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TO: Distribution

FROM: T. G. Grumbles
DATE: October 5, 1989

Interoffice
Communication

SUBJ: NIOSH RESPONSE TO OUR HHE REQUEST

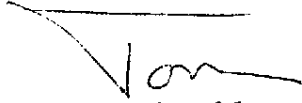
VISTA

Attached is NIOSH's official response to our request for a health hazard evaluation at the LCVCM plant. The bottom line is they are not going to do an investigation.

The letter is somewhat confusing but I believe a fair summary is that larger studies have failed to confirm an association, and studying a small population will not provide any definitive answers regarding causation.

With this response and the ongoing neurological evaluations, I believe we have completed the current outstanding action items. At this time, we need to decide what our next step is. For example is it useful for Dr. Drumwright and I to do another series of employee meetings?

Please let me know your thoughts on what we should do next.


T. G. Grumbles

dlj

Distribution: N. Frost, W. L. McClain, T. H. Huffman, J. R.
Drumwright, R. D. Gamblin

R. A. Conrad-LCVCM

Attachment

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for
Occupational Safety & Health
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati OH 45226-1998

September 29, 1989
HETA 89-356

Mr. Thomas G. Grumbles, C.I.H.
Environmental Quality Manager
Vista Chemical Company
P.O. Box 19029
Houston, Texas 77224

Dear Mr. Grumbles:

I am writing in response to your letter of August 24, 1989, requesting a health hazard evaluation at your vinyl chloride monomer (VCM) production facility in Westlake, Louisiana. According to your letter and a subsequent telephone conversation September 5, your request is limited to an evaluation of the occurrence of brain tumors among plant employees.

Information supplied by you and by Vista's corporate physician, Dr. J.R. Drumwright, indicated that one current employee has a brain tumor, a glioblastoma. Another reported brain tumor was actually a lung cancer that metastasized (spread) to the brain. In addition, 5 or 6 years ago a former employee had an ependymoma. (Glioblastomas and ependymomas are considered different types of brain tumors, although both arise from neuroglial cells.) Other tumors were reported in a spouse and a child of employees. Finally, there was a case in an employee who worked at the plant prior to the beginning of VCM production.

Eighty to 90 employees are involved in the VCM production process. There is relatively little turnover, and there have been only about 140 employees in VCM production since it began about 20 years ago.

In the United States, the age-adjusted incidence of brain tumors (all types) in men is about 6/100,000/year, and the incidence of glioblastoma, the most common type, is about 3/100,000/year. Thus, the occurrence of two primary brain tumors, or even one glioblastoma, in a population of 140 over a 20-year period would appear to be an excess. This, however, is a very crude analysis and would be affected by the age distribution of the workforce and the number of person-years at risk (rather than simply the number of workers). Glioblastomas comprise about half of all adult brain tumors, are more common in men than women, and have a peak incidence at about age 60. Ependymomas, a much less common type of brain tumor, occur about equally in men and women and also have a peak incidence at 50-60 years of age.

Assuming that the VCM production workforce at Vista's Westlake plant is mostly men, and that the size of the workforce has been constant, composed of 90

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people at any one time, there have been approximately 1800 person years at risk since VCM production began. The expected incidence of glioblastoma, assuming most of the workforce is now in the 40-60 age range, would be about 5 per 100,000 person-years, yielding about 0.1 expected cases. The expected incidence of ependymoma would be about 0.15 per 100,000 person-years, or 0.003 cases. These expected numbers of cases are only accurate to the extent that the assumptions about the workforce are correct. The actual number of expected cases, for example, is probably less; lower incidence rates would be used in a more rigorous calculation since, in previous years, the workforce was most likely younger than it is now. Also, if there were additional cases in former workers, the difference between the observed and expected numbers of cases would be even greater.

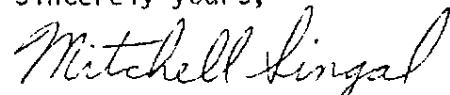
Previous studies of workers at facilities that made or used VCM, including one done by NIOSH (Waxweiler RJ, et al. Neoplastic risk among workers exposed to vinyl chloride. Ann NY Acad Sci 1976;271:40-48) and one done for the Chemical Manufacturers Association (CMA) (Wong O, et al. An update of an epidemiologic study of vinyl chloride workers 1942-1982, final report to Chemical Manufacturers Association. Oakland CA: Environmental Health Associates, 1986, unpublished), which updated earlier CMA-sponsored studies, have indicated an excess of brain cancer, particularly glioblastoma. The CMA study included Vista's Westlake workers and is reportedly being updated again. A recent update of the NIOSH study (Wu W, et al. Cohort and case-control analyses of workers exposed to vinyl chloride: an update. J Occup Med 1989;31:518-523), however, which enlarged the earlier NIOSH study cohort and included more recent mortality information and a more detailed exposure classification, did not find an excess risk of brain cancer attributable to VCM exposure.

It is unclear why the previously identified increased incidence of brain cancer was not corroborated by the recent NIOSH study, which had greater statistical power. Perhaps the earlier studies' findings were confounded by other exposures. The anticipated report of the updated CMA study may shed more light on this, but given the relatively few cases of brain cancer among Westlake workers, a study limited to that facility would resolve neither the issue of whether VCM exposure increases the risk of brain cancer nor the question of whether the brain tumors there are work-related. There is no way to determine whether a small cluster of an uncommon, but not rare, tumor is more than a chance occurrence, especially in the absence of a known association between an exposure and the tumor.

Page 3 - Mr. Thomas G. Grumbles, C.I.H.

This letter constitutes our official response to your request for a health hazard evaluation. It should be posted in a prominent place accessible to affected employees for a period of 30 days. Should there be any additional questions, I can be reached at (513) 841-4386. I would be happy to talk with any employee or any company or employee representative.

Sincerely yours,

A handwritten signature in cursive script that reads "Mitchell Singal".

Mitchell Singal, M.D., M.P.H.

Chief

Medical Section

Hazard Evaluations and Technical
Assistance Branch

Division of Surveillance, Hazard
Evaluations, and Field Studies

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**Interoffice
Communication**

TO: R. D. Gamblin

FROM: T. G. Grumbles
DATE: October 6, 1989

SUBJ: PROGRESS REPORT

VISTA

Below is a summary of the Biomedical and Environmental Affairs Department's activities for the last two weeks.

1. TGG made a presentation to the Annual Surfactants Meeting regarding environmental challenges in the future and Vista Environmental Policy.
2. Consulted with Marketing Administration on the content of communication with Canadian customers regarding the Canadian Environmental Protection Act Domestic Substances List and the status of Vista products.
3. Consulted with Purchasing about communicating with our PVC ingredient suppliers regarding the same.
4. Met with Legal to prepare for Environmental Awareness Training for PED and S & T groups.
5. Conferred with Lake Charles personnel concerning RCRA training and upcoming VCM plant audit.
6. Conferred with S & T on upcoming auditing program.
7. Reactivated Environmental Engineering Standards Team.
8. Responded to LCA request to provide information on DEQ delaying actions on permit applications.
9. Participated in vinyl chloride rail/barge shipping options discussion.
10. 44 COEDS ordered MSDS's were sent out.
11. Revised 810-40 and LPA 140 MSDS's.
12. Prepared a new MSDS for N-500L.
13. JCL attended the Vinyl Institute Health, Safety, and Environment meeting and organized a series of waste minimization presentation at that meeting by VI member companies.
14. JCL attended the annual Vinyl Chloride Safety Association meeting in Boston and was elected 1990 chairman of the VCSA.

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R. D. Gamblin Memo
October 6, 1989
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15. The CLER Communication Committee met with the E. Bruce Harrison Company to discuss the 1990 activity schedule. The 1990 budget for this activity has been set at \$140M.
16. Scheduled Environmental Awareness Training with S&T Ex-Plant and PED.
17. JCL participated in a team to evaluate the need for R&D assistance on environmental compliance projects at the plants. A recommendation was made that R&D become involved in a number of areas to identify alternate technologies that might be used to reduce discharges of pollutants.
18. JCL attended the VI Technical Committee meeting. The VI is contemplating taking the position that the use of lead stabilizers be reduced to the extent feasible. The driving force is concern over lead in Municipal Solid Waste incinerator ash. The largest source of lead in MSW appears to be from discards of imported shoes. Wire and cable is not considered a component of MSW due to its semi-permanent applications and high recycle rate.

T G

T. G. Grumbles

dlj

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