



INTER-OFFICE CORRESPONDENCE

Date: March 1, 1979
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Subject: Carcinogens -- VCM

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The association of brain cancer with VCM exposure is not new. This is, however, the first incidence I am aware of where such an intensive investigation is underway.

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/zak

Attachment

Gulf Plants Combed for Carcinogens

By Bill Curry

Washington Post Staff Writer

HOUSTON—An apparently high incidence of brain cancer among workers at a Union Carbide Corp. petrochemical plant near here has prompted a federal health investigation to determine which of the plant's hundreds of chemicals might have caused the disease.

Most suspect is vinyl chloride, which has been produced or processed in the Texas City Union Carbide plant for 30 years and has been associated with the type of cancer diagnosed in at least seven workers among 11 who contracted brain cancer since 1962.

In the course of that investigation, The Washington Post has learned, U.S. health investigators obtained evidence of another possible rash of brain cancer at the Texas City plant of another chemical company, Monsanto, where vinyl chloride used to be made.

The investigation began after a Union Carbide employee, a victim of brain cancer related to vinyl chloride, complained in November to the federal Occupational Safety and Health Administration.

In previous health studies, scientists have found indications that vinyl chloride, a basic building block in today's plastic world, was related to a form of brain cancer called glioblastoma multiform.

But they said that more study was warranted to determine a definite relationship, so the occurrence of glioblastoma multiform among the Union Carbide workers and the brain cancer among Monsanto employees may confirm that finding or may point to yet another chemical as a cause of the fatal disease.

The current concerns draw attention again to the potentially deadly array of Texas Gulf Coast petrochemical plants that are so vital to the booming Houston-region economy. That concern was highlighted by the 1976 Veisic scandal, in which it was discovered that its Phosvel was causing a debilitating nerve disease among workers.

The Gulf Coast's sweeping collection of highly complex petrochemical plants turns natural gas and petroleum into the essence of everyday life—tin-can linings, auto bumpers, stereo records.

Six of every 10 gallons or pounds of

petrochemical products made in the United States are produced here, according to the highly regarded research of the Houston Chamber of Commerce. Petrochemicals here employ 31,000 people, have a production valued last year at perhaps \$2.6 billion and a payroll estimated at a half billion dollars.

Recent years have seen another price to be paid in human flesh as chemical after chemical produced or otherwise used here is tied to cancer or is suspected of causing cancer. Benzene, acrylonitrile, vinyl chloride—all are here with hundreds of others.

Last year a statewide survey showed Texas to have an unusually high death rate from lung cancer, an incidence attributable to what officials call a virtual epidemic of lung cancer along the Texas Gulf Coast.

And a Port Arthur chemical engineer last August, saying oil and chemical companies have made the region a "cancer capital of the United States," sued 14 companies for \$1.5 million, claiming he contracted leukemia as a result of working in the industry.

Shell Oil has reported that one of its products probably caused cancer among workers years ago when safety controls were not so stringent, and some 30 Shell employees at a Deer Park lubricants facility have complained of numbness and pain in their extremities—a condition called peripheral neuropathy.

Shell and Union Carbide assure that whatever the causes of cancer—the Union Carbide link of vinyl chloride to the dead workers is not yet

conclusive—new federal standards for exposure to "toxic" chemicals mean that, whatever past experiences, today's levels are too low to be harmful.

Indeed, Union Carbide says many of its workers are exposed to less amounts of chemicals than federal law allows. The company says it meets today's vinyl chloride standards of exposure to workers during an eight-hour day of only one part per million—a concentration of fumes in the surrounding air equal to one drop of vermouth in a martini made from 80 fifths of gin.

The Union Carbide employees stricken with brain cancer generally

worked before the implementation of today's stricter standards. The 11 brain cancer victims—all but one are dead—ranged in age from 30 to 68, having worked at the plant from 7 to 31 years.

The seven-year employee worked there in the 1950s, while vinyl chloride was still being manufactured, not just processed from purchased lots into beer and food can linings and industrial coatings.

Union Carbide's plant manager in Texas City, Damon L. Engle, says vinyl chloride accounts for five percent of the plant's activity and amounts to hundreds of millions of pounds a year. Perhaps 60 employees are regularly exposed to it, he said, and 8,000 to 10,000 workers over the past 3 years have potentially been exposed to the cancer-causing product.

In 1974 vinyl chloride was cited as a cause of a rare liver cancer among workers exposed to it; and there was evidence during a study of the product that suggested its relationship to glioblastoma brain cancers.

Some 2,000 people work at the Union Carbide plant now, Engle said, and they have been notified by the company of the findings of 11 brain cancers among workers, which include:

- Ten deaths between 1962 and 1978 and one living victim.
- Six listed on death certificates as having glioblastoma multiform.
- The living victim with glioblastoma multiform.
- Two listed on death certificates as having a kind of cancer that may be glioblastoma and related to vinyl chloride.

• Two deaths listed as primary brain cancers, which eventually may or may not be diagnosed as the form associated with vinyl chloride.

• Some workers who were not directly involved in the handling of vinyl chloride but who nevertheless contracted brain cancer.

Engle said the findings so far are a "preliminary indication" suggesting that vinyl chloride may have caused the brain cancer at his plant, but said it is too early in the health investigation to reach a final conclusion.

Officials at the National Institute of Occupational Safety and Health, which is investigating the outbreak of brain cancer, said it is almost impossible that such an occurrence could be random, that something in the environment of the workers—vinyl chloride alone, combined with other chemicals or some other substance—could be the cause.

At the Monsanto plant, health investigators began a check of exposure levels after learning that at least four and possibly five employees died of brain cancer.

OSHA and NIOSH officials and Union Carbide's Engle all cited extensive cooperation among themselves to determine which, if any, of the Union Carbide chemicals passing through the Texas City plant may be associated with the seemingly high occurrence of brain cancer.

Noting the difficulty of linking vinyl chloride to the brain cancer, OSHA director Eula Bingham said, "It is too early and there are too many other chemicals in use in the plant to reach any definitive correlation between any particular chemical and the tumors."