

To: Distribution

From: Chris Bozman, Public Relations

Date: August 24, 1989

Subject: IF-NEEDED STATEMENT: BRAIN TUMORS

FINAL

Interoffice
Communication

VISTA

Attached is the final version of the if-needed statement concerning the occurrence of brain tumors at the VCM Plant.

No media inquiries on the situation have been received to date; however, it's possible the press might find out about our request for the NIOSH study.

Distribution:

Jim DeBernardi
Tom Huffman
Dick Conrad
John Friend
Joe Ware
Norm Frost
Tom Grumbles
Bill McClain
Jack Drumwright
Mike Reynolds
Gretchen Weis

VVV 000002969

If-Needed Statement

Brain tumors

VCM Plant, Westlake, Louisiana

8/24/89

An employee at our Vinyl Chloride Monomer (VCM) Plant underwent surgery to remove a brain tumor several months ago. This tumor was a fairly common type of brain tumor, and one which is not confirmed to be directly associated with employee populations working with vinyl chloride. This employee is currently recuperating from surgery.

A second employee at our plant underwent surgery July 11 to have a brain mass removed. Information we have received to date indicates the tumor was not of the same type as the first employee's, and not of a type associated with exposure to VCM.

We recognize and understand the concern felt by our employees and their families. We are working to provide information to our employees to deal with those concerns. While we don't believe the tumors are related to worker exposure to chemicals at our plant, the occurrence of two brain tumors in a short time has raised employee concerns regarding the relationship. For this reason, we believe an independent assessment of the situation would be beneficial. Therefore, Vista Chemical has requested that the National Institute for Occupational Safety and Health (NIOSH) independently investigate the recent tumor occurrences.

Our reading of the scientific literature shows conflicting evidence in regard to the association of brain tumors and vinyl chloride monomer. Some studies have indicated a possible association between brain tumors and VCM. Others have shown no association at all.

In the studies that indicate a possible association, the number of tumors occurring in workers was compared to the number of cases known to occur in the general population. While the number of tumors among the workers was higher than those occurring among the population at large, the difference was small and not considered statistically significant by the study group.

We will continue to evaluate the situation to determine any further actions that might be needed and will keep employees informed as the NIOSH investigation progresses.

VVV 000002970

To be used only if asked:

Q. Isn't it true that you've had four or five (a number of) people come down with cancer at your plant?

A. We've had approximately 175 employees at the VCM plant since we began operations in 1968. We are aware of seven present or previous employees who have had various forms of cancer over the last 17 years, none of which have been confirmed to be directly associated with employee populations working with vinyl chloride.

TO: VCM Plant Employees
FROM: R. A. Conrad
DATE: September 1, 1989
SUBJECT: Medical Screening Program

VISTA

Interoffice
Communication

In response to the concerns expressed by some employees over the need for additional company sponsored medical screening for brain tumors, Vista Chemical Company will cover the cost of a neurological evaluation/examination for any LCVCM employee who has been employed at the plant for at least 10 years or has worked in the vinyl industry for at least 10 years. This would include persons currently employed at the plant or retirees who meet the 10 year criteria. These examinations are offered during the next 90 days on a one-time basis, and of course, participation is voluntary. The evaluation/examinations would be conducted by Dr. Litel in Lake Charles. Each employee is responsible for making their own appointment.

Upon completion of the neurological evaluation/examination, a confidential report of the medical findings and the doctor's recommendations will be provided to Vista medical for review and filing in the appropriate employee's occupational health record. Copies will also be provided to each employee upon written request to Vista Medical. (The same procedures used with the health van/hands on physical would apply.)

Additional tests, studies on further evaluations (including Cat Scans, MRI, dye studies, etc.) which may be recommended by the medical consultant will be handled as any other personal health problem and costs will be covered through Vista's group health insurance program.

Beginning September 8, 1989 for the next three months through December 8, 1989 you may schedule a neurosurgical consultation/evaluation directly with Dr. Gerald R. Litel at Vista's cost. His offices are located at 708 S. Ryan and his telephone number is 318-433-1927. Beginning September 2 through September 19, I will be away from the plant on vacation. If you have any questions concerning this program, please contact George Shirley (494-5039) who can direct your questions to Dr. Drumwright. Attached for your reference is a general description of a neurological evaluation/examination.

RACONRAD
R. A. Conrad
Plant Manager

da

Distribution
Dept. Heads, Supervisors, Bulletin Boards

VVV 000002972

Description of a Neurological Evaluation/Examination

Brain tumors present clinical signs and symptoms including headache, altered mental status, progressive loss of function or neurologic deficit and convulsions or seizures. These same signs and symptoms can also be produced by various degenerative diseases, chronic cardiovascular problems and various toxic states-including medication.

A neurological evaluation/examination is performed to look for specific objective signs or findings and to attempt to localize the problem within the nervous system. Symptoms of problems experienced by the patient help the doctor to look at specific areas and identify potential causes. The diagnostic evaluation of a patient depends largely on his/her clinical history, cooperation, and ability to provide useful information to the doctor.

In addition to the clinical history, the doctor conducts a neurologic examination. This examination usually addresses five major areas: Mental status, Cranial nerves, Motor function, Sensation, and Reflexes. Specific tests are used to determine normal or abnormal functions of these areas.

Based on information obtained from the clinical history and neurological examination more specific tests may be requested including dye studies, Electroencephalograms (EEG), Skull X-rays, CT Scans, or MRIs. These tests will help localize the problem and aid in determining treatment. Frequently, surgical procedures, biopsies, etc. are necessary to establish an absolute diagnosis.

Questions & Answers

for employees of Vista Chemical Company's
Lake Charles VCM Plant
in response to employee questions
at the July 14 meetings

Q. What will Vista do if another brain tumor is found?

A. We will continue to communicate with you regarding what we are currently doing in response to the recent employee health problems and concerns. We believe our current efforts are the right ones to address the present situation. Another brain tumor in the near term would certainly add emphasis to our efforts. However, it must be stressed that the recent brain tumors are not known to be related in terms of type or origin.

Q. Have we talked to other vinyl plants?

A. Dr. Jack Drumwright, Vista Medical Manager, is discussing current health events with other chemical company medical directors to determine if other chemical companies are experiencing any brain tumor incidents, how they were discovered and what was done to respond to them. Vista also belongs to the Vinyl Institute and the Chemical Manufacturers Association. Those are industry groups that sponsor studies of workers and promote safety and health practices in the industry. Any pertinent information obtained will be shared with employees.

Q. Will Vista study our group, the LCVCM Plant?

A. We are currently attempting to review the medical and health records for employees and past employees known or suspected to have had cancer. Employees at the plant are providing us names and Dr. Drumwright is attempting to find their records. This may be difficult because some records are with Conoco and others may be held by private physicians. The matter of medical confidentiality and potential need for releases to obtain the information may slow the process.

The plant population was included in the CMA study, which is in the literature binder available at the plant. At this time, no decision has been made regarding further studies.

Q. How long will it take to answer our questions?

A. We cannot tell you exactly how long it will take to address and resolve all of the issues raised by the recent employee health problems. Addressing your concerns and resolving the issues is a priority item with plant management and Houston staff. We have ordered relevant scientific papers not in our files to

place in an accessible location at the plant. It is anticipated this should be completed in early August with additions made as papers are received.

Dr. Drumwright is actively pursuing the issue of medical screening for brain tumors.

Q. Based on the potential inaccuracies of death certificates, how can epidemiological studies be accurate?

A. Many epidemiological studies are based on mortality (death rate) from a disease. This is done for several reasons, but in general, deaths are well defined, consistently recorded, and the records are typically available. In many cases, mortality studies are the only feasible type of study to do, especially for chronic diseases with long latency periods, such as cancer.

However, the cause of death on death certificates is indicative of a judgment on primary cause of death and may or may not list complicating factors at the time of death, such as brain tumors. This may result in an underestimation of a particular cause, or an overestimation, such as a brain tumor that was due to a lung cancer metastasizing (spreading) to the brain.

The result of any epidemiological study must be viewed with caution based on these potential problems, and efforts made to be as thorough and accurate as possible when reviewing records.

Q. We don't care about studies with thousands of workers. Why don't you study us?

A. A study of only the VCM plant, or even the VCM plant and our PVC plants, would involve a very small population and the results would probably not be conclusive. Studies done to determine the relationship of a disease or cause of death must have an adequate sample size to assure that any differences, or excess, seen in death rates or disease rates, are not random occurrences, but are truly different from what the normal, or unexposed population would have.

The reason for this is explained by two fundamental statistical concepts that define the needed sample size (population studied) and power of the study, which is the probability of detecting a real difference in disease rates. The smaller the population studied, the less chance you have of detecting truly different disease or death rates.

Q. What do we know about EDC/TARS exposure effects?

A. Quite a lot is known about EDC short and long term exposure effects. Detailed information is available to you through your plants hazard communication program and the Material Safety Data Sheets (MSDS). A summary follows.

EDC is a central nervous system depressant and causes damage to the liver and kidneys. Short-term exposure to high concentrations of EDC is characterized by anesthetic effects as well as by headaches, dizziness, nausea and vomiting, weakness, trembling and stomach cramps. Severe exposure causes coma and death from respiratory and circulatory failure. Animal studies, mostly in mice and rats, have established carcinogenic effects in rodents. EDC may be absorbed through the lungs, skin and gastrointestinal tract with resulting liver and kidney damage.

Q. Can EDC and TARS be carried home on my clothes?

A. Yes, under some conditions. Avoid contact with EDC by wearing protective gear and remove soiled clothing that is contaminated with ethylene dichloride (EDC). EDC is volatile at room temperatures and will evaporate rapidly. EDC does not remain in the air for very long. There is, however, a higher potential for significant amounts of EDC to remain in impregnable surfaces such as shoe leather. That is why only certain types of composition shoe soles are permitted for plant workers. EDC has a very distinct odor at low levels. Many people smell it at 3 ppm or less. It's odor is a good warning property. Contaminated clothing should be properly stored until cleaned or destroyed, which will depend on the situation. Shoes with contaminated uppers should always be destroyed.

The danger with "TARS" is very similar although TARS are heavier in nature and may evaporate more slowly. The potential for TARS contaminated clothing to cause chemical burns or slowly release vapors into a storage area is even greater than that for EDC. Contaminated clothing should be professionally cleaned or destroyed, depending on the situation.

Q. Can't one molecule of a carcinogen cause cancer?

A. This question cannot be answered with a simple yes or no. There is much scientific debate over what level or dose of exposure to a carcinogen will result in cancer. Most toxic chemicals have a threshold level below which no effects are known to occur, or their effects are reversible. This is based on our knowledge of how the body "handles" the chemical and the way the toxic effect occurs.

However, we do not know as much about the way carcinogens cause cancer, and cannot say for sure if a threshold exists, or if one exposure can cause cancer.

There is clear evidence that the potential for cancer to occur is reduced when overall exposure is reduced.

Q. A film shown in 1972 said glioblastomas were a result of VCM exposure. Has this changed?

A. We cannot find the film mentioned in the employee meeting. Before 1974, there was little, if any, information available regarding the chronic human health effects of vinyl chloride. Even in the 1974-76 period, when VCM became strictly regulated, the information available was mostly about the incidence of liver cancers, specifically angiosarcomas.

Brain tumors, or glioblastomas, have been found in various studies of vinyl chloride exposed workers. The evidence showing the relationship between VCM and these tumors is conflicting.

Q. Haven't more than 100 angiosarcomas been found in workers exposed to PVC and VCM?

A. There is a worldwide angiosarcoma register kept. On this register there are currently 138 cases that have been reported. Thirty-eight of those are from the United States. Conoco Chemicals and Vista had none to report.

Q. What about HCl and chlorine effects?

A. Detailed information regarding the health effects of these chemicals can be found in your plant's hazard communication program.

In summary, both of these chemicals are severe irritants to the eyes, skin, and upper respiratory tract. Irreversible tissue damage can occur as a result of short exposure to high concentrations. The strong irritant properties serve as a good warning and, in general, prevent long-term exposures. Many people can detect the odor of chlorine and HCl at levels below 0.5 ppm.

Long-term or repeated exposure to chlorine and HCl may cause corrosion of the teeth, chronic irritation of the skin, and chronic lung damage.

Q. Are EDC releases and exposures reported to OSHA?

A. No. There is no specific requirement to report EDC releases or exposures to OSHA. The VCM standard requires reporting "emergency exposures", under certain conditions, to OSHA but there is no such rule for EDC.

If five or more people are hospitalized as a result of EDC exposures during an emergency, a report to OSHA is required.

Q. Why don't you document high EDC exposures like you do VCM exposures?

A. We do not document EDC exposures exceeding
(more)

the permissible exposure limit with a letter to the employee as we do for VCM. However, it is routine for the plant to investigate over-exposures and emergency releases for all chemicals, including EDC. EDC exposure records are maintained in the same manner VCM exposure records.

As a result of the company's investigations, information is developed and kept regarding those people that had high exposure during any emergency.

Q. Do studies look at the total number of employees exposed or total number of employees at the plant?

A. Each study is done differently. However, in general epidemiological studies attempt to look at exposed populations and not all employees at a plant site using that chemical. The vinyl chloride studies that are available have looked at various plant populations and generally attempted to include only exposed or potentially exposed workers.

Q. Do the chemicals here, VCM and EDC, have a cumulative effect?

A. VCM and EDC are metabolized by the body and eliminated through various routes. They are not known to accumulate in body tissues the way lead does, and exert effects as a result of remaining in the body.

Q. Since Ross & Fogleman are the reason this meeting will there be a study of their work habits?

A. If we decide to do further studies of the LCVCM plant employees, this may be a part of the study. At this time that decision hasn't been made.

We do know that in the early 70's, the exposures at the plant due to general work practices were higher than they are today.

Q. Are two brain tumors in a short-time in a small group like ours indicative of a problem?

A. We don't believe so, especially not when they are of different types. Also, both are found in the general population and are a "common type".

Q. Would the problem Dan Ross had show-up on the van chest X-Ray?

A. No.

Q. Did Dan Ross' cancer spread from another site?

A. Medical information available to us does not indicate any spreading.

Q. Can different people get different cancers from the same exposure to the same chemical due to individual differences?

A. Yes. Every individual has a distinct biochemical make-up. These individual biochemical differences can result in different responses to toxic chemicals or other stresses. Individual susceptibility can also vary due to such things as genetics, race, diet and age.

Q. Did Mr. Fogleman have any apparent signs/symptoms from the van exam?

A. Several health problems were noted in the last exam, but were believed to be unrelated to his brain tumor. However, it is believed that his cancer was a rapidly growing one which developed since the last van exam.

Q. Is Vista looking at any other tests besides Cat Scans?

A. Yes. However, there are no known direct screening methods to detect brain tumors. There are tests available that measure central nervous system dysfunction which may indirectly indicate a brain tumor. We are evaluating the usefulness of the available tests.

Q. Are there brain tumors at Oklahoma City and Aberdeen?

A. One has been seen at Aberdeen in the past. This tumor did not originate in the brain but spread from another site. This tumor occurred prior to 1984.

Q. What about the causes of death among children of employees? Will you look at those?

A. We will look at all data presented to us if appropriate releases are also provided for these family members.

Q. What are the types of cancer Ross & Fogleman had?

A. According to the information available to us Ross' cancer was Glioblastoma Multiforme (astrocytoma) and Fogleman's was Adenocarcinoma (metastatic).

Q. Will you get more info on Ross & Fogleman?

A. We hope to, but this depends on the employees' wishes and approval.

Q. Why isn't a Cat Scan part of a routine physical for us?

A. The Cat Scan is not a routine screening test. It is a very specific diagnostic test ordered after consultation with the appropriate physician and based on symptoms and medical findings.

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Q. What are possible signs and symptoms of a brain tumor?

A. The location of the tumor within the central nervous system) and its biologic behavior determine the way the patient's signs and symptoms are presented.

If a tumor grows slowly in a "silent" area of the brain, it may first cause a headache, nausea, vomiting, alteration in personality or changes in the level of consciousness due to increased intracranial pressure.

A tumor within the speech or motor areas may cause general weakness, or dysphasia, long before other signs or symptoms are present.

Q. When used as a follow-up to signs and symptoms, can Cat Scans always detect tumors?

A. CT scanning provides the ability to visualize the central nervous system and possibly the early diagnosis of tumors. The addition of IV or IT contrast material has increased the detection of hidden tumors.

Tissue diagnosis of intracranial tumors is required before beginning therapy. Despite the increased sensitivity of current imaging techniques, many diseases - including tumors - may not be detected by this method.

Q. Does cigarette smoking cause brain tumors?

A. There is no confirmed link between cigarette smoking and primary brain tumors. However, cigarette smoking is well known to contribute to lung cancer, which can frequently spread to the brain. Also, cigarette smokers in general have a higher susceptibility to many diseases.

Q. Why do Vista blood results use higher normals for comparison?

A. Ranges used for comparison are guidelines only, and vary between laboratories due to different instruments, methods, etc. It's important to remember that the normal ranges developed and reported by any laboratory are scientifically developed and reviewed by independent accrediting organizations. Also the normal ranges are based on data from different populations and regional differences may be seen.

Q. Why do the van testing results take so long to get?

A. Vista's medical department is notified immediately of any significant abnormalities found in the test results. Dr. Drumwright then notifies employees.

The full report is generally provided to the employee at the time of the hands-on portion of the exam. However, if an individual wants his prior to that time, he or she can be provided with the report when it is first available from Health Examinetics. This is usually a 4-6 week time-frame.

TO: Distribution

FROM: T. G. Grumbles

DATE: August 3, 1989

SUBJ: LCVCM BRAIN TUMOR UPDATE MEETING

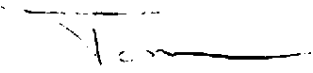
VISTA

The meeting is scheduled for 9:00-9:30 on Friday the 4th, in the Environmental Conference Room. There are two items on the agenda.

- Objective:
- 1) Obtain consensus on asking NIOSH for a Health Hazard Evaluation
 - 2) Review and agree on medical screening proposal

- I) Review discussions with NIOSH and Armco
- II) Review JRD medical testing proposal
- III) Decision time

TGG
JRD/THH
ALL


T. G. Grumbles

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Distribution: N. Frost, T. H. Huffman, J. A. DeBernardi, J. R. Drumwright, M. S. Reynolds, W. L. McClain

VVV 000002978

TO: VCM Plant Employees

FROM: R. A. Conrad
DATE: July 12, 1989

SUBJECT: Employee Communication Meetings

Interoffice
Communication

VISTA

Because of the many concerns expressed recently by VCM Plant employees over two recent employee illnesses, we have scheduled three (3) employee question/answer meetings on Friday, July 14, 1989 in the Old Laboratory Conference Room.

Dr. Jack Drumwright, Vista's Medical Director and Tom Grumbles, Vista's Environmental Quality Manager will attempt to answer questions employees may have. They will also bring some material for discussion at the meetings.

The meetings are scheduled for 10 AM, 1 PM and 3 PM. Any daylight workers who wishes to attend one of these meetings should contact their supervisor. The supervisor will then schedule interested employees to either the 10 AM or the 1 PM meeting. Shift workers may attend any of the three (3) meetings depending upon their work schedule. Attached to the bulletin board are some blank forms that you may fill out in advance and give to your supervisor addressing questions you would like to have discussed. Please turn your questions in as early as possible so that the speakers will have some time to research your question, if needed.

At various times during Friday's visit, Dr. Drumwright will be available to receive calls or to meet with individuals who may wish to discuss their concerns privately. Please contact Betty Rogers (494-5064) if you wish to make a telephone or in-person appointment with Dr. Drumwright. Dr. Drumwright is also available in Houston to address your medical concerns. He can be reached at 1-800-877-VIST-3044.

Again, if you have questions, please fill out the form provided and return to your supervisor or directly to Betty Rogers for prompt forwarding to Houston.



R. A. Conrad

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VVV 000002979

EMPLOYEE QUESTIONS FOR MEDICAL CONCERNS
FRIDAY'S MEETING 10 AM, 1 PM, 3 PM, JULY 14, 1989
OLD LABORATORY CONFERENCE ROOM

1. _____

2. _____

3. _____

OPTIONAL - Employee's Name

**PLEASE GIVE TO YOUR SUPERVISOR OR SEND TO B. J. ROGERS PROMPTLY
FOR FAXING TO HOUSTON.**

VVV 000002980

TO: Distribution

FROM: T. G. Grumbles
DATE: August 14, 1989

Interoffice
Communication

SUBJ: NIOSH HEALTH HAZARD EVALUATION REQUEST

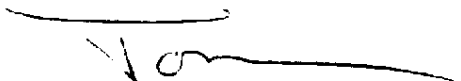
VISTA

Attached is the draft request letter. I've also attached the portion of the regulation detailing the suggested contents of a request. Please get me any comments you have ASAP. I believe we should target to get the request out by the end of this week.

Additional action items associated with the request are as follows:

1. Preparation of an if asked - I'll work with Gretchen Weis to draft and get out for comments.
2. Communication of Request - The plant will notify the employees. I sent factual information that can be used for this last Thursday.

We need the plant to determine what other groups or individuals should be notified. For example, LCCP, LCLAB, area Plant Managers, etc.



T. G. Grumbles

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Distribution: T. H. Huffman, J. A. DeBernardi, N. C. Frost, W. L. McClain, G. Weis, R. A. Conrad-LCVM

VVV 000002981

DRAFT

August 14, 1989

Hazard Evaluations and Technical
Assistance Branch
Division of Surveillance, Hazard
Evaluations and Field Studies
NIOSH
4676 Columbia Parkway
Cincinnati, Ohio 45226

Dear Sirs:

Vista Chemical is requesting a NIOSH Health Hazard Evaluation at its Vinyl Chloride Monomer production facility in Westlake, Louisiana. This request is being made to investigate the incidence of brain tumors at this manufacturing location. A plant profile is attached that describes the plant operation and provides details the plant size and history.

The evaluation is being requested as result of recent events in the current employee population. Two employees have recently been diagnosed as having cancerous brain tumors. According to the information available to us, ~~the~~ one employee's tumor was a Glioblastoma Multiforme (astrocytoma) and one was an Adenocarcinoma (metastatic). Both employees have been employed at the plant for more than 15 years. Based on the facts available to us at this time, it appears the two tumors are of a different type and not related in any way. However, the occurrence of two brain tumors in a short time has raised concerns regarding the relationship of

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chemical exposures and brain tumors at the plant. For this reason, we believe an independent assessment of the situation would be beneficial to further explore the potential work relatedness of the recent health events.

Please contact the undersigned at 713-588-3445 to discuss the above or to determine the next step to be taken by NIOSH.

Sincerely,

Thomas G. Grumbles, C.I.H.
Environmental Quality Manager

dlj

Enclosures

VVV 000002983

Environmental Investigations Branch,
Division of Respiratory Disease Studies,
NIOSH, 944 Chestnut Ridge Road,
 Morgantown, WV 26505.

(b) Requests for health hazard evaluations shall be submitted in writing and signed by either: (1) The employer in whose place of employment the substance or physical agent is normally found, or (2) an authorized representative of employees (see § 85.3-1(e)) in the place of employment where the substance or physical agent is normally found.

[46 FR 2653, Jan. 14, 1980]

§ 85.3-1 Contents of a request for health hazard evaluation.

Each request for health hazard evaluation shall contain:

(a) The requester's name, address, and telephone number, if any.

(b) The name and address of the place of employment where the substance or physical agent is normally found.

(c) The specific process or type of work which is the source of the substance or physical agent, or in which the substance or physical agent is used.

(d) Details of the conditions or circumstances which prompted the request.

(e) A statement, if the requester is not the employer, that the requester is:

(1) An authorized representative or an officer of the organization representing the employees for purposes of collective bargaining; or

(2) An employee of the employer and is authorized by two or more employees employed in the same place of employment to represent them for purposes of these Acts (each such authorization shall be in writing and a copy submitted with the request for health hazard evaluation); or

(3) One of three or less employees employed in the place of employment where the substance or physical agent is normally found.

(f) A statement indicating whether or not the name(s) of the requester or those persons who have authorized the requester to represent them may be revealed to the employer by NIOSH.

(g) The following supplementary information if known to the requester:

(1) Identity of each substance or physical agent involved;

(2) The trade name, chemical name, and manufacturer of each substance involved;

(3) Whether the substance or its container or the source of the physical agent has a warning label; and

(4) The physical form of the substance or physical agent, number of

people exposed, length of exposure (hours per day), and occupations of exposed employees.

NOTE: NIOSH has developed two forms entitled "Request for Health Hazard Evaluation" and "Request for Mining Health Hazard Evaluation" to assist persons in requesting evaluations. The forms are available upon request from the offices listed in § 85.3(a) (1) and (2) or from the Regional Consultant for Occupational Safety and Health in any Regional Office of the Department of Health and Human Services.

[45 FR 2653, Jan. 14, 1980]

§ 85.4 Acting on requests.

(a) Upon receipt of a request for health hazard evaluation submitted under this part, NIOSH will determine whether or not there is reasonable cause to justify conducting an investigation.

(b) If NIOSH determines that an investigation is justified, a NIOSH officer will inspect the place of employment, collect samples where appropriate, and perform tests necessary to the conduct of a health hazard evaluation, including medical examinations of employees.

(c) If NIOSH determines that an investigation is not justified, the requester will be notified in writing of the decision.

[46 FR 2653, Jan. 14, 1980]

§ 85.5 Authority for investigations.

(a) NIOSH officers who have been issued official NIOSH credentials (Form No. CDC/NIOSH 2.93) are authorized by the Director, NIOSH, under sections 20(a) (6) and 8 of the OSH Act and sections 501(a)(11) and 103 of the FMSH Act: To enter without delay any place of employment for the purpose of conducting investigations of all pertinent processes, conditions, structures, machines, apparatus, devices, equipment, records, and materials within the place of employment; and to conduct medical examinations, anthropometric measurements, and functional tests of employees within the place of employment as may be directly related to the specific health hazard evaluation being conducted. Investigations will be conducted in a reasonable manner, during regular working hours or at other reasonable times and within reasonable limits. In connection with any investigation, the NIOSH officers may question privately any employer, owner, operator, agent, or employee from the place of employment; and review, abstract, and duplicate records required by the Acts and regulations and any other related records.

(b) Areas under investigation which contain information classified by any

agency of the United States Government in the interest of national security will be investigated only by NIOSH officers who have obtained the proper security clearance and authorization.

[46 FR 2653, Jan. 14, 1980]

§ 85.6 Advance notice of visits.

(a) Advance notice of visits to the place of employment may be given to expedite a thorough and effective investigation. Advance notice will not be given when, in the judgment of the NIOSH officer, giving such notice would adversely affect the validity and effectiveness of the investigation.

(b) Where a request in accordance with this part has been made by an authorized representative of employees, advance notice in accordance with paragraph (a) of this section will be given by NIOSH to the requester, the representative of the employees for purposes of collective bargaining if such representative is other than the requester, and to the employer.

(c) Where a request in accordance with this part has been made by any employer, advance notice will be given by NIOSH to the employer. Upon the request of the employer, NIOSH will inform the authorized representative of employees of the visit: *Provided*, The employer furnishes NIOSH in writing with the identity of such representative and with such information as is necessary to enable NIOSH promptly to inform such representative of the visit.

§ 85.7 Conduct of investigations.

(a) Prior to beginning an investigation, NIOSH officers shall present their credentials to the owner, operator, or agent in charge at the place of employment, explain the nature, purpose, and scope of the investigation and the records specified in § 85.5 which they wish to review. Where the investigation is the result of a request submitted by an authorized representative of employees, a copy of the request shall be provided to the employer, except where the requester or any person authorizing the requester pursuant to § 85.3-1(e)(2) has indicated that NIOSH not reveal his name to the employer, in which case a summary of the basis for the request shall be provided to the employer.

(b) At the commencement of an investigation, the employer should precisely identify information which can be obtained in the workplace or workplaces to be inspected as trade secrets. If the NIOSH officer has no clear reason to question such identification, such information shall not be disclosed except in accordance with the provisions of section 20(a)(6) and sec-

the
**HEALTH HAZARD
EVALUATION
PROGRAM**

of the
**NATIONAL INSTITUTE for
OCCUPATIONAL
SAFETY and
HEALTH**

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Institute for Occupational Safety and Health
Division of Surveillance, Hazard Evaluations and Field Studies

VVV 000002985

REQUESTS FOR HEALTH HAZARD EVALUATIONS

(Code of Federal Regulations, Title 42, Part 85, 37 FR 23640, November 7, 1972;
amended at 45 FR 2651, January 14, 1980)

PART 85—REQUESTS FOR HEALTH HAZARD EVALUATIONS

- Sec.
- 85.1 Applicability.
 - 85.2 Definitions.
 - 85.3 Procedures for requesting health hazard evaluations.
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 - 85.12 Subsequent requests for health hazard evaluations.

AUTHORITY: Sec. 8(g), 84 Stat. 1600; 29 U.S.C. 657(g) and sec. 508, 83 Stat. 803; 30 U.S.C. 957.

SOURCE: 37 FR 23640, Nov. 7, 1972, unless otherwise noted.

§ 85.1 Applicability.

This Part 85 applies to health hazard evaluations requested by any employer or authorized representative of employees under section 20(a)(6) of the Occupational Safety and Health Act of 1970 or section 501(a)(11) of the Federal Mine Safety and Health Act of 1977. This part is not intended to preclude the use of other channels of communication with the National Institute for Occupational Safety and Health to obtain information and technical assistance concerning toxic substances or physical agents.

[45 FR 2652, Jan. 14, 1980]

§ 85.2 Definitions.

Any term defined in the Occupational Safety and Health Act of 1970 or the Federal Mine Safety and Health Act of 1977 and not defined below shall have the meaning given it in the respective Acts. As used in this part:

"OSH Act" means the Occupational Safety and Health Act of 1970 (29 U.S.C. 651, et seq.).

"FMSH Act" means the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 801, et seq.).

"Authorized representative of employees" means any person or organization meeting the conditions specified in § 85.3-1(c) (1), (2), or (3).

"Employee" has the same meaning as stated in the OSH Act and for the purposes of this part includes "miner" as defined in the FMSH Act.

"Employer" has the same meaning as stated in the OSH Act and for the purposes of this part includes "Operator" as defined in the FMSH Act.

"Health hazard evaluation" means the investigation and the determination of potentially toxic or hazardous effects of: (a) any substance normally used or found in any place of employment to which the OSH Act is applicable, or (b) any substance or physical agent normally used or found in any place of employment to which the FMSH Act is applicable.

"Investigation" means a physical inspection of the place of employment under section 8 of the OSH Act or section 103 of the FMSH Act and includes inspection, sampling, observations, review of pertinent records, and other measurements reasonably necessary to determine whether any substance or physical agent found in the place of employment has potentially toxic or hazardous effects in the con-

centrations or levels used or found.

"NIOSH" means the National Institute for Occupational Safety and Health, Center for Disease Control, Public Health Service, Department of Health and Human Services.

"NIOSH officer" means a NIOSH employee who has been authorized by the Director, NIOSH, to conduct investigations according to this part.

"Physical agent" means any condition produced by the environment and/or work processes that can result in hazardous effects as defined in this section. Examples of physical agents are noise, temperature, illumination, vibration, radiation, and pressure.

"Place of employment" means any coal or other mine, factory, plant, establishment, construction site, or other area, workplace, or environment where work is performed by any employee of an employer.

"Substance" means any chemical or biological agent or dust which has the potential to produce toxic effects.

"Toxic effects" or "hazardous effects" are those effects which result in short- or long-term disease, bodily injury, affect health adversely, or endanger human life.

[45 FR 2652, Jan. 14, 1980]

§ 85.3 Procedures for requesting health hazard evaluations.

(a) Requests for health hazard evaluations should be addressed to the National Institute for Occupational Safety and Health as follows:

(1) *Requests from general industry.* Hazard Evaluations and Technical Assistance Branch, Division of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, 4576 Columbia Parkway, Cincinnati, OH 45226.

(2) *Requests from mining industry.*

[42 CFR 85.2]

VVV 000002986

Environmental Investigations Branch,
Division of Respiratory Disease Stud-
ies, NIOSH, 944 Chestnut Ridge Road,
Morgantown, WV 26505.

(1) Requests for health hazard eval-
uations shall be submitted in writing
and signed by either: (1) The employer
in whose place of employment the sub-
stance or physical agent is normally
found, or (2) an authorized representa-
tive of employees (see § 85.3-1(e)) in
the place of employment where the
substance or physical agent is normal-
ly found.

[46 FR 2653, Jan. 14, 1980]

§ 85.3-1 Contents of a request for health
hazard evaluation.

Each request for health hazard eval-
uation shall contain:

(a) The requester's name, address,
and telephone number, if any.

(b) The name and address of the
place of employment where the sub-
stance or physical agent is normally
found.

(c) The specific process or type of
work which is the source of the sub-
stance or physical agent, or in which
the substance or physical agent is
used.

(d) Details of the conditions or cir-
cumstances which prompted the re-
quest.

(e) A statement, if the requester is
not the employer, that the requester is

An authorized representative or
an officer of the organization repre-
senting the employees for purposes of
collective bargaining; or

(2) An employee of the employer
and is authorized by two or more em-
ployees employed in the same place of
employment to represent them for
purposes of these Acts (each such au-
thorization shall be in writing and a
copy submitted with the request for
health hazard evaluation); or

(3) One of three or less employees
employed in the place of employment
where the substance or physical agent
is normally found.

(f) A statement indicating whether
or not the name(s) of the requester or
those persons who have authorized
the requester to represent them may
be revealed to the employer by
NIOSH.

(g) The following supplementary in-
formation if known to the requester:

(1) Identity of each substance or
physical agent involved;

(2) The trade name, chemical name,
and manufacturer of each substance
involved;

(3) Whether the substance or its
container or the source of the physical
agent has a warning label; and

(4) The physical form of the sub-
stance or physical agent, number of

people exposed, length of exposure
(hours per day), and occupations of
exposed employees.

NOTE: NIOSH has developed two forms en-
titled "Request for Health Hazard Evalua-
tion" and "Request for Mining Health
Hazard Evaluation" to assist persons in re-
questing evaluations. The forms are availa-
ble upon request from the offices listed in
§ 85.3(a) (1) and (2) or from the Regional
Consultant for Occupational Safety and
Health in any Regional Office of the De-
partment of Health and Human Services.

[46 FR 2653, Jan. 14, 1980]

§ 85.4 Acting on requests.

(a) Upon receipt of a request for
health hazard evaluation submitted
under this part, NIOSH will determine
whether or not there is reasonable
cause to justify conducting an investi-
gation.

(b) If NIOSH determines that an in-
vestigation is justified, a NIOSH offi-
cer will inspect the place of employ-
ment, collect samples where appropri-
ate, and perform tests necessary to the
conduct of a health hazard evaluation,
including medical examinations of em-
ployees.

(c) If NIOSH determines that an in-
vestigation is not justified, the re-
quester will be notified in writing of
the decision.

[46 FR 2653, Jan. 14, 1980]

§ 85.5 Authority for investigations.

(a) NIOSH officers who have been
issued official NIOSH credentials
(Form No. CDC/NIOSH 2.93) are au-
thorized by the Director, NIOSH,
under sections 20(a) (8) and 8 of the
OSH Act and sections 501(a)(11) and
103 of the FMSH Act: To enter with-
out delay any place of employment for
the purpose of conducting investiga-
tions of all pertinent processes, condi-
tions, structures, machines, apparatus,
devices, equipment, records, and mate-
rials within the place of employment;
and to conduct medical examinations,
anthropometric measurements, and
functional tests of employees within
the place of employment as may be di-
rectly related to the specific health
hazard evaluation being conducted. In-
vestigations will be conducted in a rea-
sonable manner, during regular work-
ing hours or at other reasonable times
and within reasonable limits. In con-
nection with any investigation, the
NIOSH officers may question private-
ly any employer, owner, operator,
agent, or employee from the place of
employment; and review, abstract, and
duplicate records required by the Acts
and regulations and any other related
records.

(b) Areas under investigation which
contain information classified by any

agency of the United States Govern-
ment in the interest of national secu-
rity will be investigated only by
NIOSH officers who have obtained the
proper security clearance and authori-
zation.

[46 FR 2653, Jan. 14, 1980]

§ 85.6 Advance notice of visits.

(a) Advance notice of visits to the
place of employment may be given to
expedite a thorough and effective in-
vestigation. Advance notice will not be
given when, in the judgment of the
NIOSH officer, giving such notice
would adversely affect the validity and
effectiveness of the investigation.

(b) Where a request in accordance
with this part has been made by an
authorized representative of employ-
ees, advance notice in accordance with
paragraph (a) of this section will be
given by NIOSH to the requester, the
representative of the employees for
purposes of collective bargaining if
such representative is other than the
requester, and to the employer.

(c) Where a request in accordance
with this part has been made by any
employer, advance notice will be given
by NIOSH to the employer. Upon the
request of the employer, NIOSH will
inform the authorized representative
of employees of the visit: *Provided*,
The employer furnishes NIOSH in
writing with the identity of such rep-
resentative and with such information
as is necessary to enable NIOSH
promptly to inform such representa-
tive of the visit.

§ 85.7 Conduct of investigations.

(a) Prior to beginning an investiga-
tion, NIOSH officers shall present
their credentials to the owner, opera-
tor, or agent in charge at the place of
employment, explain the nature, pur-
pose, and scope of the investigation
and the records specified in § 85.5
which they wish to review. Where the
investigation is the result of a request
submitted by an authorized repre-
sentative of employees, a copy of the
request shall be provided to the em-
ployer, except where the requester or
any person authorizing the requester
pursuant to § 85.3-1(e)(2) has indicat-
ed that NIOSH not reveal his name to
the employer, in which case a sum-
mary of the basis for the request shall
be provided to the employer.

(b) At the commencement of an in-
vestigation, the employer should pre-
cisely identify information which can
be obtained in the workplace or work-
places to be inspected as trade secrets.
If the NIOSH officer has no clear
reason to question such identification,
such information shall not be dis-
closed except in accordance with the
provisions of section 20(a)(8) and sec-

tion 15 of the OSH Act or section 501(a)(11) of the FMSH Act. However, if NIOSH at any time questions such identification by an employer, not less than 15 days' notice to an employer shall be given of the intention to remove the trade secret designation from such information. The employer may within that period submit a request to the Director, NIOSH, to reconsider this intention and may provide additional information in support of the trade secret designation. The Director, NIOSH, shall notify the employer in writing of the decision which will become effective no sooner than 15 days after the date of such notice.

(c) NIOSH officers are authorized to collect environmental samples and samples of substances, or measurements of physical agents to take or obtain photographs related to the purpose of the investigation, employ other reasonable investigative techniques, including medical examinations of employees with the consent of such employees, and to question privately any employer, owner, operator, agent, or employee. The employer shall have the opportunity to review photographs taken or obtained for the purpose of identifying those which contain or might reveal a trade secret.

(d) NIOSH officers shall comply with all safety and health rules and practices at the place of employment being investigated, and they shall provide and use appropriate protective clothing and equipment. In situations requiring specialized or unique types of protective equipment, such equipment shall be furnished by the employer.

(e) The conduct of investigations shall be such as to preclude unreasonable disruption of the operations of the employer's establishment.

[37 FR 23840, Nov. 7, 1972, as amended at 48 FR 2683, Jan. 14, 1980]

§ 85.8 Provision of suitable space for employee interviews and examinations; identification of employees.

An employer shall, in request of the NIOSH officer, provide suitable space, if such space is reasonably available, to NIOSH to conduct private interviews with, and examinations of, employees. NIOSH officers shall consult with the employer as to the time and place of the medical examination and shall schedule such examinations so as to avoid undue disruption of the operations of the employer's establishment. NIOSH shall conduct, and assume the medical costs of, examinations conducted under this part.

§ 85.9 Representatives of employers and employees; employee requests.

(a) NIOSH officers shall be in charge of investigations. Where the request for a health hazard evaluation has been made by an authorized representative of employees, a representative of the employer and a representative authorized by his employees who is an employee of the employer shall be given an opportunity to accompany the NIOSH officer during the initial physical inspection of any workplace for the purpose of aiding the investigation by identifying the suspected hazard. The NIOSH officer may permit additional employer representatives and such additional representatives authorized by employees to accompany him where he determines that such additional representatives will further aid the investigation. However, if in the judgment of the NIOSH officer, good cause has been shown why accompaniment by a third party who is not an employee of the employer is reasonably necessary to the conduct of an effective and thorough investigation of the workplace, such third party may accompany the NIOSH officer during the inspection: *Provided, however,* That access by such persons to areas described in paragraph (d) of this section shall be in accordance with the requirements of such provision, and access to areas described in paragraph (e) of this section shall be with the consent of the employer. A different employer and employee representative may accompany the officer during each different phase of an inspection if this will not interfere with the conduct of the investigation.

(b) NIOSH officers are authorized to resolve all disputes as to who is the representative authorized by the employer and employees for the purpose of this section. If there is no authorized representative of employees, or if the NIOSH officer is unable to determine with reasonable certainty who is such representative, he shall consult with a reasonable number of employees concerning matters directly related to the health hazard evaluation.

(c) NIOSH officers are authorized to deny the right of accompaniment under this section to any person whose conduct interferes with a fair and orderly physical inspection.

(d) With regard to information classified by an agency of the U.S. Government in the interest of national security, only persons authorized to have access to such information may accompany an officer in areas containing such information.

(e) Upon request of an employer, any representative authorized under this § 85.9 by employees in any area containing trade secrets shall be an

employee in that area or an employee authorized by the employer to enter that area.

§ 85.10 Imminent dangers.

Whenever, during the course of, or as a result of, an investigation under this part, the NIOSH officer believes that there is a reasonable basis for an allegation of an imminent danger, NIOSH will immediately advise the employer and those employees who appear to be in immediate danger of such allegation and will inform appropriate representatives of the Department of Labor or the State agency designated under section 18(b) of the OSH Act.

[37 FR 23840, Nov. 7, 1972, as amended at 48 FR 2683, Jan. 14, 1980]

§ 85.11 Notification of determination to employers, affected employees and Department of Labor.

(a) Upon conclusion of an investigation, NIOSH will make a determination concerning the potentially toxic or hazardous effects of each substance or physical agent investigated as a result of the request for health hazard evaluation. At a minimum, the determination will: (1) Identify each substance or physical agent involved and describe, where appropriate, the concentrations or levels of the substance or physical agent found in the place of employment and the conditions of use, and (2) state whether each substance or physical agent has potentially toxic or hazardous effects in the concentrations or levels found, as well as the basis for the judgments.

(b) Copies of the determination will be mailed to the employer and to the authorized representatives of employees.

(c) Except as hereinafter provided, the employer shall post a copy of the determination for a period of 30 calendar days at or near the workplace(s) of affected employees. The employer shall take steps to insure that the posted determinations are not altered, defaced, or covered by other material during such period. The employer will not be required to post the determination if the employer requests that copies of the determination be mailed to affected employees and furnishes NIOSH with a list of the names and mailing addresses of the employees employed in the workplace(s) designated by the NIOSH Officer. In the latter event, NIOSH will mail such copies to affected employees at the mailing addresses provided by the employer.

(d) For purposes of this section, the term "affected employees" means those employees determined by NIOSH to be exposed to the substance(s) or physical agent(s)

which is the subject of the health hazard evaluation.

(e) Copies of determinations made under the OSH Act will be forwarded to the Department of Labor and the appropriate State agency designated under section 18(b) of the OSH Act. Copies of determinations made under the FMSH Act will be forwarded to the Mine Safety and Health Administration of the Department of Labor; the Bureau of Mines, Department of the Interior; and the State agency which, in the judgment of NIOSH,

would benefit the most from the information. If NIOSH determines that any substance or physical agent has potentially toxic or hazardous effects at the concentrations or levels at which it is used or found in a place of employment, and the substance or physical agent is not covered by a safety or health standard established under section 6 of the OSH Act or section 101 of the FMSH Act, NIOSH will immediately submit the determination to the Secretary of Labor, together with all pertinent criteria.

[37 FR 23640, Nov. 7, 1972, as amended at 45 FR 2653, Jan. 14, 1980]

§ 85.12 Subsequent requests for health hazard evaluations.

If a request is received for a health hazard evaluation in a place of employment in which an evaluation under this part was made previously, NIOSH may make another investigation if, as a result of the passage of time or additional information, another investigation would be consistent with the purposes of the Acts.

[45 FR 2654, Jan. 14, 1980]

TGG: JCL: MMG: AJO: RF

XF: _____

TO: Dick Conrad-LCVCM

FROM: T. G. Grumbles

DATE: July 27, 1989

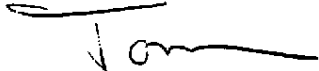
**Interoffice
Communication**

SUBJ: LITERATURE RESULTS OF BRAIN TUMORS AND VCM EXPOSURE STUDIES

VISTA

Attached is an example of what papers summarizing the literature say. In general, excesses have been seen but the excess is probably not significant, or in other words no more than the normal population.

These pages are from a "summary" paper that will go in the book. I think we want to put this type of paper first and direct their attention to them.


T. G. Grumbles

dlj

Attachment

VVV 000002990

CONCLUSION

Occupational exposure to concentrations of VC of the order of 1,000 ppm has caused the classical 'vinyl chloride illness'. Exposure to such levels, or perhaps lower levels of the order of several hundred ppm, has caused angiosarcoma of the liver after a latent period that is seldom less than 15 years.

→ The evidence now available from following up many thousands of men occupationally exposed to vinyl chloride suggests that a small risk of lung cancer may also have been produced, which must, however, have been substantially less (in absolute terms) than the risk of angiosarcoma of the liver. The balance of evidence does not support the idea that VC has caused cancer in any other organ, but it is impossible to state categorically that it has not. Clearer evidence, one way or the other, could be obtained if the various investigators would present their results in comparable forms that would allow them to be combined and subjected to the standard tests for an occupational hazard.

There is no evidence that exposure to VC has caused any other disease.

Suggestive evidence has been obtained that past levels of environmental pollution with vinyl chloride may have caused a few cases of cancer in the general public.

German and the Swedish studies derived the expected numbers of deaths from national mortality rates for a single year towards the end of the study period. The expected numbers of deaths are likely, therefore, to have been overestimated and the SMRs correspondingly underestimated as the mortality from lung cancer had been rising throughout the period of observation.

Brain Cancer

The idea that VC might cause brain cancer was suggested by Monson et al. (1974), when they reported 5 cases against 1.2 expected, in the same paper in which they suggested that VC might cause lung cancer. The combined data that are shown in Table 4 provide some support for this hypothesis. Monson et al.'s cases were, however, observed in US workers and must be presumed to be included in the total reported by Environmental Health Associates (1986), in which case they will have contributed a substantial proportion of the total in Table 4. To test the hypothesis we ought, therefore, to subtract Monson et al.'s data. Their study was not a cohort study and their expected deaths do not correspond exactly to those in Table 4; we can, however, only subtract both the observed and the expected cases from the present totals. This leaves 24 observed against approximately 18.3 expected, a difference which might easily occur by chance (P , one-tailed, = 0.1).*

Additional information from two other sources is given in Table 5.

The small excess reported provides little further evidence of an occupational hazard, as one of the two deaths observed in the Swedish study occurred in a young man who had been employed for less than a year when the diagnosis was made, while the excess death rate for brain cancer observed

*If we regard Waxweiler et al.'s (1976) study as the origin of the hypothesis we should be left with 26 deaths against 18.94 expected (P , one-tailed, = 0.07).

in the German study was less than that observed in chemical workers not exposed to vinyl chloride (2.9 deaths after allowance for deaths from unknown causes against 1.6 expected) and in workers in the PVC fabrication industry (5.9 deaths after allowance for deaths from unknown causes against 1.1 expected).

Cancers of Lymphatic and Haematopoietic Tissues

The idea that VC might cause cancer of the lymphatic and haematopoietic tissues - and more specifically the lymphatic tissue - was suggested by Tabershaw and Gaffey (1974) and by Waxweiler *et al.* (1976) when they found, respectively, in two cohort studies (i) 5 deaths from lymphomas in the most heavily exposed workers against 2.54 expected, and (ii) 4 deaths from cancers of the lymphatic and haematopoietic tissues against 2.5 expected. These small excesses might have been ignored if the laboratory findings had not been interpreted as suggesting that lymphomas were produced experimentally in animals exposed to vinyl chloride by inhalation (Maltoni and Lefemine, 1975). On this basis, the idea that similar exposure might also cause lymphomas in Man needed serious consideration. The data from the four principal studies that are summarized in Table 4 provide little support for the hypothesis when all cancers of the lymphatic and haematopoietic tissues are considered together (57 deaths against 50.87 expected, SMR 112) and very little more is obtained from the separate data for cancers of the lymphatic system (using Tabershaw and Gaffey's definition of ICD list numbers, 8th revision, 200-203 and 205) that are shown in Table 1 (35 deaths against 29.40 expected). The position is, moreover, hardly altered by subtracting the data in Tabershaw and Gaffey's initial report (29 deaths against 23.36 expected, SMR 124).

Some little additional information is provided by the results of the German study, some of which are shown in Table 5. This obtained an SMR of 214 for exposed workers (based on 15 observed deaths, increased to 16.5

VVV 000002993

absolutely almost as large as the risk of developing the normally very rare angiosarcoma.

One of the many hazards that have been suggested can be dismissed, as there is no evidence to support it: namely, the idea that VC causes any cancer of the digestive tract other than angiosarcoma of the liver. Two hazards (of melanoma and cancer of the thyroid) have been suggested only very recently and few of the available studies have provided information about them. There is no good theoretical reason or laboratory evidence to suggest that either should be produced by VC and, on present evidence, the simplest explanation is that the reported excesses are the chance effects that must be expected when many different types of cancer are studied in several different populations. So far as melanoma is concerned it has to be remembered that the disease has become much more common in recent years in Scandinavia (where the excess has been reported) due, it is believed, to the popularity of sunbathing and the increased opportunities for Scandinavians to travel to the warmer parts of Southern Europe and North Africa. The extent to which this may have affected the observation in Norway needs to be examined.

Two other hazards (of lymphoma and of brain cancer) were suggested by the early results of some of the American studies. That VC might produce a hazard of lymphoma was initially supported by the preliminary results of animal studies, but the complete results of the many studies that have now been undertaken (see Maltoni and Lafemine, 1984) do not suggest that lymphoma or any other cancer of the haematopoietic system is liable to be produced. There is, however, some evidence that brain tumours can be produced in rats (see Maltoni and Lafemine, 1984). The hypotheses that lymphomas and brain cancers might be produced by VC have been supported by the observation that both these types of cancer have caused death more often than might be expected from national mortality rates, but the

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excesses observed in the combined data from the four principal studies are small and not statistically significant and the hypotheses remain unproven.

The small excess of brain cancer is particularly difficult to evaluate as mortality rates from this disease have changed rapidly over time in company with improved methods of diagnosis and the suspicion of an occupational hazard (which was raised in 1975) could have influenced the findings. What excess has occurred has been limited to the USA and Germany and the German findings carry little weight, as the excess was found in each of the three occupational groups studied, irrespective of the chemicals to which they were exposed. The supplementary data from the German study showing an increased mortality from lymphatic and haematopoietic cancers are more impressive, particularly as the excess was most marked for men who had been employed for at least 5 years. In these circumstances, we must still suspend judgment until the data for each study are analysed for each specific type of cancer, by intensity and duration of exposure, and time since exposure began.

There remains the suggestion that VC might cause lung cancer. At first sight, this is ruled out by the SMR of 97 for the combined data for respiratory cancer for the four principal studies. Lung cancer is, however, normally so common (accounting for about 8% of the expected deaths) that an increase in mortality that was half as important (numerically) as the mortality from angiosarcoma of the liver might easily be overlooked (95% confidence limit of the SMR, 85-112). The incidence of the disease is moreover very variable within a country and there must be doubts whether the national experience provides a suitable control for men employed in plants that are not evenly distributed about the country. In these circumstances we cannot exclude an occupational hazard unless it can be shown that the mortality within the exposed men is independent of the factors that might be expected to influence it, if some of it were

VVV 000002995

TO: Distribution

CONFIDENTIAL

FROM: T. G. Grumbles

DATE: July 17, 1989

SUBJ: VCM PLANT EMPLOYEE MEETING ACTION ITEMS

Interoffice
Communication

VISTA

Based on the feedback and discussions at the meetings held on Friday, July 14, below are the action items and proposed responsible parties.

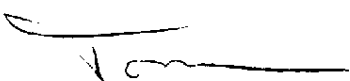
1. Prepare a binder that contains copies of the scientific literature referenced in the employ brochure. TGG
2. Prepare a written Q & A document for the questions raised in the meetings. TGG/JRD/Plant
3. Prepare a list of suspected employee cancer cases. Plant
4. Research cause of death for employees listed in #3. JRD
5. Continue to explore early screening tests for CNS dysfunction. JRD

These 5 items were the ones that were raised in the meeting and the ones we have committed to for employee feedback.

I would add the following to the list:

6. Continue to discuss NIOSH Health Hazard Evaluation. ALL
7. Consider medical screening steps for long term employees only (these are ones with highest risk.) JRD/THH/
RAC

The general plan is to have further written feedback to the employees in a 2 week time frame. I believe Item 2 would be the major portion of this with any updates available on Items 1, 2, 5, and 6.


T. G. Grumblesdlj
.715

Distribution: T. H. Huffman, J. A. DeBernardi, J. R. Drumwright,
N. C. Frost, R. A. Conrad, M. Brady, G. Shirley-VCM

cc: J. Friend-LCCP, J. W. Ware-LCLAB

July 14, 1989 10 AM
Meeting

George > Discrepancy of 2 people in short time
in small groups indicative of a problem.
Dumwright > could be a different kind of group
George > wouldn't show up in short groups?
Dumwright > just miscommunication
George > can your opinion be small group
like this 2 brown tumors large amount.
TD > yes 130 people
Russell O'Rourke > Not 130 people, not count
office and engineers. RHE more like 80-90
Nelson Fordent > brought up part cancers, Wilson
London, etc. RHE/TF. Talked on
subject.
George > Ken Vincent > EDC and there's how about
carrying home on clothes and shoes. What
know about EDC/Jon/Steph
Dumwright answered
George > Studies that have been done, what w/ the
population, 15-20 yr employees.
Dumwright answered
George > Still on 2 out of 80-90 population
no this about.
Dumwright talked about BFG had angiosarcoma

Dartey > Drumwright mentioned that 90% of cases of cancers came from another area.

Drumwright & discussed lung & brain
90% of lung cancers have already spread to the brain before being discovered.

Dartey > Both cases malignant but different types?
JD > yes by cell differentiation.

Fullerton > Ross cancer - any other sign elsewhere
JD > arose in brain

Whitman > Dr. Drumwright, 2 types of tumors different, 2 types of people different
can that affect where cancer came from

JD > genetic relationships

Grumbler > chemical relationships

Whitman > if same chemical exposure produces a cancer in 2 different people would it be the same?

~~Grumbler~~
Fetzer > BFG study? was it broken down into separate cancers.

P. Fontenot > Do you intend to look at other Vinyl plants?

JD > talking to And. Air thruout country

Russell O'Quinn > you are saying no xrays on Fogelmen from trailer.

JD answered

no indication from other exams.

K. Vincent > Blood tests what cancer show up?

JD

O'Quinn > are we, company, going to do cat scan?

JD answered

D. Persuen > Personally have headache, vision blurring, will have trouble with the insurance company paying for the test. Suppose someone else does come up w/ brain tumor, what will happen? Plant was a mess 20 years ago, open pit, former, both guys w/ tumor worked here then.

Gorings > Matter of cost, company takes on the interest and says we want the check insurance will pay it.

RAC - answer it. Deductible only problem.

Whitman > Deductible is a problem
RAC answered.

Goings > non-invasive tests - Drummright looking at? JD>

Dartey > any info or data regarding tumors at OKE and Aberdeen.

JD> one at Aberdeen time we began VISTA - man not associated w/ PVC Polymers
What about lung cancer and brain tumors among non-smokers?

JD>

N. Fontenot > Smoking or tobacco use?

JD answered

Fetzer > Xray 1 yr ago didn't show. What does cat-scan show?

JD>

will it pick up very minute cancer or is it fast-spreading kind?

Goings > maybe we should have a group study of our group?

N. Fontenot > What time frame on answers to questions generated?

JD + TG answered. 2 weeks to 1 m

Hines > y'all have trouble getting info how did they do the studies?

T.G. >

Tom Hooper > Boy died at 18 w/ blastocoma,
what about tracking when ^{death} ^{certified}
this happens? ^{shocked} ^{heart failure}
JD >

Whitnie > worried about 80-90 people
not hundreds, how long will it take?
Vincent > rate co. going 1/2 in room will
be dead.
interested in VCM plant Westlake.
JD Burns signature on check sure
speeds up things.

N. Fontenot > K. Lee's wife
J. Chisolm Hachett > will 1 molecule of a carcinogen
start a cancer?

J. Chisolm > seem to ^{have} figured out a lot
about Dan and Mike will you
continue to do so?

Perouen > Exam in the trailer, takes a long
time to get info back. What can be
done?

JD/TG >

Don Vincent > few people that retired > will
retirees be kept up to date on study.
TG/RAC/JD > yes

Want an update regularly?
How about VCM newsletter-?

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