

CONFIDENTIAL**Interoffice Communication**

To L. N. Vernon, Saddle Brook
From D. V. Porchey, Ponca City
Date July 26, 1974
Subject VCM HEALTH PROBLEM--CONOCO CHEMICALS MANUFACTUR
NO. 19

CIRCULATE TO:

~~JAB~~
~~DHG~~
~~TJC~~
~~PEG~~
~~IRH~~
~~GGB~~
~~CBH~~
~~PLF~~

RETURN TO PLANT
MANAGER'S OFFICE

The Foster D. Snell (FDS) unit of Booz, Allen & Hamilton commissioned by OSHA to study the possible economic impact standards on the level of worker exposure to VCM in the industries. OSHA has declared that although the recently completed vcm hearing record is to close on August 23, input from FDS will be accepted after that date. They have, however, prescribed two deadlines to FDS. A status summary must be submitted to OSHA by August 23. FDS then has three additional weeks to complete their study.

VVC 000000650

Conoco and FDS personnel met in Saddle Brook on July 19 with the intention of providing FDS with appropriate information. FDS provided questionnaires that dealt with engineering controls and work practices, personal protective equipment, environmental and personal monitoring, and economic impact estimates for individual plants. After discussion of the questionnaire, our mode of response was defined. Various portions of the form are to be filled out by plant, PED, or medical personnel by about July 26. Data will then be submitted to and organized by Saddle Brook personnel. FDS must have our reply by August 10.

FDS is required by OSHA to visit at least 28 VCM and PVC plants. During the July 19 meeting they expressed a strong desire to visit our OKC plant. Secrecy agreements were executed and the visit was made on July 25.

We have expected that a permanent standard would be published by OSHA by September 5, 30 days before it would go into effect, October 5. The SPI reports that OSHA is taking the position that, "since it can meet its statutory obligations by publishing a permanent standard on October 5, the same to be effective either immediately or partly effective immediately and fully effective later, it will wait until October 5 to do so."

NIOSH has commissioned the Bendix Corporation, Launch Support Division to perform an "Environmental/Industrial Hygiene Survey of Vinyl Chloride Monomer Manufacturing Operations and Operations where Polyvinyl Chloride and Copolymers of Polyvinyl Chloride are Processed." Bendix will visit six VCM manufacturing plants and as many as 27 PVC and copolymer plants. Data will be collected through interview with responsible plant personnel and by the collection of air samples in a number of areas throughout the manufacturing areas. To date, we have no further information pertaining to the Bendix survey.

VVC 000000651

L. N. Vernon
July 26, 1974
Page 2

Aberdeen PVC Plant: The Aberdeen plant is continuing to monitor vinyl area employees with both charcoal and air bag dosimeters. On July 19, four charcoal dosimeter results above 50 ppm were obtained in V-11. While these readings were all below 71 ppm, simultaneous air bag testing indicates that the charcoal results are low for these and most all samples perhaps by as much as 50 percent. The plant expects to shift the entire dosimeter program to the more accurate air bags by next week.

Quick opening manheads have been installed on all V-11 and V-12 dump strainers. The areas have not been accurately monitored for VCM levels since the modifications, however, because of the press of other matters.

It appears that the Conoco modified B.F.C. H.R.C. systems in V-12 are effective in reducing the frequency of reactor entry, hence employee exposure to VCM. Entry frequency into the V-12 reactors is about 1 in 12 batches while the entry frequency into the V-11 reactors is about 1 in 3 or 4. The small reactor average is about 1 in 7 or 8. The AFE for the monorail for the H.R.C. systems is being revised. A monorail will decrease the possibility of injury when the cleaning heads are placed in the reactors.

PED activities in the plant are centered around low VCM level feasibility and steam stripping studies. The MED continuous analyzer trailer is being used by PED for the feasibility study.

The design phase of the new change building is 45 percent complete. Preliminary drawings were to be mailed to the plant this week by CED for use in preparing an estimate.

The Aberdeen plant will continue responsibility for development and, if appropriate, testing of a retractable wash nozzle for the large reactors.

Oklahoma City PVC Plant: Since the week ending Friday, July 12, no dosimeter readings above 50 ppm were obtained by employees not wearing breathing air. Immediately prior to this period, a number of excursions above 50 ppm were observed. Most of these were the result of a ruptured pressure gage inside V-40. While the gage problem was easily isolated and eliminated, it is this type of excursion that we will always have and with which we should not be surprised. Identification and location of this type of problem should normally be more rapid when the fixed point monitoring systems are operational.

The plant is continuing to determine which additional jobs, if any, will require breathing air for routine operations. While we do not feel that we have the exposure problem solved, current (past 12 July) data do not indicate that additional breathing air requirements are justified at this time under the 50 ppm exposure standard.

The OKC plant is developing data on the effect of caustic concentration in the chem wash solution. This evaluation is, as is the retractable chem wash nozzle evaluation being performed at Aberdeen, an extension of our clean wall

VVC 000000652

L. N. Vernon
July 26, 1974
Page 3

projects. Data obtained from both tests should be applicable to both large reactor cleaning systems.

An exposure problem was identified around the M-500 Sweco in earlier months. This Sweco has been modified with an additional vent. The effect of this modification on potential exposure has not yet, but will be evaluated.

Studies directed toward answering the questions of operational feasibility of the plant at low VCM exposure regulation have been at a virtual standstill. The primary problem is one of manpower limitations experienced at least in part because of our government and government-sponsored survey requirements such as the FDS study discussed above.

Lake Charles VCM Plant: The VCM plant is continuing all monitoring programs discussed in the last report. Results continue to be encouraging. No personnel exposures of over 50 ppm VCM have been detected, and the most recent gas bomb area surveys have indicated vinyl concentrations lower than those reported earlier. In addition, a great deal of success is reported with the ship loading exposure reduction programs. The last two loadings have indicated that no one was exposed to more than 10 ppm vinyl. As a result of the most recent modifications made to the loading equipment and procedures as indicated by these findings, the problem appears to be under control. However, work is continuing.

The new rail car dip tube sampling systems, the ship loading heel and finish sample system, and the VCM tar stills reflux sample system have been completed. All of the systems are directed primarily toward reduced VCM exposure.

The plant is awaiting drawings from CED for the new dock recovery system vent.

Plans for the 1975 capital budget now being formulated include a permanent breathing air system and revision to the T-252 pit. Fumes that are presently emitted from the pit will be controlled by this new design.

Medical testing is well underway. Thirty-seven physicals have been taken to date.

Mr. Herron of OSHA was contacted regarding the results of the in-plant VCM monitoring he performed during his inspection the week of May 27. A dosimeter was taken at that time on a lab man. Herron reported a vinyl level of less than 2 ppm. No VCM exposure citation will be issued to the VCM plant. Results could not, however, be obtained for the ethylene plant employees and the refinery dock employees tested because these units are separate from the VCM plant.

VVC 000000653

Manpower Utilization:

Chemicals PED	13 Chemical Engineers
Design PED	1 1/4 Chemical Engineers
MED	1 Physicist 1/4 Chemical Engineer
CED	1 Mechanical Engineer 1 1/2 Architectural Engineer 3 Draftsmen
R&D	4 Chemists 7 Technicians <u>2 1/2</u> Chemical Engineers
TOTAL	34 1/2

Dave Porchey

D. V. Porchey
Research Group Supervisor
Engineering Research
Chemicals Research Division
Research and Development Department

cdp

cc: WEG HRW JMB ERA RWG JDBu JJL JDBr
KLS RELe RDG EMS RTF JFG FK WRS
RELa RSM RLL CW ODS LH JBH

VVC 000000654