

INDUSTRIAL CHEMICALS DIVISION

MEMORANDUM

DATE: July 9, 1974

TO: Mr. W. S. Ferguson

SUBJECT: VCM - HYGIENE

The status of VCM ambient monitoring and emission abatement programs follows:

1. Monitoring

- a. Daily spot check monitoring for total hydrocarbons in process areas, control room, and loading areas continues using the century organic vapor analyzer. Four specific areas are being monitored for VCM, namely; loading, caustic scrubbers, VCM storages and bullets. Twelve other various points are monitored daily for total hydrocarbons. VCM was detected on one out of twenty-two monitoring days. Concentrations in specific VCM areas ranged from <10 to 10 ppm dependent upon sample locations. Background on the other 21 days was <10 ppm with no loading or cleaning of tank cars recorded. Background ranges from 3 to 20 ppm as hydrocarbons in the immediate industrial complex, including public domain surrounding the industrial area.

<u>Date</u>	<u>VCM</u>	<u>Remarks</u>
May 1	<10 ppm	Not loading when sampled
2	<10 ppm	Loading, no venting
3	<10 ppm	Loading, no venting
6	<10 ppm	Not loading when sampled
7	<10 ppm	Not loading when sampled
8	<10 ppm	Loading, no venting
9	<10 ppm	Loading, no venting
10	<10 ppm	Loading, no venting
13	<10 ppm	Not loading when sampled
14	<10 ppm	Not loading when sampled
15	<10 ppm	Not loading when sampled
16	<10 ppm	Loading, no venting
17	<10 ppm	Not loading when sampled
20	<10 ppm	Not loading when sampled
21	<10 ppm	Loading, no venting
22	<10 ppm	Not loading when sampled

<u>Date</u>	<u>VCM</u>	<u>Remarks</u>
May 23	<10 ppm	Loading, no venting
24	<10 ppm	Loading, no venting
28	No Sampling	Instrument trouble
29	10 ppm	Loading, venting thru dip stick
30	<10 ppm	Not loading when sampled
31	<10 ppm	Loading and venting

- b. Additional ambient samples were taken at different times, mainly during VCM loading, using evacuated gas collecting tubes and gas chromatography. Samples were taken on ground level and on VCM loading ramp.

<u>Date</u>	<u>VCM</u>	<u>Remarks</u>
May 1	<1 ppm	Not loading when sampled
2	104 ppm	Loading and venting, loaders upwind of vapors
3	127 ppm	Loading and venting, loaders upwind of vapors
6	1.6 ppm	No VCM loading in progress at time of sample. No one exposed.
8	21 ppm	Loading VCM, purging VCM out of dip stick. No personnel exposed. Venting short duration 5-10 seconds.
9	<1 ppm	Loading and no venting. Loaders on platform not exposed.
10	1.7 ppm	No VCM loading
13	9.0 ppm	VCM loading - slight venting through dip stick. Sample taken downwind - no employee exposure.
14	115 ppm	VCM loading - venting; sample taken on ground level downwind. No employee exposure.
15	19.5 ppm	VCM loading, venting. Sample taken on ramp downwind. No employee exposure.
16	0.9 ppm	VCM loading. Sample taken on ramp. No employee exposure.
17	145 ppm	VCM loading and venting, sample taken downwind.
20	<1 ppm	Sample taken on VCM loading ramp; no loading in progress.
20	<1 ppm	Sample taken at vinyl spheres
20	<1 ppm	Sample taken at the NaOH scrubbers
21	N.D.	Foot of loading ramp upwind
21	0.8 ppm	Downwind on loading ramp
22	<1 ppm	At foot of loading ramp - no loading in progress

<u>Date</u>	<u>VCM</u>	<u>Remarks</u>
May 22	<1 ppm	On loading ramp - no loading in progress
22	<1 ppm	Downwind of loading ramp - no loading in progress
23	9.3 ppm	On loading platform; loaders not exposed
24	<1 ppm	On loading platform; loaders upwind, no exposure
28	N.D.	North end of loading ramp
28	N.D.	Mid way of loading ramp
28	N.D.	South end of loading ramp
29	1.6 ppm	Downwind on loading ramp, loading and venting thru dip stick; loaders upwind
29	7.4 ppm	Downwind on loading ramp close to dome area of car; loading and venting thru dip stick. Loaders upwind
29	N.D.	Upwind on loading ramp
30	24.8 ppm	Downwind of loading on ramp. No exposure, loading and venting slight.
30	65.3 ppm	Downwind of loading on ramp. Loaders not exposed, venting very short duration thru dip stick.
30	70.2 ppm	Downwind of loading on ramp. Loaders not exposed, venting very short duration thru dip stick.
31	<1 ppm	North end of loading ramp, loading slight venting thru dip stick - loaders upwind
31	1.5 ppm	Walking downwind toward loading hoses; slight venting thru dip stick, loaders upwind
31	2.2 ppm	Walking downwind toward loading hoses; slight venting thru dip stick, loaders upwind

2. Short Term Program Status

- a. The Model B Century Organic Vapor Analyzer was received, however sampling to date indicates that its use is restricted to concentrations above 25 PPM. Continued use of grab samples analyzed by gas chromatography is necessary.
- b. The MSA personnel monitoring equipment has still not been received with no indication of delivery date. The Works has one on loan from MSA and will begin using same on July 9, 1974.

- c. A sixteen point sample grid has been designed as a basis for specification of a stationary G.C. analyzer system. Quotations have been received indicating approximately \$80 M in equipment cost.
- d. Robin-Tech is continuing to purge inerts from VCM cars, however, the need to purge small amounts during monomer loading continues.
- e. The ambient air sampling survey has been completed and a report is in progress. The report is expected early during the week of 7/15/74.
- f. The N₂ purge pressurization system (loading area) has been delayed further pending receipt of check valves; delivery date unknown.

3. Long Term Program Status

The "58" Capital Request for the VCM vent recovery system (GO 65301) is awaiting corporate approval(s).

4. Work Practices

The Works indicates that the loading area air supplied respirator system is complete, except for the protective masks from MSA. Delivery is expected in early August.

Or
J. M. DeVoe

J. M. DeVoe
Manager
Air & Water Control

JMF/lmh

cc: E. E. James
P. B. Cornell
R. J. Curtis
R. Teets
A. J. Lavine
J. H. Quinn
W. C. Koch
R. J. Nelepovitz
R. E. Gribben
✓ P. E. Kurtz
A. J. von Frank