

THEY COMPLY *Evening Journal* 3/29/77

But 2 Companies Face Threefold Problem in Making Vinyl Chloride

This is the third article in a six-part series on occupational health

By WALLACE C. JUDD JR.

Frank J. Riccardi lost his job at Stauffer Chemical Co. in Delaware City because tests showed he had a weak liver.

Riccardi thinks he is healthy enough to work. But Stauffer processes a chemical called vinyl chloride — a chemical known to cause cancer of the liver. Stauffer doctors insist, after several tests, that Riccardi's liver problems are not related to vinyl chloride.

But, since the company could not find another job for him, where there would be no risk of exposure to vinyl chloride, Stauffer said it had to let him go. That was last April. Riccardi says he has been unable to find work since.

Riccardi refuses to talk. He says he is preparing a lawsuit against the company to get his job back.

But some of his friends in Local 1134 of the United Paperworkers International Union — the union at Stauffer — are angry.

"I think they (management) could have found something around the plant for him to do," says Francis X. Bleyer Jr., local president. "I'd like to see the results of the physicals for management — the people who do not regularly face the threat of exposure — to see if any of their liver tests showed as high as Riccardi's. I want to see if they kept their jobs," said Bleyer.

Riccardi's story illustrates the

vinyl chloride situation in Delaware. Workers appear to have adequate protection from the chemical's immediate dangers. The issues facing the vinyl chloride industry in the state are these:

■ What to do with workers developing abnormal liver readings that may or may not be related to exposure to vinyl chloride.

■ Whether to hire females for production jobs in light of federal studies that show exposure to vinyl chloride may cause birth defects.

■ Worker apathy concerning the potential hazards of vinyl chloride now that initial attention to the dangers has subsided.

Two Delaware companies, Stauffer and Diamond Shamrock, use the gaseous vinyl chloride to make the pol. vinyl chloride resins that eventually wind up in hundreds of everyday plastic products ranging from car seats to pacifiers for babies.

Both companies are providing worker protection up to federal standards, according to Bart Chadwick, Baltimore-area director of the Occupational Safety and Health Administration.

"To the extent we know the problem, both Diamond Shamrock and Stauffer are in compliance with the vinyl chloride standards," says Chadwick.

Until 1974, vinyl chloride was thought to be safe. Once it was thought to be so harmless it was used briefly as an anesthetic.

But in January 1974, a horror story began to unfold at the B.F. Goodrich Co. polyvinyl chloride plant in Louisville, Ky., where three workers died of a rare liver disease — angiosarcoma. This disease could be traced to the vinyl chloride in the air. Since then, there have been at least 29 other deaths in 10 countries traced to vinyl chloride exposure.

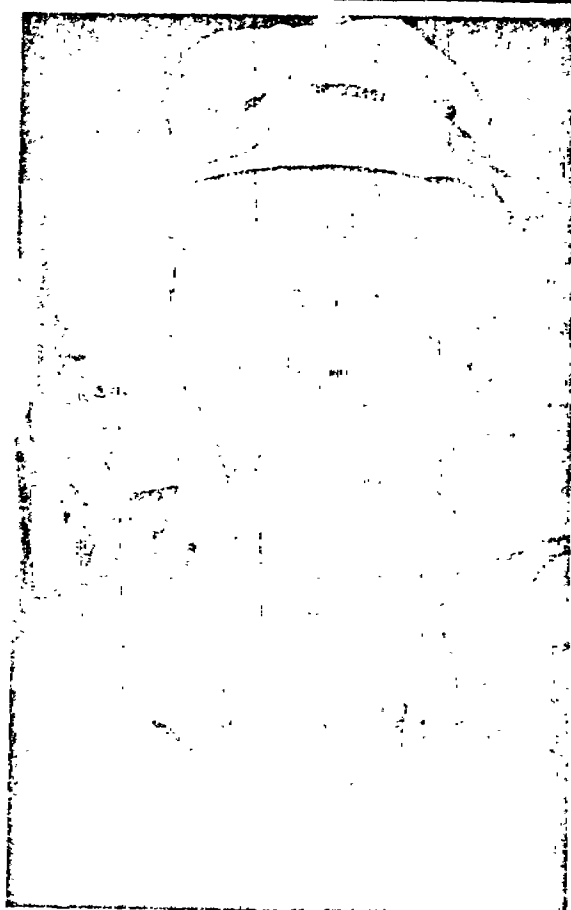
OSHA then set standards to drastically lower the amount of vinyl chloride which could be inhaled by a worker. The Environmental Protection Agency also set standards limiting vinyl chloride discharges outside plants.

Although studies are continuing in both government and private laboratories, nobody has yet discovered any danger in the finished products, according to a report from OSHA. By the time the product reaches the consumer stage, the vinyl chloride has been chemically locked into the product.

One of the biggest problems in linking liver cancer to vinyl chloride is that it is almost impossible to tell whether liver abnormalities are caused by alcohol, hepatitis or vinyl chloride, according to doctors from both companies.

Since vinyl chloride is a gas, it is difficult to contain in the workplace. When a pipe or joint springs a leak, the worker can be exposed to a dose, which although probably not lethal, can accumulate in the body to work on de-

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NAEP Photo by Lawrence Brown

Richard Lyall, an employee at Diamond Shamrock, models the cumbersome filter mask vinyl chloride workers must wear when there is a threat of exposure beyond allowable standards.

Protective Masks Are Ponderous

Continued from Page One

stroying the liver 10 to 20 years later.

No case of angiosarcoma has been diagnosed at either Diamond Shamrock or Stauffer.

The problem, according to both Robert E. Nagy, the former plant manager at Diamond Shamrock, and Bleyer, the union chief at Stauffer, is worker apathy. Workers do not always wear the protective equipment they are supplied.

OSHA says workers cannot be exposed to more than one part vinyl chloride to a million parts of air over an eight-hour shift. That is the lowest amount measurable.

Compliance with that standard doesn't necessarily mean having workers wear cumbersome masks and breathing devices all the time. Up-to-date and well-monitored manufacturing equipment can achieve the same objective. And at both Stauffer and Diamond Shamrock, when everything is running smoothly, workers need not wear protective masks.

But accidental leaks can and do occur. When that happens, a monitoring device detects the leak and workers in the area are instructed to don their masks. If they don't or if they are exposed to the leak before it is detected, the nearby workers are almost certain to get a whiff of vinyl chloride over OSHA limits.

The masks weigh five and a half pounds. "These things are heavy, sweaty and impair vision," says Nagy, who has been promoted to a marketing post at Diamond Shamrock headquarters in Cleveland. "I'd be less than honest if I didn't say we had a tough time getting people to wear masks when necessary. Oldtimers who have had nothing show up on the liver tests don't want to wear them. Our policy is to enforce masks and discipline workers who don't use them. But we've never reached the point of having to fire anybody."

At Stauffer, Bleyer says that during the day, when most management officials are around and when OSHA inspectors are likely to be present, rules are strictly enforced. But he says, on the late shifts when a foreman may be a little overzealous to increase production or a worker lazy, enforcement of the rules may get a little lax.

"It's the union man's fault just as much as anything else. He doesn't want to be hassled. The warning lights come on. Sometimes he doesn't see them," Bleyer said.

Diamond Shamrock's Bob Barish, senior engineer, says the attitude among workers there is one of "cautious concern." He says workers rarely initiate a

vinyl chloride question at the monthly safety meetings because "I think we do our best to keep our workers informed. We don't try to fluff this over."

Glenn W. Kirk, an operator of one of the units at Diamond Shamrock, says his co-workers are fairly conscientious about wearing masks but not overly worried about the cancer-causing nature of the material they work with.

"I figure we all have to go some way. That (vinyl chloride) is just one of the many things out there to get you," he said.

And Nagy says that since vinyl chloride has been tagged as hazardous, no Diamond Shamrock workers have asked to be transferred. No workers have quit. And no prospective employee when informed of the dangers and company safety programs, has refused a job, he says.

Also, Nagy says Diamond Shamrock is still trying to decide policy on hiring females with child-bearing potential as production workers. OSHA has no standards for this, but recent federal tests show vinyl chloride may cause birth defects. And Nagy says flatly that if abnormal liver readings are found, the worker will be transferred to another section of the plant where he will not be exposed to vinyl chloride. He says if there is no job available, he will make one.

Diamond Shamrock employs 133 workers in its polyvinyl chloride operation at Delaware City, with about 72 having a chance of being directly exposed. The company also manufactures chlorine at the site, with an additional 135 workers.

The company has spent \$5.2 million since 1974 in upgrading its equipment so the OSHA standard can be met. The company has installed monitoring devices and uses them, beyond OSHA specifications, Nagy said.

Charles A. Burkins, safety and loss prevention supervisor at Diamond Shamrock, says annual physicals have turned up two

cases of abnormal liver readings among Diamond Shamrock employees since 1974. One case was diagnosed as hepatitis and involved an employee who does not work in an exposure area. He was treated. Another case was diagnosed as a person with alcohol problems. He has since left the company.

Stauffer has spent \$6 million at Delaware City in the last year to meet OSHA standards, according to Dr. Herbert L. Northrup, director of the company's occupational department.

Stauffer employs 275 workers at Delaware City and about 230 of them face the daily threat of exposure to vinyl chloride.

Northrup says since annual physicals began in 1974, two employees have had abnormal liver readings. Northrup says tests showed both cases were not directly related to vinyl chloride exposure. He refused to talk about either of the cases, saying he was not going to get into "personal medical histories."

He said company policy is that when tests show any abnormality is not related to vinyl chloride exposure, the case is turned over to the employee's private physician. If the physician is willing to certify a worker can return to the chemical processing plant, Stauffer will allow the employee to keep his job. If the physician is unwilling to approve, he says, Stauffer will try to find an alternative job.

But in the case of Riccardi, the company could not find him another job — not even cutting the grass outside the plant, according to C. W. Hager, personnel and safety manager.

Hager said the company "had to follow OSHA regulations" and prevent Riccardi from becoming exposed to vinyl chloride. He said there was no place within the plant boundaries where there was not a risk.

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On the issue of luring women, Northrup says the company will not hire women with child-bearing potential to work where there is risk of exposure.

"I can't really come down on the company for what it has done to protect the worker," says Bleyer at Stauffer. "When they had to meet the requirements, they did everything they could."

Tomorrow: Chlorine, toxic and pervasive.

GGC 000351

Sunday News Journal

Wilmington, Del., March 27, 1977

Business

Leisure Pages 8-9

Travel Pages 10-11

Classified Pages 15-21

Your job may be harmful to health

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By MARY JO MEISNER
and WALLACE C. JUDD JR.

Safety and health officials are scared. So are a lot of factory workers, industry executives, scientists and consumers.

What they're afraid of is something that has only recently begun to receive a great deal of attention, and is becoming more frightening every day. It's a problem that few people can avoid.

The big concern is a seemingly relentless assault by waves of chemicals and other substances that cause cancer, nervous disorders, respiratory diseases and other chronic health problems. And, although there is disagreement as to how many of these health problems can be attributed to on-the-job exposure, no one denies that people are becoming sick and dying because of conditions where they work.

"There's no doubt about it, the scare is there," says Bart Chad-

'It's what we don't know that really scares me,' says a government official in discussing carcinogens. First of a six-part series.

wick, Baltimore area director of the Occupational Safety and Health Administration (OSHA). And, when Chadwick talks about a "scare," he isn't referring to the things used in the workplace that are known or are suspected of causing cancer.

"We have a pretty good handle on what we know," he says. "It's what we don't know that really scares me."

In Delaware the problems and uncertainties are no less frightening. But, safety and health officials claim — and labor and management generally agree with them — that most of the known hazards are being controlled.

A partial list of known occupational carcinogens reads like an index to a chemistry book, arsenic, asbestos, chromium, benzene, beta-naphthylamine, lead, mercury, vinyl chloride, nickel, coal

tar and soot, and even wood and leather. There are others.

Because some of these substances are so common and because other occupational hazards are just coming to light, protecting the worker has become much more complex. Whereas in the past providing a safe workplace meant ventilation, steel-toed shoes, guard rails and other tangible pieces of equipment, nowadays employers and employees are confronted by more subtle and insidious hazards.

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Union, industry and government officials are being forced to wage a battle on two fronts, both of which cover enormous territory. The first involves trying to minimize or eliminate worker exposure to the health hazards already known. With 63 million workers in

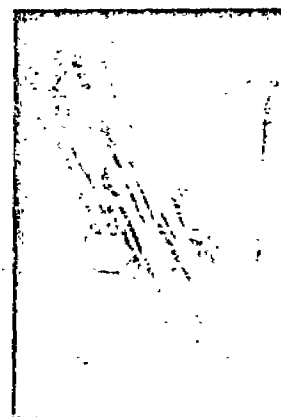
5 million workplaces in the United States, the task seems overwhelming.

Operations on the second front only add to the burden on the first. Here, officials are trying to keep one step ahead of the game by identifying carcinogenic or hazardous substances. With several thousand chemicals in commercial use and a thousand new ones being introduced each year, this too is a formidable task.

As scientists begin to look more intensively, there is the almost universal feeling that things are going to get worse before they get better. "We're tiptoeing around on the top of a giant iceberg," says Chadwick.

And, the very nature of diseases like cancer prevents the iceberg from coming into view more quickly.

Dr. Irving J. Selikoff, director of environmental sciences at Mt. Sinai Medical Center in New York, has said that "part of the problem is that most cancers due to occupational agents have a long period of clinical latency — 20 to 40 years. Identification of the relationship



between cause and effect isn't always easy."

Also hindering the search is the fact that even short, one-time exposures can later result in cancer. And cancer may not stem from a single specific agent, but rather one agent in combination with another.

Lifetime animal studies to determine whether a chemical

causes cancer take years and costs up to \$300,000 to perform. But most research facilities, including the Du Pont Co.'s Haskell Laboratory for Toxicology and Industrial Medicine, recently have begun to use quicker laboratory tests to screen chemicals for possible cancer-causing activity.

OSHA's Chadwick sums up the status of occupational health in Delaware in terms of the overall problem.

"You are wrong if you don't think there is an occupational health problem in Delaware," he says. "We're just cracking the iceberg. As a whole, Delaware is bad because the situation is bad everywhere. But, compared to other states, Delaware is probably as good as or better than them."

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Chadwick and Alonzo Griffin, director of the Wilmington area for OSHA, claim that large Delaware chemical companies such as Diamond Shamrock Corp., the Du Pont Co., Stauffer Chemical Co., Haver Industries and Globe Union, which are involved in the

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production or use of hazardous chemicals like vinyl chloride, asbestos, lead and chlorine, are operating within the OSHA standards.

"I am satisfied that to the extent we know the problem — the state of the art — they are in compliance," Chadwick says. But he adds the ever-present warning: "Next year we may find out that something else is just as dangerous."

"Ninety-eight per cent of the people out there dying of occupational causes are using stuff we don't know about or don't have regulations for," he says.

Chadwick gives the example of his grandfather who died from emphysema thought to have been caused by cigarette smoking. "We know now there is a considerable probability he got emphysema from the dust in the quarry where he worked."

These unknowns combined with "secondary users" of hazardous substances in Delaware concern Chadwick the most. He claims that the processors of carcinogenic materials, like Haver Industries with asbestos, are being carefully watched and controlled. The problem, he says, lies with "the people who use the products

asbestos makes," especially construction workers.

The same holds true with lead, Chadwick says. The dangers of lead poisoning are present both for workers who use lead in various industrial processes and for workers and consumers who use it on a less regular basis.

Griffin claims "lead is not really a problem" at the Globe Union plant in Middletown, which manufactures batteries. "Globe Union could be stacked up now to any battery plant in the country. It's one of the best," he says. The real problem is workers who get casual exposures or "the guy who is spray-painting or finishing his boat."

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In addition, dust and noise produced by all types of industrial processes are a major problem in Delaware. Griffin says his staff is currently inspecting the Phoenix Steel plant in Claymont for these hazards.

Large chemical companies using adequate controls and watched by OSHA are not without their hazards, however. Leaks of dangerous chemicals can and do happen, and when they occur it's up to the company to stop them.

"It's not our job to correct these problems," Chadwick says. "It's the employer's. Our job is to push

them to the furthest extent of the law to get them to comply."

If a company doesn't comply immediately or a worker doesn't make use of personal protective equipment when it's required, the hazard is there.

"It's just as much the union man's fault as management's," says Francis X. Bleyer Jr., president of the United Paperworkers Union, Local 1151, at Stauffer Chemical Co. in Delaware City. The plant makes polyvinyl chloride resins out of vinyl chloride, a gaseous chemical that causes liver cancer.

"The worker doesn't like to be hassled with the mask. If he is nearing the completion of his job, he won't take the time to put it on. Sometimes he doesn't see the warning lights. And, sometimes a foreman, who wants to look good with increased production, won't warn. But during the day when all of the management is working and an OSHA inspector is likely to come around, everybody is pretty careful about the rules," Bleyer says.

OSHA officials in Delaware must "rely a lot on voluntary compliance" with the federal agency's standards and regulations, Chadwick says. Because Delaware does not have its own state plan, the federal government operates the agency in the state. There currently are six OSHA inspectors to oversee 85,000 to 90,000 people in Delaware workplaces, a problem of numbers that has plagued OSHA since its inception in 1970.

"They (the workers) raise hell with us because we're not doing enough. And they're right," Chadwick says. "We're damn near swamped with complaints. If I had 60 people in this office, I'd go out and inspect everywhere. But we don't."

Because of this lack of manpower, Chadwick says, the majority of things that get done, get done because the employers do them.

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If an employer is not providing a safe workplace and OSHA is unaware of it, the workers — often in

the form of a union — must shoulder the burden of seeing that something is done. In the past five or six years, several international unions have come to the forefront of the safety and health field, declaring that wages and benefits are no longer the workers' only concern.

"The Oil, Chemical and Atomic Workers and the United Steelworkers saw the light five years ago. They have super-good (safety and health) professional staffs and they do a good job," Chadwick says.

At the local level, however, some unions haven't "picked the ball up" or are too weak to effectively pressure a company to clean up its workplace. Bleyer says he has channeled the case of a former Stauffer worker to the international United Paperworkers Union. The worker was let go by the company because he had abnormal liver readings, according to both the worker and the company.

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Ultimately, however, it's up to the individual worker to decide whether a potentially harmful or lethal exposure is justified. Companies involved with hazardous substances claim very few workers turn down or quit a job because of the occupational dangers. Some workers are philosophical about the whole question of an increasingly hazardous world.

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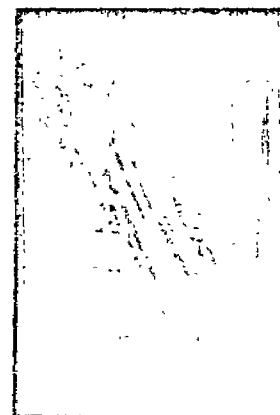
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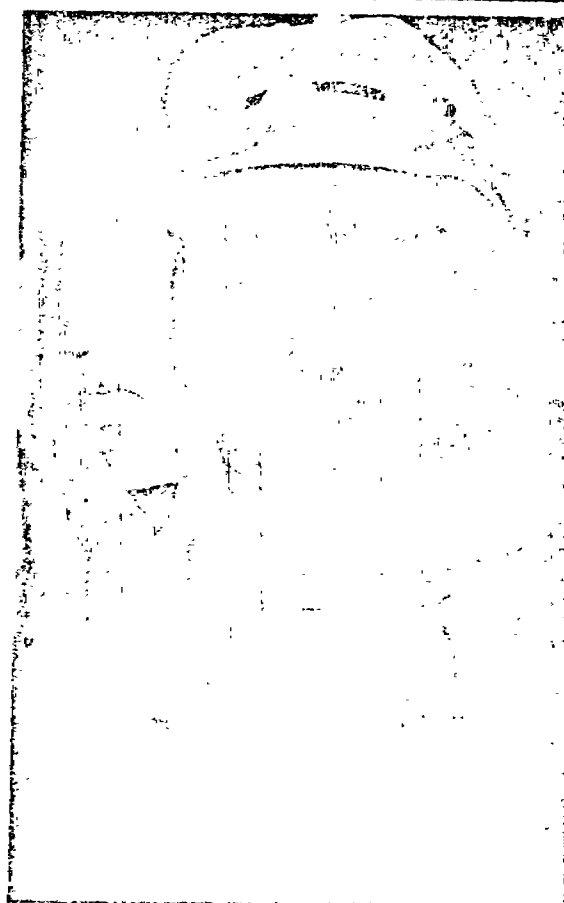
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One of the biggest problems in linking liver cancer to vinyl chloride is that it is almost impossible to tell whether liver abnormalities are caused by alcohol, hepatitis or vinyl chloride, according to doctors from both companies.

Since vinyl chloride is a gas, it is difficult to contain in the workplace. When a pipe or joint springs a leak, the worker can be exposed to a dose which although probably not lethal, can accumulate in the body to work on de-

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Staff photo by Gregory Brown

Richard Lyall, an employee at Diamond Shamrock, models the cumbersome filter mask vinyl chloride workers must wear when there is a threat of exposure beyond allowable standards.

Protective Masks Are Ponderous

Continued from Page One

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OSHA says workers cannot be exposed to more than one part vinyl chloride to a million parts of air over an eight-hour shift. That is the lowest amount measurable.

Compliance with that standard doesn't necessarily mean having workers wear cumbersome masks and breathing devices all the time. Up-to-date and well monitored manufacturing equipment can achieve the same objective. And at both Stauffer and Diamond Shamrock, when everything is running smoothly, workers need not wear protective masks.

But accidental leaks can and do occur. When that happens, a monitoring device detects the leak and workers in the area are instructed to don their masks. If they don't or if they are exposed to the leak before it is detected, the nearby workers are almost certain to get a whiff of vinyl chloride over OSHA limits.

The masks weigh five and a half pounds. "These things are heavy, sweaty and impair vision," says Nagy, who has been promoted to a marketing post at Diamond Shamrock headquarters in Cleveland. "I'd be less than honest if I didn't say we had a tough time getting people to wear masks when necessary. Oldtimers who have had nothing show up on the liver tests don't want to wear them. Our policy is to enforce masks and discipline workers who don't use them. But we've never reached the point of having to fire anybody."

At Stauffer, Bleyer says that during the day, when most management officials are around and when OSHA inspectors are likely to be present, rules are strictly enforced. But he says, on the late shifts when a foreman may be a little overzealous to increase production or a worker lazy, enforcement of the rules may get a little lax.

"It's the union man's fault just as much as anything else. He doesn't want to be hassled. The warning lights come on. Sometimes he doesn't see them," Bleyer said.

Diamond Shamrock's Bob Barish, senior engineer, says the attitude among workers there is one of "cautious concern." He says workers rarely initiate a

vinyl chloride question at the monthly safety meetings because "I think we do our best to keep our workers informed. We don't try to fluff this over."

Glenn W. Kirk, an operator of one of the units at Diamond Shamrock, says his co-workers are fairly conscientious about wearing masks but not overly worried about the cancer-causing nature of the material they work with.

"I figure we all have to go some way. That (vinyl chloride) is just one of the many things out there to get you," he said.

And Nagy says that since vinyl chloride has been tagged as hazardous, no Diamond Shamrock workers have asked to be transferred. No workers have quit. And no prospective employee when informed of the dangers and company safety programs, has refused a job, he says.

Also, Nagy says Diamond Shamrock is still trying to decide policy on hiring females with child-bearing potential as production workers. OSHA has no standards for this, but recent federal tests show vinyl chloride may cause birth defects. And Nagy says flatly that if abnormal liver readings are found, the worker will be transferred to another section of the plant where he will not be exposed to vinyl chloride. He says if there is no job available, he will make one.

Diamond Shamrock employs 133 workers in its polyvinyl chloride operation at Delaware City, with about 72 having a chance of being directly exposed. The company also manufactures chlorine at the site, with an additional 135 workers.

The company has spent \$5.2 million since 1974 in upgrading its equipment so the OSHA standard can be met. The company has installed monitoring devices and uses them beyond OSHA specifications, Nagy said.

Charles A. Burkins, safety and loss prevention supervisor at Diamond Shamrock, says annual physicals have turned up two

cases of abnormal liver readings among Diamond Shamrock employees since 1974. One case was diagnosed as hepatitis and involved an employee who does not work in an exposure area. He was treated. Another case was diagnosed as a person with alcohol problems. He has since left the company.

Stauffer has spent \$6 million at Delaware City in the last year to meet OSHA standards, according to Dr. Herbert L. Northrup, director of the company's occupational department.

Stauffer employs 275 workers at Delaware City and about 230 of them face the daily threat of exposure to vinyl chloride.

Northrup says since annual physicals began in 1974, two employees have had abnormal liver readings. Northrup says tests showed both cases were not directly related to vinyl chloride exposure. He refused to talk about either of the cases, saying he was not going to get into "personal medical histories."

He said company policy is that when tests show any abnormality is not related to vinyl chloride exposure, the case is turned over to the employee's private physician. If the physician is willing to certify a worker can return to the chemical processing plant, Stauffer will allow the employee to keep his job. If the physician is unwilling to approve, he says, Stauffer will try to find an alternative job.

But in the case of Riccardi, the company could not find him another job — not even cutting the grass outside the plant, according to C. W. Hager, personnel and safety manager.

Hager said the company "had to follow OSHA regulations" and prevent Riccardi from becoming exposed to vinyl chloride. He said there was no place within the plant boundaries where there was not a risk.

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On the issue of hiring women, Northrup says the company will not hire women with child-bearing potential to work where there is risk of exposure.

"I can't really come down on the company for what it has done to protect the worker," says Bleyer at Stauffer. "When they had to meet the requirements, they did everything they could."

Tomorrow: Chlorine, toxic and pervasive.

THEY COMPLY

But 2 Companies Face Threefold Problem in Making Vinyl Chloride

This is the third article in a six-part series on occupational health.

By WALLACE C. JUDD JR.

Frank J. Riccardi lost his job at Stauffer Chemical Co. in Delaware City because tests showed he had a weak liver.

Riccardi thinks he is healthy enough to work. But Stauffer processes a chemical called vinyl chloride — a chemical known to cause cancer of the liver. Stauffer doctors insist, after several tests, that Riccardi's liver problems are not related to vinyl chloride.

But, since the company could not find another job for him where there would be no risk of exposure to vinyl chloride, Stauffer said it had to let him go. That was last April. Riccardi says he has been unable to find work since.

Riccardi refuses to talk. He says he is preparing a lawsuit against the company to get his job back.

But some of his friends in Local 1134 of the United Paperworkers International Union — the union at Stauffer — are angry.

"I think they (management) could have found something around the plant for him to do," says Francis X. Bleyer Jr., local president. "I'd like to see the results of the physicals for management — the people who do not regularly face the threat of exposure — to see if any of their liver tests showed as high as Riccardi's. I want to see if they kept their jobs," said Bleyer.

Riccardi's story illustrates the

vinyl chloride situation in Delaware. Workers appear to have adequate protection from the chemical's immediate dangers. The issues facing the vinyl chloride industry in the state are these:

- What to do with workers developing abnormal liver readings that may or may not be related to exposure to vinyl chloride.

- Whether to hire females for production jobs in light of federal studies that show exposure to vinyl chloride may cause birth defects.

- Worker apathy concerning the potential hazards of vinyl chloride now that initial attention to the dangers has subsided.

Two Delaware companies, Stauffer and Diamond Shamrock, use the gaseous vinyl chloride to make the polyvinyl chloride resins that eventually wind up in hundreds of everyday plastic products ranging from car seats to pacifiers for babies.

Both companies are providing worker protection up to federal standards, according to Bart Chadwick, Baltimore-area director of the Occupational Safety and Health Administration.

"To the extent we know the problem, both Diamond Shamrock and Stauffer are in compliance with the vinyl chloride standards," says Chadwick.

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But in January 1974, a horror story began to unfold at the B.F. Goodrich Co. polyvinyl chloride plant in Louisville, Ky., where three workers died of a rare liver disease — angiosarcoma. This disease could be traced to the vinyl chloride in the air. Since then, there have been at least 29 other deaths in 10 countries traced to vinyl chloride exposure.

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Staff Photo by Donaghey Brown

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