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ABERDEEN CHEMICAL PLANT
INDUSTRIAL HYGIENE MONTHLY REPORT

Month: October, 1986
Date of Report: November 19, 1986

I. ROUTINE CHEMICAL DOSIMETRY

All Sample Results

<u>CHEMICAL</u>	<u>≤ PEL</u>		<u>> PEL (OVEREXPOSURES)</u>	
	<u>NO.</u>	<u>%</u>	<u>NO.</u>	<u>%</u>
VCM	86	98.9	1	1.1
Lead	22	100.0	0	0.0
Total Particulates	6	100.0	0	0.0

Overexposures

<u>JOB CLASS</u>	<u>EXPOSURE</u>	<u>SOURCE</u>
Chief Operator	1.3* ppm, VCM	Employee overexposed while helping change VCM filter pack filters.

* Respiratory protection was worn.

II. RESPIRATORY PROTECTION

Two of the plant's 3M Airhats were converted to "high efficiency" and reserved for use in asbestos handling work.

Employee face-fit testing was completed, using the services of Respiratory Protection Services.

III. VENTILATION

Preparations, including data sheets and control charts, were made for Compound Operations to begin measuring and charting ventilation hood airflows on a regular basis. At writing, the proposal is under study.

IV. MAINTENANCE PERSONNEL LEAD EXPOSURE

The Maintenance worker lead dosimetry program was successfully concluded, the results showing that there is minimal risk of Maintenance worker lead overexposure.

The average of the nine samples taken was 6.27 micrograms lead/M³, one standard deviation of the data amounting to 2.87 micrograms lead/M³. The resultant, "Three-sigma Upper Control Limit" of 14.88 micrograms lead/M³ is well below any reasonable PEL related to maintenance work.

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V. SHORT TERM VCM EXPOSURES

Three, short-term VCM exposure measurements were made during the changing of old unit VCM filter pack filters. The measurements were made with REAL "Minimonitors" worn by two operators ("A" and "B", below), who performed the work. Both wore respiratory protection.

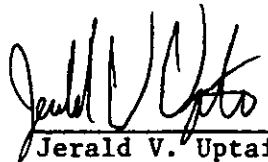
<u>Operator</u>	<u>Equipment</u>	<u>Sample Time (Min.)</u>	<u>TWA Result (ppm, VCM)</u>	<u>Wind Conditions</u>
A	Old Unit South FVCM Filter Pack	33.0	12.4	NE to SW, 0-5 MPH
B	Old Unit South FVCM Filter Pack	22.0	5.1	W to E, 2-3 MPH
C	Old Unit RVCM Filter Pack	18.0	16.6	W to E, 2-3 MPH

A concurrent area survey, using an HNU "Photoionizer", during the work done by Operator "A" was precluded by an unexpected meter failure. However, the presence of icing on the filters removed from the pack indicated that VCM was present in the area during the balance of the task.

A survey done during the work of Operator "B" on the FVCM filter pack showed that the initial concentration next to the filter pack head was between 15 and 20 ppm, VCM when it was first opened. During the balance of the task, VCM was detectable as far away as 25 feet directly east of the filter pack.

At initial opening, the concentration of VCM at the RVCM filter pack head was just under 20 ppm. As the work progressed, VCM was detectable up to 15 feet away.

These and previous results show that VCM is always present in hazardous amounts during filter pack changes in the immediate area of the work, the concentration and extent depending on the recovery efficiency achieved prior to each filter change. They also demonstrate the effect of wind conditions on subsequent dispersal of the VCM, indicating that intrusion of personnel not protected with respirators to within 40 feet of the work places them at risk. To prevent this, Operations and Safety are investigating the use of yellow, plastic chain as a boundary marker for the danger zones.


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