed
- 3- Relief Valve tested
- 4- Routing of relief valve discharge to batch water strippers
- 5- Daily monitoring of filter pressure to insure equalization line is open

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If there are any questions concerning this discharge, please contact me at
601-369-8111, extension 2331.



Veldon E. Messick
Senior Process Engineer

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c: Jerry Banks - Bureau of Pollution Control
CLM, CRM, PEM, MPB, SJV, JCL

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