

I N T E R O F F I C E M E M O R A N D U M

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Subject: BOR 12/17 VCM release

The GEON Company
One Geon Center

Board of Incident Review
Vinyl Chloride Monomer Release
New VCM Storage Tanks
12/17/96

Summary of the Incident

At approximately 12:43 PM on December 17, 1996 we experienced a release of vinyl chloride from the new VCM storage tanks. Upon opening of the pneumatically controlled valves a gasket failed on both of the storage tanks lower pressure transmitters. This resulted in a loss of approximately 5 to 10 pounds of VCM before the valves were returned to the closed position; thereby stopping the leak. There were no injuries or exposures.

Board of Review

A board of Review was convened on Tuesday, the 17th of December, 1996, at 4:00 PM with the following in attendance:

Jerry Bialko	Facility Manager
Kevin Maggioli	Resin Pilot Plant Engineer
	Resin Pilot Plant Lead Operator
Joe Unger	Corporate Engineer, OGC
	Resin Pilot Plant Operator
	Resin Pilot Plant Operator
Jason Barnes	Environmental, Health & Safety Engineer, OGC

Narrative

At approximately 12:43, and Kevin Maggioli were working in the new VCM storage facility preparing to transfer VCM to building 414. After checking all systems per procedure, they opened the pneumatically controlled bottom valves on the two VCM storage tanks. Upon these valves opening an immediate release of VCM occurred from both storage tanks when the gaskets between the flange mating surfaces of the pressure transmitters ruptured. The operators immediately returned the valves to the off position stopping the leak. All 3 personnel were standing upwind from the leak with a wind of approximately 17 MHP at their backs. We estimate that between

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approximately 5 to 10 pounds of VCM was released to the atmosphere. The VCM monitoring devices in the tank farm did not activate due to the short nature of the release and the strong winds which dissipated the material very rapidly.

immediately contacted and Jason Barnes via radio and informed them of the VCM release. Upon determining that this was a potential reportable release, emergency notifications as outlined in the OGC site environmental policies, all were made within the required time frame. The operators then conducted a thorough survey of the area and fence line with H-NU meters to determine VCM levels, the readings were zero.

Upon investigating the flanges, it was found that the gasket material seemed to have embrittled and when put under pressure they fractured, blowing apart. The pressure on the system when the valves opened was 25 PSI. The entire system was pressure checked on 9/9/96 and VCM transferred into these tanks. These particular valves had not been opened in approximately 7 weeks. The gasket material is Garlock Blueguard 3000 the required material to be used as per our Geon engineering standards. It is the first time OGC has used Garlock 3000 in any of our VCM systems, our standard material until this installation has been Garlock 2900. The operation of the new VCM storage facility has been suspended until such time we can finished the root cause investigation as to the failure and determine what our next course of action should be.

The Avon lake fire Department did respond to the scene to inspect for damage and assess if the leak had been controlled.

Systems Investigation

The VCM monitoring points on the tank farm gas chromatograph did not activate. This was because the wind at 17MPH dissipated the VCM to below 1ppm so rapidly that readings from the GC were below the 1ppm threshold.

LEL monitors did not activate, the reading for LEL was never high enough to activate this system.

Emergency protocols and procedure were followed and completed.

Cause

The cause of the release was failure of the gaskets on the lower pressure transmitters of the VCM storage tanks. The cause of as to why these gaskets failed is still under investigation.

Corrective Actions

- 1) Check on the specifications of the Garlock Blueguard 3000 gasketing material and arrange for a follow-up meeting to discuss the findings. Joe Unger 12/19/96 Complete
- 2) Check with our other facilities to inquire what they use as a gasketing material in they VCM operations. Kevin Maggioli 12/19/96 Complete
- 3) Recheck and retighten all gaskets in the new VCM storage tank system to insure proper alignment and torque. Kevin Maggioli 12/21/96 Complete
- 4) Conduct thorough investigation to determine cause of the failure and then insure that the subsequent corrective actions are completed. Board of Review

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Personnel, 1/21/97

Facts Surrounding the Incident

There were no injuries or exposures
The notifications to outside agencies were made as required
Internal management notification were made as required
OGC sustained a reportable release of vinyl chloride
The operators followed all procedures as required
Garlock 3000 was used as specified by Geon Engineering Standards,
however this is the first time OGC has used Garlock 3000 gasket
material in its VCM systems
Our standard gasketing material is Garlock 2900
The initial follow-up Board of Review was conducted on 12/19/96

Conclusion

It was the conclusion of the Board that the environmental release was a result of failed gaskets. This board will continue the investigation to determine the root cause of the gasket failure and then implement the corrective actions determined from this investigation. The operations of the new VCM storage facility are suspended until such time that the investigation is complete and the corrective actions have been taken.

Jason E. Barnes
Environmental, Health & Safety Engineer, OGC

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