



TO See Distribution                      DATE February 13, 1984

FROM F. Ortiz                              SUBJECT VCM Plant Absorber Upset

Location: VCM I

Description of Upset:

On February 6, 1984 Vinyl Chloride, HCl and EDC migrated from the VCM I plant absorber into the Plant B HCl system.

Cause:

1. The loss of lean oil to the absorber. Both pumps had mechanical problems. See Maintenance Foreman's report attached.
2. The introduction of VCM rework to the bottom of the absorber.
3. The introduction of recycle from the Product Still into the bottom of the absorber.

The VCM Stripper steam flow was off. However the recycle EDC from the product still input enough energy to counter-measure the refrigeration available. Only the absorber upper intercooler and absorber condenser was available. The lower intercooler was out for repairs. See the VCM I Foreman's report for details.

Duration:

The lean oil flow was lost from 11:10 A.M. to 3:50 P.M. The organic evolution is speculated to have occurred from 12:00 P.M. until 3:50 P.M.

Quantity:

A total of 12.3 tons of VCM migrated from the absorber into the HCl system. It is estimated that 7.19 tons traveled toward VCM II and 5.104 tons were fed to the Ethyl Chloride plant. See basis for the split in the appendix.

Environmental Impact:

The VCM that entered the EC reactor left the EC plant as byproducts. No releases to the atmosphere were made through the Ethyl Chloride Plant.

The 7.19 tons that traveled to VCM II was distributed as follows:

- a. It is speculated that approximately 2 tons was fed to OHC reactors, due to the slight unbalance on the HCl at VCM II. No environmental consequences.
- b. So 5.19 tons remained in the HCl system.

Conclusion:

Part or all (it is impossible to say for sure) of the 5.19 tons of VCM that remained in the HCl system as condensed liquid was released when the HCL PCV to the VC-II scrubber was opened. The PCV opened at 21:01 on the 6th. Some liquid VCM trapped in the boat of the scrubber continued to evaporate during the day of the 7th.

Recommendations to Avoid Reoccurrence:

1. Review the incident with all VCM plant operators and front line supervision.
2. Have a policy to cut the HCl flow from the VCM absorbers to the HCl system should its temperature reach 100° for more than 15 minutes. The policy should be incorporated in the SOP manual. Warning notes should be installed on the appropriate temperature recorder.
3. The incident should be incorporated as part of the regular situation response for the VCM operators.
4. Have the VCM II scrubber inlet boots level switch checked. It did not activate during the incident.

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