

*not a Relief valve  
Discharge*



Conoco Chemicals Company  
Conoco Inc.  
P. O. Box 91, New Highway 25  
Aberdeen, Mississippi 39730  
(601) 369-8111

September 6, 1983

Mr. Jerry B. Banks, P. E.  
Mississippi Department of  
Natural Resources  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, MS 39209

**CONFIDENTIAL**

Dear Mr. Banks:

This letter is to confirm the information given to you by phone on August 31, 1983 concerning a discharge of vinyl chloride to the atmosphere on August 27, 1983. The discharge occurred when an automated valve malfunctioned and allowed vinyl chloride to be discharged from the reactor system to the chem wash system. The vinyl chloride then discharged from the chem wash system to the process sewer system through a relief valve at the chem wash strainer. Since the chem wash system is not intended to be operated under significant pressure, virtually any vinyl chloride that gets into the chem wash system will ultimately discharge to the atmosphere somehow. The fact that the vinyl chloride discharged through a relief valve is entirely coincidental to the event. For all practical purposes, the valve that malfunctioned was the source of the discharge.

At 2:15 p.m. 744 reactor was evacuated and prepared for charge according to standard procedures. Shortly after the charge was started, the new module deluge system activated. The Shift Supervisor immediately went to the new reactor module and observed that VCM vapors were coming out of the sewer in the vicinity of the chem wash tank. He put on an air respirator and determined that VCM was discharging to the sewer from a relief valve on the chem wash return line. He closed a manual valve in the line and the discharge stopped.

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Shortly after the discharge stopped, plant personnel attempted to discover the cause of the discharge. It was found that the chem wash return valve on 744 reactor was partially open due to a mechanical malfunction of the valve. The bolts that hold the actuator assembly to the valve had come loose, and the actuator assembly had twisted on the valve. Since the limit switches that sense the position of the valve are located on the actuator, the control panel indicated that the valve was closed and the process controller permitted the charge. The valve apparently malfunctioned and remained partially open when the chem wash was completed on the previous batch. With the valve open, vinyl chloride discharged from the reactor system to the chem wash system. There is a relief valve at the chem wash strainer which is intended to prevent the strainer from overpressuring and blowing chem wash into the working area. The relief valve set pressure was exceeded when vinyl chloride entered the chem wash return line, and the contents of the line were discharged to the process sewer system through the relief valve discharge piping.

Mr. Jerry B. Banks, P. E.  
September 6, 1983  
Page 2

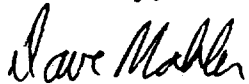
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It is estimated that 2,592 pounds of vinyl chloride was discharged to the atmosphere. This quantity was estimated by taking the difference between the amount charged minus the amount of VCM recovered from the reactor and the chem wash header. Attached are the calculations used to estimate the amount of the discharge. The discharge was reported to the National Response Center on August 27 under the Comprehensive Environmental Response Compensation and Liability Act of 1980.

In order to reduce the possibility of a similar discharge in the future, the automatic valve in the chem wash return line upstream has been moved upstream from the chem wash strainer. In the event that a reactor chem wash return valve malfunctions in the open position, the valve upstream from the chem wash strainer will reduce the possibility of a VCM discharge into the chem wash system. The relief valve on the chem wash return line will also be replaced with a new relief valve that has a higher set pressure.

If you have any questions concerning this event, please contact me at (601) 369-8111, extension 2285.

Sincerely,



Dave Mahler  
Environmental Engineer

bls

Attachments

bc: JF, CRM, PEM, RAF, VEM, JCL

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