

OSHA, NIOSH study brain-tumor deaths at Union Carbide facility

Following the discovery that 10 employees at Union Carbide's Texas City, Tex. plant had died of brain tumors, the Occupational Safety and Health Administration and the National Institute of Occupational Safety and Health are conducting an epidemiological study of 8,000-10,000 present and former workers at the plant. The investigation resulted from a worker's complaint last November, alleging an abnormal incidence of brain tumors among personnel in the company's chemical-shipping area.

OSHA inspectors visited the plant on Dec. 13, 1978, and Jan. 8, 1979, and reported last week that examination of Carbide's medical records revealed 11 brain-tumor cases, including 10 deaths. Nine of the workers had died of a form of cancer called glioblastoma multiforme; the living worker is believed to have glioblastoma. The other employee died from meningioma, another type of brain tumor.

According to OSHA Administrator Eula Bingham, "The total number of brain tumors so far would appear to be higher than expected for a plant population this size." At the start of the investigation, which is expected to take about a year, vinyl chloride monomer is the leading suspect. While VCM is most commonly associated with angiosarcoma, a form of liver cancer, several studies have linked it to glioblastoma. Sanford Leffingwell, a NIOSH medical officer who is heading the epidemiological study, cites a 1976 study by Richard Waxweiler published by the New York Academy of Sciences, and a later study by Italian researcher Cesare Maltoni that showed an incidence of another type of brain tumor in rats exposed to VCM. A study supported by the MCA also recognized an incidence of glioblastoma among the workers exposed to VCM in its sample.

Carbide says that the affected workers were exposed to VCM in 1950-1965, but evidence at this point is far from conclusive. Leffingwell says that other chemicals in use at the plant, including ethylene oxide and acrylonitrile, are possible causes of brain tumors and will be examined. It is also possible, he points out, that the number of glioblastomas could turn out not to be excessive for a plant with approximately 2,000 employees. In the period since 1941, there have been 455 known deaths of Carbide employees at Texas City, although all 10 in which brain tumors were listed as the cause occurred

in the years between 1962 and 1978.

Shock Waves: Even the tentative link to VCM has sent tremors through the vinyl industry. On February 13, Union Carbide plant manager Damon L. Engle sent a letter to employees at Texas City apprising them of the brain-cancer cases. A similar letter was given to employees at Carbide's S. Charleston, W.Va., facility, and other VCM manufacturers were informed of the findings at Carbide. A Dow Chemical statement cautions against hasty correlation of the deaths with VCM. Dow says that mortality studies conducted recently at Freeport, Tex., and last year at its Plaquemine, La., VCM facilities failed "to show any indication of a similar situation. Both studies showed no deaths from brain tumors among VCM workers."

The joint OSHA-NIOSH investigation team is gathering data. As a result of findings to date, OSHA is also investigating a "compliance complaint" at Monsanto's operations in Texas City and says that it is possible that other plants will also be checked, though none has been identified.

Davis Layne, area director of OSHA's Houston office says "We are just beginning to turn the leaves, and it all depends on what turns up." □

Stauffer's board OK's 2-for-1 stock split

Stauffer Chemical's board last week approved a two-for-one stock-split proposal that they will present to shareholders on April 18 for final approval. The move is the latest in a string of stock-split proposals by such chemical companies as Du Pont, Mobil Corp., SmithKline, and Carlisle Corp., (*CW*, Feb. 14, p. 10).

H. Barclay Morley, Stauffer's chairman, said the proposed split would help bring the stock price, which was around \$40/share last week, down to a level that would be more attractive and affordable to investors.

The proposal calls for boosting Stauffer's authorization for shares to 70 million from the present 30 million. Right now there are about 21.9 million shares outstanding, and the largest shareholder among the board of directors, Christian de Dampierre, owns fewer than 2%.

The board also said that, if the shareholders approve the proposal, the board will consider boosting the second-quarter dividend by 10%, to 27.5¢/share after the split. The move would be in line with the company's policy of raising dividends to offset the effects of inflation. Stauffer has split its stock two for one twice in the past—in April 1957 and in May, 1976. □

Syntex naps naproxen lawsuit settlements

Pharmaceutical producer Syntex Corp. agreed last week to settle out of court all pending lawsuits with Syntex shareholders and Industrial Bio-Test Laboratories (IBT) connected with IBT's alleged deficiencies in testing Syntex's anti-arthritis drug, naproxen.

The agreement requires the companies to set up a \$2.75-million settlement fund, of which \$1.8 million would come from IBT, \$575,000 from Syntex, and \$375,000 from Syntex's insurance company. In exchange, the lawsuits would be dropped. The arrangement is still subject to court approval.

The settlement fund benefits class-action lawsuit plaintiffs, whose suits, filed in 1976 and later consolidated in federal court in New York, alleged that IBT was deficient in performing and reporting on a rat study of Syntex's Naprosyn naproxen. The suits also charged that Syntex knew or should have known about the alleged deficiencies, and that the prices of Syntex's securities were artificially inflated because of allegedly fraudulent representations and omissions stemming from the company's statements about naproxen. In addition, on Oct. 15, 1976, the Food and Drug Administration proposed withdrawing its approval of naproxen's new drug application on the grounds of the alleged deficiencies in the rat study by IBT for Syntex.

Syntex says it is agreeing on the settlement to avoid the "expenses of a lengthy trial, which would require our scientists and executives to waste months in courtrooms thousands of miles away." But the company admits no wrongdoing in the case, and, in earlier answers to the suits, denied all allegations of improper conduct. As of July 31, 1978, Syntex's worldwide sales of naproxen totaled \$87 million for the fiscal year. The non-hormonal anti-inflammatory drug, marketed in about 48 countries, is a major product in Syntex's human pharmaceuticals business.

Nalco Chemical, IBT's parent company, notes that, as part of the settlement, Syntex agreed to dismiss a suit the drug-maker filed against IBT in Chicago, once the settlement of the suits in New York is approved. And IBT's \$1.8-million payment under the settlement terms, Nalco says, will be charged against the reserve for discontinued operations set up by Nalco in 1978.

Syntex, meanwhile, says it has repeated the study of naproxen in question, and submitted it to FDA in late 1978, but so far has had no response from FDA. □

Backfilling mines with uranium tailings seen as disposal solution

Growing problems with radiation hazards from former uranium-processing operations are sparking renewed interest in the use of uranium mill tailings for backfilling mined-out areas. Such a program, used only sporadically since the 1960s, has recently gained support from New Mexico officials, for environmental and engineering reasons.

New Mexico's Environmental Improvement Division (EID) has granted United Nuclear permission to begin using as much as 700,000 tons of uranium tailings to backfill portions of its Northeast Churchrock (N.M.) mine, after the company advised the agency of "an immediate danger of caving" at the site. Noel Savignac, United Nuclear's manager of environmental services, told EID that "without the immediate introduction of support in critical areas of the mine, the risk of losing a portion of the mine is approaching unacceptable limits and could affect the safety of our miners." He noted that the drainage and compaction properties of mill tailings meet the requirements. "After being pumped into the mine as a sand-water slurry, the water can drain off, leaving a firm, structurally sound support from the floor to the ceiling of the endangered area."

While EID granted the request because of the caving danger, the agency expects environmental benefits from the backfilling. Joseph Pierce, chief of EID's water pollution control section, said, "If it's determined that these tails can be deposited back underground in a satisfactory manner that doesn't pollute groundwater, I think it's to everybody's benefit. This whole mill-tailing pile issue has everybody scratching their heads."

Among those scratching their heads are Colorado officials, who have found four highly radioactive former uranium disposal sites beneath Denver. Other states are also grappling with radioactive residues of old uranium processing facilities.

Meanwhile, other tailing backfilling projects are underway in an effort to determine if the system is a safe method of disposal. Kerr-McGee Nuclear Corp. is conducting a cooperative backfilling study with the Bureau of Mines at company mines near its mill at Ambrosia Lake, N.M. The project will measure emissions from underground tailings and will monitor groundwater and other effects of backfilling.

Kerr-McGee has been backfilling



Denver dump: Colorado officials test for radiation at Denver uranium-disposal site.

tailings in New Mexico on and off since the 1960s under a license that was granted by the old Atomic Energy Commission. The operations are now regulated by state environmental officials.

EID is closely watching the Kerr-McGee study. "This technique has some potential problems but an awful lot of potential good aspects," notes Ted Wolf, chief of the agency's radiation and hazardous-waste control section. "We don't know too much about it, but we're trying to get more data. We consider these present projects basically pilot type. We're interested mainly in the impacts of groundwater and the effect on radon emission."

Wolf said EID also wants to ensure that there are controls on moving tailings from mills to mines. "When you have tailings moving from one place to another, you want to make sure they are stored in a secure area where they don't become accessible to irresponsible persons who may use them for building materials."

EID's Pierce noted that, despite these fears, the backfilling technique can be a "good practice." The companies' "real interest is the safety issue," he said, adding that "it is my feeling that as time proceeds more and more companies are going to want to do this, primarily to alleviate subsidence. But if we could get a portion of these tailings put to use without creating a problem, we think it's great." □

Mapco: \$47.2 million to buy Chem-Nuclear

Mapco Inc. (Tulsa), an energy and pipeline company, has agreed in principle to acquire fast-growing Chem-Nuclear Systems (Kirkland, Wash.) through a stock deal valued at about \$47.2 million. Chem-Nuclear Systems disposes of toxic chemicals and low-level radioactive waste from nuclear reactors.

Terms call for exchanging three-fourths of a Mapco share for each share of Chem-Nuclear stock. Mapco's closing price on the stock market was about \$30/share last week. Mapco would thus be paying about \$22.50/share for each of Chem-Nuclear's 2.1 million shares outstanding (recent closing price: \$20.50). The deal is subject to approval by the boards of both companies and by two-thirds of Chem-Nuclear's shareholders.

Chem-Nuclear has about 80% of the commercial market for handling low-level radioactive waste from commercial utilities, and, according to its president, Bruce W. Johnson, long-range growth potential for this market is big. Since existing nuclear facilities will have to be broken down and rebuilt, he says, an "incredible" amount of contaminated material will have to be handled. "That's probably at least a \$25-million job per plant," says Johnson, "big numbers for a small company like us," considering total sales last year were \$15.3 million.

And in the next 5-10 years, he says, chemical disposal will be the company's biggest growth area, since "past methods of chemical waste disposal are no longer possible, such as in sanitary landfills, because of increasingly stringent laws that Congress and states are passing." He adds, "Environmentally benign disposal of chemicals is in its infancy—where nuclear disposal was 25 years ago."

Mapco, with \$650 million per year of sales, sees the acquisition as an extension of its energy-related activities. It has operations in pipelines, coal, oil, gas and uranium exploration. Mapco, says Chem-Nuclear, has "done a superior job" and provides a needed service for energy companies.

Chem-Nuclear's Johnson points out that Mapco, besides providing management expertise and access to capital, can help to find and acquire new disposal sites, since Mapco "does a lot of wildcatting and is strong in geology and hydrology."

After spending \$1 million on the project, Chem-Nuclear recently had to abandon plans for a site in New Mexico, because regulatory agencies indicated they would delay use of the site for years. □