

Interoffice Communication

To Jerald Uptain
From Owen Tubb
Date January 20, 1976
Subject Proposal for Reduction of VCM Regulated Areas and
Modification of VCM Personnel Monitoring

This letter is being written as a proposal for reducing the VCM regulated areas in the plant and also as a proposal to modify the present VCM personnel monitoring program.

I. BACKGROUND

A. OSHA VCM Regulation Requirements

1. Regulated Areas

The OSHA VCM regulation states that; (1) a regulated area shall be established where: (a) vinyl chloride is manufactured, reacted, repackaged, stored, handled or used; and (b) vinyl chloride concentrations are in excess of the permissible limit. (2) Access to regulated areas shall be limited to authorized persons. A daily roster shall be made of authorized persons who enter.

2. Signs and Labels

The OSHA VCM regulations states that, (1) entrances to regulated areas shall be posted with legible signs bearing the legend: "Cancer-Suspect Agent In This Area Authorized Personnel Only". (2) Areas containing hazardous operations or where an emergency currently exists shall be posted with legible signs bearing the legend: "Cancer-Suspect Agent In This Area Protective Equipment Required Authorized Personnel Only."

3. Monitoring

The OSHA VCM regulation states that, (1) monitoring shall be repeated monthly where any employee is exposed, without regard to respirators, in excess of the permissible limit (1 ppm VCM) (2) shall be repeated not less than quarterly where any employee is exposed, without regard to respirators, in excess of the action level (0.5 ppm VCM). (3) may be discontinued for any employee only when at least two consecutive monitoring determinations, made not less than five (5) days apart, show exposures for that employee at or below the action level.

B. Aberdeen Compliance To Date

1. Regulated Areas

Since April 1, 1975, the entire plant, with the exceptions of the old main offices, the purchasing/accounting offices, and the two off-site warehouses at Prairie, has been designated as a regulated area.

2. Signs

a. Regulated area signs are presently located at all entrances to the plant:

1. Front gate
2. Shipping gate (east)
3. Railroad gate
4. James Creek gate
5. Boiler House gate
6. Exit from "old" main office
7. Exit from "new" main office
8. Compress Warehouse
9. Receiving office
10. VCM Tank Farm

b. Hazardous operations signs are located in the following locations:

1. VCM Tank Farm
2. V-11 Reactor Building (which includes large reactor area)
3. V-12 Reactor Building
4. V-11 Dryer Building
5. Compound Line I
6. Compound Line III
7. V-10 Dryer Area

3. Personnel Monitoring

Since April 1, 1975, approximately two thousand, five hundred personnel monitoring samples for VCM have been taken. The monitoring method used was to monitor each plant employee once a month for eight hours using seven-liter "gas bags" and Sipin air sampling pumps.

II. BASIS FOR PROPOSAL

The attached table indicates the personnel monitoring results by plant area. The monitoring recorded in the table was conducted from September 1, 1975 through December 31, 1975. This time period is believed to be the most representative of current exposure since the steam stripping process was not in full use prior to September.

The table also indicates the Honeywell continuous monitoring results taken from November 1, 1975 through December 31, 1975. This time period is believed to be the most representative of current exposure due to the fact that prior to November the monitoring units were set to operate on a .0-50.0 ppm range. The units were adjusted to read on a .0 - 10.0 ppm range in the latter part of October.

Areas proposed for de-regulation (see table) are those areas for which:

- A. Average exposures have been shown to be at or below the action level (0.5 ppm).

- A
- B. the upper confidence limits (95%), have been shown to be at or below the permissible limit (1 ppm).

There are certain exceptions which are noted in Section III A.

III. PROPOSED ACTION

A. VCM Area De-Regulation

1. De-regulate areas so noted in the table by the target dates, except as noted below:
 - a. Laboratory - This area is used in the testing of liquid VCM and will continue to be designated as a regulated area.
 - b. Large Reactor Area - The VCM monitoring results indicate that this area should remain a regulated area.
 - c. VCM Tank Farm - Due to the large amount of liquid VCM stored in this area, it will remain as a regulated area.
 - d. "Compress" Warehouse - This is an off-site warehouse. The monitoring results indicate that this area should remain as a regulated area.
 - e. East Warehouse (Transportation) - The VCM monitoring results indicate that this area remain a regulated area. However, this area should be re-evaluated in approximately three (3) months to determine if de-regulation is feasible.
 - f. Purchasing-Accounting Offices - This area presently exceeds the limits as stated in Section II. However, if the monitoring results for a time period starting in January for a three (3) month period, are at or below action level, the area shall continue to be a de-regulated area.
2. Signs
 - a. Regulated area signs will be placed in the following locations by the dates as stated in the table.
 1. At all entrances to the laboratory.
 2. On all four sides of the Large Reactor area, along walkways and roadways.
 3. At all walkways and roadways to the VCM tank farm.
 4. Signs are presently posted at the entrances to the Compress.
 5. At all entrances to the East Warehouse.
 - b. Hazardous operation signs will be placed at all entrances to the laboratory and East warehouse by 2-15-76. These signs are presently in place at the Large Reactor area, VCM tank farm, and the compress. The signs located in the compound and vinyl dryer area will remain.
 - c. All other regulated area and hazardous operation signs will be removed by 2-15-76.

3. Regulated Area Logs

Regulated area logs will be placed in the following areas by the dates as stated in the table.

- a. Large Reactor Control Room
- b. Laboratory
- c. Rail Scale House
- d. Yard Supervisor's Office
- e. Compress Warehouse (currently in place)
- f. Shipping Supervisor's Office (east warehouse)

B. VCM Personnel Monitoring

Reduce the level of personnel monitoring as noted in Section (F-2) by the dates as stated in the table, except as follows:

1. Large Reactor Area - Personnel dosimetry will continue on a monthly basis for each employee.
2. Yard - Personnel dosimetry will continue on a monthly basis for each employee.
3. "Compress" warehouse - Area dosimetry will continue in this area on a monthly basis.
4. East Warehouse - Personnel dosimetry will continue in this area on a monthly basis.

C. Recordkeeping

There will be no change in recordkeeping procedures.

D. Reports

1. There will be no changes in reporting procedures.
2. The safety director will be responsible for advising the OSHA Area Director of the regulated area changes. This information must be reported within 15 days after the change.

E. Responsibilities

1. Regulated Areas
 - a. It will be each regulated area department's responsibility to see that all personnel entering the regulated area sign the log on a daily basis. Each log must be dated and identified by area.
 - b. It will be the regulated area department's responsibility to send the logs to the safety department on a daily basis. It will be the safety department's responsibility to file and store the logs for permanent retention.
 - c. Supervision of sign re-location will be the safety department's responsibility. The maintenance department will place the signs.

F. Summary

1. Area De-Regulation

All areas of the plant, with the exception of the Compress warehouse, laboratory, VCM tank farm, East warehouse, large reactor area, and the purchasing/accounting office area will be de-regulated by the dates as noted on the table.

2. Personnel Monitoring

- a. Large Reactor Area - Personnel dosimetry for each employee once a month.
- b. Vinyl Dryer Area - Personnel dosimetry for each job classification once a month.
- c. Laboratory -
 1. One area sample per month.
 2. Personnel dosimetry for each hourly job classification in Quality Control lab once a month.
- d. East Warehouse - Personnel dosimetry for each employee once a month.
- e. Receiving warehouse - an eight hour area sample once a month.
- f. Office Areas-
 1. "New" main offices- an eight hour area sample once a month.
 2. "Old" main offices - an eight hour sample once a month.
 3. Purchasing/Accounting offices - an eight hour area sample once a month.
 4. Maintenance/Safety offices - an eight hour area sample once a month.
- g. "Compress" Warehouse - an eight hour area sample once a month.
- h. Plasticizer - an eight hour area sample once a month.
- i. Yard - Personnel dosimetry monthly for all yard employees.
- j. Compound - an eight hour area sample for each of the three (3) operating areas; Line I, Line III, and Dry Blend.
- k. Maintenance -
 1. Maintenance shop - an eight hour area sample once a month.
 2. Instrument technicians/electricians - Personnel dosimetry for one employee, monthly.
 3. Utility group - Personnel dosimetry for one employee, monthly.
 4. Mechanical group - Personnel dosimetry once a week for one employee working in regulated areas.

Owen Tubb
Owen Tubb
Industrial Hygienist

C: RAD

VAB.0001215874

SUMMARY OF
ABERDEEN PLANT VCM EXPOSURE
MEASUREMENTS FOR SEPTEMBER - DECEMBER 1975 PERIOD

A

PLANT AREA	PERSONNEL DOSIMETRY				CONTINUOUS MONITORING				DE-REG- ULATE?		DE-REG- ULATION TIMING
	NO. OF EMPLOYEES	NO. OF SAMPLES	AVG. EXPOSURE (PPM VCM)	95% UCL	% OF READINGS IN RANGE PPM (NOV.-DEC)				YES	NO	
					0-0.5	0.5-1.0	1.0-5.0	+5.0			
Vinyl Dryer Area	25	94	0.3	1.0	96.7	1.0	1.7	0.6	X		?
Vinyl Reactor Area	17	64	3.0	18.1	92.3	3.4	3.8	0.5		X	
Compound Area:											
1. Line I	9	28	0.3	0.8	94.8	3.1	1.9	0.2	X		2-15-76
2. Line III	31	101	0.2	0.8	98.2	1.3	0.4	0.1	X		2-15-76
3. Dry Blend	6	17	0.2	0.8	93.8	4.1	2.1	.0	X		2-15-76
4. Scrap Blender Area	-	-	-	-	94.8	4.1	1.0	0.1	X		2-15-76
5. Plasticizer Area	4	10	0.1	0.1	-	-	-	-	X		2-15-76
East Warehouse	9	36	0.3	1.2	88.8	6.6	4.6	.0		X	
Vinyl Bagging Area	-	-	-	-	91.0	5.4	3.4	0.2	X		2-15-76
Purchasing/Accounting Offices	15	4	0.8	3.4	-	-	-	-	X		3-15-76
"New" Office Area	31	4	0.1	0.1	-	-	-	-	X		2-15-76
Transportation Trailer	3	4	0.2	0.4	-	-	-	-	X		2-15-76
Yard Area	6	24	0.2	0.5	-	-	-	-		X	-
Receiving Warehouse	3	11	0.3	0.8	-	-	-	-	X		2-15-76
Compress Warehouse	3	4	1.0	4.0	-	-	-	-		X	
Laboratory	27	98	0.3	1.3	-	-	-	-		X	-
Safety Offices	9	23	0.2	0.7	-	-	-	-	X		2-15-76
Maintenance Area:											
1. Main Shop	4	15	0.2	0.7	-	-	-	-	X		
2. Stockroom	4	15	0.1	0.5	-	-	-	-	X		
3. Electrical Shop	8	27	0.3	1.3	-	-	-	-	X		
4. Office Area	7	26	0.4	1.6	-	-	-	-	X		
Maintenance Groups**											
1. Building Attendants	4	12	0.2	0.6	-	-	-	-			
2. Vinyl Maintenance	14	52	0.4	2.8	-	-	-	-			
3. Compound Maint.	10	40	0.2	0.5	-	-	-	-			
4. Utilities	11	42	0.2	0.7	-	-	-	-			
** Not Plant Areas											
* Based on 8 hour (TWA) area sampling and personnel dosimetry using the "gas" bag method.											
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