

SHELL CHEMICAL COMPANY

MAR 26 1975

TO R. J. REYNOLDS

DATE MARCH 26, 1975

FROM A. DE BENEDICTIS

SUBJECT AICHE SYMPOSIUM ON INDUSTRIAL
HEALTH ASPECTS OF VINYL
CHLORIDE/POLYVINYL CHLORIDE
HOUSTON, MARCH 19, 1975

In contrast to the spirited and sometimes heated discussions that attended the sessions on vinyl chloride safety at the Atlantic City ACS meeting last fall, the tone of this meeting was dispassionate and discussion was minimal. The OSHA representative was the only individual subjected to appreciable questioning and even this discussion was relatively brief.

Copies of available literature presented at the meeting are attached. Neither the OSHA nor the EPA representative had copies of their talk available at the meeting. A summary of the papers presented and comments follow.

Paper 48a: Toxicology of Vinyl Chloride V. K. Rowe, Dow Chemical Co., USA, Midland, MI was presented by Ted Torkelson. It was a rapid summary of the available information on VCM toxicity. He mentioned Maltoni's recent findings of liver angiosarcoma in the ongoing feeding studies. Studies at lower concentrations are needed; some are in progress.

Paper 48b: Environmental Monitoring for Vinyl Chloride R. D. Soule George D. Clayton and Associates, Southfield, MI was a very mediocre presentation. It was mentioned that GLC was the most reliable method for determining low concentrations (presented by John Knowles, Sr. Field Chemist).

Paper 48c: Control Methods for Vinyl Chloride in Monomer Manufacturing and Ship Loading Z. G. Bell, et al PPG Industries, Pittsburgh, PA described procedures used to minimize VCM releases during sample gathering, analyses, and various loading operations. Procedures were similar to those employed by Carbide presented in an afternoon session. Of interest is the use of an adapter equipped with a bulls eye attached to the end of the slip gauge, which prevents the discharge of liquid VCM from the dip tube to the air. (Presented by Glenn Work Gen. Foreman Lake Charles VCM Plant.

Paper 48d: Occupational Safety and Health Standards and Enforcement, J. O. Schultz; OSHA, Dallas, TX consisted primarily of a recount of a history leading to the adoption of the about to be enforced standard. A summary of their analyses of VCM concentrations at various VCM/PVC plants follow.

<u>Region</u>	<u>No. of Samples</u>	<u>No. exceeding 50 ppm</u>
I (New Eng)	34	0
II (NY)	72	1 @ 1.2-2x
III	136	2 @ 1.1-2x 1 @ 2-4x 2 @ > 4x
IV	134	1 @ > 4x
V Chicago	229	1 @ 1.1-2x 2 @ > 4x
VI Dallas	313	1 @ 1.1-2x 1 @ > 4x
VII K.C.	197	0
VIII (Denver)	no data	
IX SF	162	0
X Seattle	26	1 @ 2-3x

A January 22 update of AS cases was presented (all PVC workers unless specified)

<u>Country</u>	<u>Cases</u>
Canada	4 confirmed - 4 possible
Czechoslovakia	2
France	1 (1 death)
Great Britain	2 (2 deaths)
Italy	1 (1 death)
Norway	1
Romania	?
U.S.	17 (14 deaths)
W. Germany	4 (3 deaths)
<u>non-PVC workers</u>	
Great Britain	1
Italy	1 - packager
Sweden	1 - monomer plant
U.S.	2 - accountant inoulation worker
W. Germany	1 - pesticide filler

The average age at death was 43 years for Europeans, 45 years for U.S. Latency period was 14-16 years.

Approved air-purifying respirators can be obtained from MSA, Scott and Welsh. In service indicators are required starting June 30, 1975 and will become mandatory January 30, 1976.

VCM regulations for Italy, Great Britain, Holland, and W. Germany were 25 ppm TWA 50 ceiling, France, no regulation, Sweden 1 ppm TWA, Norway had a temporary ban.

Discussions of the above papers was limited. Mr. Schultz had considerable difficulty in answering why OSHA leaves use of an air mask up to the discretion of an employee when VCM concentrations between the ceiling and 25 ppm are detected. He could not rationalize the logic behind this provision, has opposed it, thought possibly it was due to unavailability of sufficient numbers of masks or recognition of discomfort factor.

Members of the audience corrected him on Norway, the ban was voluntary and operations resumed February 13. Corrections were made on the number of U.S. cases (15 not 17) and that the diagnoses of the two non-PVC worker cases were not typical of PVC AS. The discussions posed this question - what factors were responsible for the fact that AS has developed at only a few manufacturing operations? It was suggested that besides the current studies, is is of great interest to try to determine what co-factors may be responsible for the non-random distribution of the disease among all of the PVC workers.

63a: Environmental (off-site) Considerations by Don Goodwin EPA. This consisted of a review of the health aspects of the EPA report. It was Goodwin's feeling that Sections 111 and 112 of the ambient air standard would be applicable for controls of existing sources.

Section 111 requires the use of best available technology including laboratory and pilot plant.

Section 112 requires no environmental or economic impact; the health hazard governs. Goodwin feels this will be the preferred regulatory route.

The target date is June 20, 1975. Mention was made of the imminent meetings on the EPA proposed regulations, drafts of which have been prepared. He urged maximum participation of all interested parties in helping to finalize the regulation.

The current aim is to limit the VCM content of all vent streams, columns, oxy reactor, etc, to 10 ppm maximum. For polymers, the resin should be stripped to a monomer content of 400 ppm dry basis. They are seeking control of fugitive reactor emissions and the elimination of relief discharges through better process control. He admitted the possibility "to more tightly control the growth of the VC industry" exists.

Data are being obtained on emissions from 2 PVC and 1 VCM plant as well as on all health hazards particularly with regard to the pathology observations at the lower end of the exposure scale.

Goodwin commented on the fact that although the OSHA standard calls for submission of plans to reduce emissions, no deadline is present in the regulation.

Paper 63b: Transportation Operations - Vinyl Chloride Emission Control, M. E. Sutherland and R. N. Wheeler, Jr. UCC, So. Charleston, WV was to a large extent preempted by the PPG presentation in the morning session.

Papers 63c and 63d covered emissions and their control in polymers. These are of only marginal interest in our operations.

Discussion of the EPA paper was not very extensive. A question was raised on 400 ppm from the resin or 0.4 lb/100 lbs of resin out of the dryer. There was some confusion on this point as 0.4 lb/100 is 4000 ppm. Goodwin reiterated the 400 ppm number, stated technology for achieving this concentration is available and is in the EPA document. In answer to a question on the oxy vent composition, Goodwin stated this information is also given in the document.

A. DeBenedictis
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Attachments (with original only)

cc w/o Atta. - H. L. Kusnetz
C. W. Smith ← THIS COPY FOR —
R. L. Brunner/R. L. Sullivan
R. E. VanIngen
B. W. Dunbar
K. L. Spalding

SHELL OIL COMPANY

-TO FILES

DATE JULY 8, 1974

FROM MANAGER, INDUSTRIAL HYGIENE -
HEAD OFFICE

SUBJECT VCM HEARINGS

The subject hearings opened on June 25, 1974 with 82 organizations on the witness list. The presiding judge was Gordon J. Myatt who also directed the February 15 hearings. Judge Myatt set the ground rules for questioning of witnesses. Only those who stated they were planning to make an oral presentation or who served notice of intent to submit a written presentation would be allowed to question. The most persistent and far-ranging questioners were Bertram Cottine and Andrea Hricko of the Health Research Group (a Nader affiliate), Sheldon Samuels of the Industrial Union Department (AFL-CIO), and Louis Beliczky of the U.R.W. Jerome Heckman of SPI and Walter Connolly, Firestone, did most of the industry questioning.

By Saturday, June 29, some 20 witnesses or witness panels had been heard. Hearings will resume on July 8. A full transcript has been ordered. Copies of daily submissions are available at Mr. Reynolds' office and at mine. This report will only touch on some highlights and impressions.

In general, industry representatives took the position that the "no detectable level" standard was not feasible. They objected to the OSHA requirement that respiratory protection would have to be worn 40 hours per week. (See testimony of Dan Boyd - OSHA.) Industry representatives wanted more than just the Maltoni and IBT data. Union and Nader representatives took the position that the vinyl industry should shut down (see Bommarito testimony) to disputing claims that it would have to shut down. These groups also made the point that in the absence of hard data the most conservative approach should be taken. This view was reflected in the questions posed by the Labor Department personnel.

There was a pattern in the questions by the USDL and Union people which called for certain specified information:

1. The data underlying engineering judgments on proposed controls.
2. Monitoring data.
3. A breakdown of job classifications and members of people in the classifications.
4. Records of medical protocols.
5. The basis on which each company decided to "tighten up" - when and why. (Ex.: "Did you know of the Maltoni data in January 1973?")
6. The extent of participation in SPI.

This last item arose every time an industry representative recommended the SPI figures or said that he agreed with them. It seemed to me that the HRG in particular was trying to build a case of industry collusion in setting limits which, according to HRG, would pose grave danger to workers.

Andrea Hricko of HRG stopped me in the hall and asked why Shell was not on the witness list. I merely replied that we had made a written submission. She asked no further questions.



H. L. Kusnetz

cc - Messrs. A. G. Dempster
R. E. Joyner, M.D.
R. F. Nelson
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