ABD/RIOR

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Conoco Chemicals
Continental Oil Company
P.O. Box 91, New Highway 25
Aberdeen, Mississippi 39730

December 15, 1978

United States Environmental Protection Agency
345 Courtland Street
Atlanta, Georgia 30308

Attention: Mr. Thommie A. Gibbs, Chief
Air Engineering Branch

Dear Sir:

On December 9, 1978, at approximately 4:00 a.m., our plant experienced a minor relief valve discharge. Pursuant to the National Emission Standard for Vinyl Chloride (40 CFR, Part 61, Subpart F, p. 61.65 a) we are reporting this discharge to your office.

The vessel involved was a fresh VCM receiver, FA 701. This vessel is equipped with a rupture disc rated at 150 PSIG and a relief valve rated at 150 PSIG. The vessel design pressure is 150 PSIG at 150°F.

The vessel is used as intermediate vinyl chloride storage between the sphere and the reactors. Receiver FA 701 is refilled after each reactor is charged from it. The release occurred as FA 701 was being refilled. The omission from the relief valve was observed by a plant "A" operator.

Upon noting the lifting of the relief valve, the "A" operator notified the panel operator by radio. The panel operator immediately shut down the transfer system that was refilling the receiver. The "A" operator estimated the duration of the relief to be approximately ten seconds. The relief valve reseated and did not lift again.

The amount of the release was estimated from the design of the relief valve and the design capacity of the transfer system. Our estimate is that the total emission during the period was 522 pounds of vinyl chloride.

The apparent cause of the discharge was due to the failure of a level sensing device on the receiver. This device was designed to shut down the transfer system upon a specific liquid level in the receiver and turn on a high level alarm in the control room if the level in the receiver exceeded this preset level. The sensing device failed due to entrained water freezing in the device and giving low level false readings.

As a result of the low false readings the level sensing device did not shut down the transfer system. The receiver was overfilled with liquid vinyl chloride causing the vessel to overpressure and rupture the rupture disc and lift the relief valve.

To prevent a reoccurance of this problem and future discharges, the plant will purchase and install an additional sensing device on the receiver which will be tied into the high level alarm. To prevent the existing level device from failing due to cold weather, the plant will purchase and install heat tracing and insulation on the sensing device.

If there are any questions on this matter or if further information is desired, please contact Dick Frohreich at AC 601-369-8111, extension 239.

M. C. Jernigan

M. C. Jernigan
Senior Process Engineer

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