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

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April 8, 1980

Ms. Rebecca W. Hanmer
Regional Administrator
Region IV
United States Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30308

Dear Ms. Hanmer:

At approximately 11:07 a.m. on April 3, 1980, our plant experienced a minor relief valve discharge. Pursuant to the National Emission Standard for Vinyl Chloride (40CFR, Part 61, Subpart F, paragraph 61.65 a) we are reporting this incident to your office.

The vessel involved was water stripping tank, D-9. The vessel relieved momentarily thru a 4" x 6" relief valve which had a 4" rupture disc between it and the stripping tank. The rupture disc was rated at 61 psig at 200°F. The relief valve setting was 60 psig. The pressure rating of the water stripping tank is 66 psig. The stack from the relief valve is 15 feet above grade.

The release occurred due to overpressuring the water stripping tank. The water stripping tank is used to collect and strip vinyl chloride from inprocess waste water. The tank is piped to receive the various inprocess waste water streams from the old module polymerization area and is connected to the emission recovery system. The emission recovery system consists of a vacuum pump, compressors, tanks, heat exchangers, and circulating pumps necessary to recover the VCM vapors from the water stripper. Just prior to the release the automatic drain valve on the inlet knockout tank to the emission recovery system was observed to be cycling on and off. This was an indication the level well on the knockout tank was partially plugged with resin. The level well was then flushed with high pressure service water for about one minute to dislodge the resin. The high pressure service water was then shut off. An actuated valve in the vapor line to the emission recovery system was open. At this time it was observed the emission recovery system vacuum pump and compressor were not running. The vacuum pump and compressor apparently shutdown due to the high level shutdown in the knockout tank being activated while the level well was being flushed out. Immediately the start button on the compressor was pushed and the compressor made a few rotations and shut down. The start button was pushed again with the same results. Apparently the level well on the knockout tank was draining slowly and the high level shutdown had not yet reset.

DTH 000115603

CONFIDENTIAL

April 8, 1980
Page 2

At this time the relief valve on the water stripping tank relieved for approximately fifteen seconds. One of the people at the scene ran to notify the control room of the situation. The other person at the scene shut the manual suction valve on the emission recovery system compressor, realizing the pressure on the blowdown tank was likely coming from the discharge of the compressor back through the emission recovery system. Personnel in the control room switched the main recovery system to the water stripping tank. The pressure in the water stripping tank dropped rapidly and the relief valve reseated. The tank relieved at about 60 psig and the temperature in the tank was about 175°F. A 4" check valve in the line between the emission recovery system and the water stripping tank apparently failed to prevent the flow of vinyl chloride vapors from the emission recovery system back to the water stripping tank thus causing the overpressure.

No personnel were exposed to vinyl chloride from the release. The weather conditions from the plant weather station at the time of the release were as follows:

Barometric Pressure	- 29.82 in. mercury
Temperature	- 66°F
Wind Direction	- S
Wind Speed	- 2 to 6 miles per hour

The amount of vinyl chloride released is estimated to be 180 pounds. This is based on a relief valve capacity calculation procedure provided by Consolidated, the relief valve manufacturer. The calculation is based on a 15 second release, relieving pressure of 60 psig, and the vapor space in the stripping tanks containing 91 volume percent vinyl chloride. A copy of the calculation is attached.

To prevent future discharges of this type the standard operating procedure will be changed such that the actuated valve in the vapor line from the water stripping tank to the emission recovery system will be closed if the level well on knockout tank is to be flushed. The check valve in the line was removed, reworked, and reinstalled. Long range the water stripping tank will be replaced with a tank with a higher pressure rating.

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

Source:	Water Stripping Tank, D-9
Nature:	Discharge thru relief system on Water Stripping Tank, D-9
Cause:	Overpressure of Water Stripping Tank, D-9

DTH 000115604

CONFIDENTIAL

April 8, 1980
Page 3

Date:	April 3, 1980
Time:	11:07 a.m.
Approximate Discharge:	180 pounds of vinyl chloride
Method of Determining Discharge:	Relief valve calculation
Action Taken to Prevent Discharge:	1. Manual valve on suction to compressor closed. 2. Main recovery system switched to Water Stripping Tank.
Measures Taken to Prevent Future Discharges:	1. Change to the standard operating procedures. 2. Check valve reworked and replaced. 3. Tank will be replaced with tank having higher design pressure.

If there are any questions on this matter, please contact me at (601) 369-8111, extension 239.

Sincerely,

R. A. Frohreich

R. A. Frohreich
Chief Process Engineer

cjt

Attachment

c: Wayne Anderson - Mississippi Bureau of Pollution Control

bc: CLM, CRM, JEB, MPB, SJV, JJH

DTH 000115605