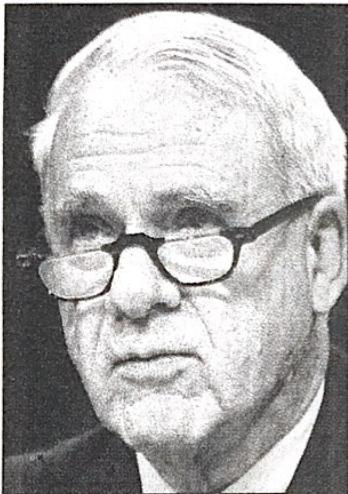


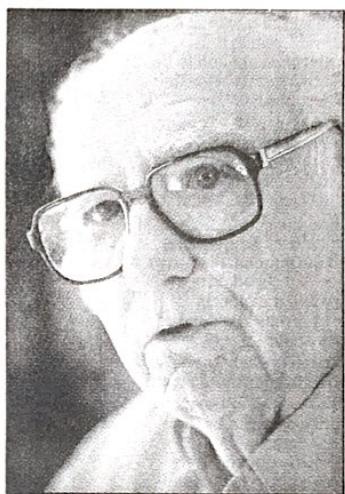
SPECIAL REPORT: DAY 2



AP PHOTO

James Schlesinger, former Energy Secretary, cited security risks as reasons to continue production.

*Industry, defense establishment twist
a proposal to protect beryllium workers into a secret deal protecting their own interests*



BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

Martin Powers, former beryllium executive, helped lead industry's attack on stricter safety standards.

TOLEDO, OHIO, MONDAY, MARCH 29, 1999

Death of a safety plan

1975

Occupational Safety and Health Administration proposes safety plan

1977

Beryllium company Brush Wellman Inc. mounts counter-attack

1978

Defense establishment, U.S. senators weigh in, delaying the plan

1979

Brush, Energy Department cut deal; terms involve U.S. opposition to plan

1980s

Safety plan dies — 'a terrible disappointment,' former OSHA head recalls

Today

47 Brush workers have contracted beryllium disease since plan proposed

STORY BY SAM ROE ■ BLADE SENIOR WRITER

A LOOK AT THE SERIES

Yesterday: The U.S. government has risked the lives of thousands of workers by knowingly allowing them to be exposed to unsafe levels of beryllium.

TODAY: A secret bargain between government and industry officials twists a plan to protect beryllium workers into a deal protecting themselves.

Tomorrow: Brush Wellman, America's leading beryllium producer, has misled workers, federal regulators, and the public about the dangers of the metal.

Wednesday: Brush Wellman has systematically and aggressively tried to control how doctors, scientists, and the public view beryllium.

Thursday: The final days of Marilyn Miller, who contracted beryllium disease while working as a secretary in a local beryllium plant.

Friday: Public officials are quick to give Brush Wellman millions of dollars in tax breaks and public money but slow to raise health concerns.

It was supposed to be a plan to protect workers.

It was supposed to reduce the amount of toxic beryllium dust floating in many plants and machine shops.

And it was supposed to limit the number of workers developing an incurable and often-fatal lung illness called beryllium disease.

That was the plan at least.

But this simple plan – proposed by federal regulators in 1975 – would eventually die, replaced by something far different.

For what started as a government effort to protect workers from this rare but dangerous metal was slowly twisted into a secret arrangement protecting government and industry.

First, the safety plan was attacked by the beryllium industry.

Then several U.S. senators – all of whom had beryllium plants in their states – stepped in.

Then came the defense establishment: Energy Secretary James Schlesinger and Defense Secretary Harold Brown. They feared the plan would cut off beryllium supplies for nuclear bombs and other weapons, and that would "significantly and adversely affect our national defense," Secretary Schlesinger wrote to two cabinet members at the time.

In fact, the Energy Department, which is responsible for maintaining the nuclear arsenal, was so concerned about beryllium supplies that it struck a bargain with the Brush Wellman beryllium company, government and industry documents show.

The government got its valuable beryllium for years to come, and Brush Wellman got more money, a virtual monopoly on government work, and assurances that defense officials would lobby against the safety plan.

Within a few years, the safety plan died.

"It was a terrible disappointment," recalls Eula Bingham, former director of the U.S. Occupational Safety and Health Administration, which



DEADLY ALLIANCE

HOW GOVERNMENT AND INDUSTRY CHOSE WEAPONS OVER WORKERS

had proposed the plan.

The plan remains the only significant effort by the U.S. government in 50 years to tighten controls on the beryllium industry. This is true even though beryllium workers continue to become ill and die from inhaling the metal's dust.

About 1,200 people have contracted beryllium disease – 127 at Brush Wellman Inc., the Cleveland-based mining and beryllium company with plants in several states. Fifty workers have contracted the disease at Brush's main plant outside Elmore, O., 20 miles southeast of Toledo.

Perhaps what is most remarkable about the safety plan is not that it failed, but how it failed.

How industry executives, sensing they could not defeat the plan on its merits, huddled with their lawyers and devised a strategy of attack.

How several members of Congress, responding to industry concerns, went to bat for the industry even though the record clearly showed that the beryllium business was harming workers.

How defense officials, fearing beryllium would no longer be available, cut a deal to keep an aging, unsafe plant open.

"A lot of this," retired Brush Wellman executive Stephen Zenczak says, "really gets into inside dirty linen."

See PLAN, Page 5

Plan: Documents detail how regulatory process was undermined

Continued from PAGE 1

Over the last 22 months, The Blade has pieced together the death of this safety effort, using thousands of industry documents disclosed in recent court cases as well as government records obtained through federal Freedom of Information requests.

Among the documents: a recently declassified Energy Department report on beryllium supply problems and the transcript of a candid talk by Brush executive Martin Powers at a company seminar. In his talk, Mr. Powers details Brush's legal maneuverings to quash the safety plan.

"It was not intended that [my talk] be recorded," Mr. Powers, now retired, recalls. "I didn't know it was being taped."

In total, the industry and government documents show how the regulatory process can be slowly undermined. Moreover, the records provide a rare window into the inner dealings of what President Eisenhower called "the military industrial complex" – an economic and political alliance he so firmly warned against.

Officials deny any wrongdoing in the safety plan's demise, saying it was not needed in the first place.

Mr. Zenczak, a senior Brush Wellman manager who helped cut the deal with the government, says the company did not sabotage the regulatory process. Rather, he says, Brush was simply fighting back against zealous safety regulators who were trying to "make an example of us and hang us up as a trophy."

Jerry Evans, an Energy Department official who has handled beryllium issues for the government for years, says the safety plan was never valid because its underlying scientific data were flawed – an argument the beryllium industry has also made.

Still, two federal agencies were convinced that tougher controls were needed, and an independent panel of experts confirmed the safety plan's underlying science.

Throughout the fight, one fact remained constant: Workers continued to contract beryllium disease, which eats away at the lungs and proves fatal about one-third of the time.

EISENHOWER WARNS ABOUT ARMS INDUSTRY

In his farewell address in 1961, President Eisenhower offered America a warning: The nation, he said, "must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military industrial complex. The potential for the disastrous rise of misplaced power exists and will persist."

Such comments were surprising coming from Mr. Eisenhower, the supreme commander who led the Allies to victory in Europe in World War II and who, as president, was considered a friend of business.

Yet he warned of the "grave implications" of the massive arms industry.

Until World War II, he noted, America had no such industry. Now, it had a "permanent armaments industry of vast proportions."

The beryllium business was a small but vital part of this Cold War economy.

And Brush was a key beryllium supplier, enjoying significant government support.

In 1949, for example, the government paid Brush to build and operate a plant in nearby Luckey. Later, the government subsidized a Brush facility a few miles away near Elmore.

The U.S. Atomic Energy Commission was in charge of overseeing safety conditions at the plants, but it was also responsible for ensuring that nothing disrupted beryllium supplies – duties often at odds with one another.

And for several years in the 1960s, when the contractual restraints on Brush loosened, no federal agency oversaw worker safety.

That would change in the 1970s.

America was now focusing less on the Russians and more on social issues, such as civil rights, the women's movement, and the environment. Several historic laws were passed, including one in 1970 that created the Occupational Safety and Health Administration.

Now there was a federal agency – one wholly independent of industry – that could set safety standards, inspect factories, and fine violators.

It was only a matter of time before these two entities – OSHA and the military industrial complex – would collide.

SAFETY PROPOSAL STUNS, ANGERS BRUSH WELLMAN

For the beryllium industry, that collision occurred Oct. 14, 1975. That day, OSHA held a news conference to announce it planned to crack down on beryllium.

The agency said a dozen workers a year were being diagnosed with beryllium disease. Moreover, OSHA said, studies suggested the metal caused cancer. So OSHA proposed cutting the worker exposure limit in half – from 2 micrograms of beryllium dust per cubic meter of air to 1 microgram.

The amounts of dust were small: 2 micrograms is equivalent to the amount

**'We must guard
against the
acquisition of
unwarranted
influence, whether
sought or unsought,
by the military
industrial complex.'**

*President Eisenhower
in 1961 farewell address*

of dust the size of a pencil tip spread throughout a 6-foot-high box the size of a football field.

But the proposal to cut the limit was not small: The beryllium industry would probably have to spend millions of dollars on new safety equipment and lose customers unwilling to do the same.

Brush Wellman executives were completely blind-sided by the safety plan. They had no idea it was coming, and they knew nothing of the news conference.

In fact, top Brush officials did not learn of OSHA's announcement until the day after the news conference – and then perhaps in the worst possible way.

Brush chairman and CEO Robert Biggs was on his way to a board of directors meeting, and just before he arrived, he picked up a newspaper and saw an article about OSHA's plan.

He was furious. He showed the article

to board members and blasted Brush executive Martin Powers, who had been monitoring OSHA's activities and had assured him the firm had nothing to fear.

Luckily for Mr. Powers, he was out of town.

"My understanding is that Biggs tore me up and down, said that I had lied to him," Mr. Powers later told Brush managers in the candid, tape-recorded talk.

Mr. Powers was summoned back to the office. By the time he arrived, Mr. Biggs had cooled off — "enough that he decided not to fire me, but not enough that he was willing to talk to me," Mr. Powers recalled.

The two met with Brush's attorneys at Jones, Day, Reavis & Pogue, the Cleveland-based law firm that is one of the largest and most prestigious in the nation.

"Biggs wanted this thing fought, and he wanted it fought with every weapon we had," Mr. Powers recalled. "It was to be a first priority in everything in the company and that he expected it to be the first priority at Jones Day."

LOSING THE ARGUMENT, BRUSH SWITCHES STRATEGY

Jones Day assigned one of its top lawyers to the matter, Patrick McCarran.

A former law clerk to U.S. Supreme Court Justice Charles Whittaker, Mr. McCarran would one day go on to become one of the nation's leading attorneys. Today he is managing partner of Jones Day.

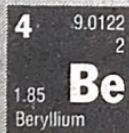
Joining him on the Brush case was

See PLAN, Page 6

A LOOK AT THE SERIES:

'Deadly Alliance' is based on a 22-month investigation by The Blade. Thousands of court, industry, and recently declassified U.S. government documents were reviewed, and dozens of government officials, industry leaders, and victims were interviewed.

About beryllium: Beryllium is a hard, lightweight, gray metallic element. It does not occur in nature as a

 pure metal; it is extracted from minerals, chiefly bertrandite and beryl, and produced through a series of chemical processes.

Beryllium is used in nuclear weapons, missiles, and jet fighters. Small amounts are added to other metals, such as copper, and used in computer connectors, household appliances, and car ignitions. Beryllium's atomic number is 4 and chemical symbol Be.

About the disease: People exposed to beryllium dust often develop a lung illness called chronic beryllium disease,



also known as berylliosis. It is caused by the dust lodging deep in the lungs. Symptoms include coughing and shortness of breath, which may not appear until many years

after the last exposure to beryllium. The disease is often fatal, and there is no cure. Scientists believe some people have a genetic predisposition to the disease. The federal exposure limit for workers is 2 micrograms of beryllium dust per cubic meter of air — equivalent to the amount of dust the size of a pencil tip spread throughout a 6-foot-high box the size of a football field.

About the victims: Researchers estimate 1,200 Americans have contracted beryllium disease, and hundreds have died, making it the No. 1 illness directly caused by America's Cold War buildup. Many cases have occurred in Ohio, Pennsylvania, Arizona, Colorado, and Tennessee, home of beryllium or nuclear weapons plants. Fifty current or former workers at the Elmore plant have the disease. Twenty-six others have an abnormal blood test — a sign they may very well develop the illness.

To comment



Mail: Toledo Blade, Deadly Alliance, 541 N. Superior St., Toledo, O., 43660.

Telephone: (419) 724-6486

E-mail: beryllium@theblade.com
samroe@theblade.com

On the web:

www.toledoblade.com/deadlyalliance/

PLAN

Continued from PAGE 5

John Newman, Jr., a graduate of Harvard Law School.

In a 12-page internal memo, Brush laid out its strategy for fighting OSHA: The firm would challenge the merits of OSHA's plan — attacking the underlying research, for example — but Brush would also rely on "informal pressures."

Brush officials, the memo states, should talk with several members of Congress "to see what they can do to help and what suggestions they might have with respect to others who might have an effect upon Labor Department policies."

And Brush should talk with the Atomic Energy Commission, the Defense Department, and the Commerce Department "to find out as much as we can about what common interests they may have to motivate their support."

Over the next two years, from 1975 to 1977, Brush vigorously fought OSHA's plan, submitting rebuttals, lining up witnesses for public hearings, and soliciting more than 100 supportive letters from customers.

The battle came to a head in Washington in 1977, when OSHA held three weeks of public hearings on the matter.

At first, Brush stuck to its strategy of fighting the plan on its merits. The company argued that the tighter exposure limit was not needed and that it was technologically and economically impossible to achieve.

But toward the end of the hearings, company records show, Brush's lawyers acknowledged things weren't going well. In fact, Brush was going to lose.

And if Brush challenged the outcome in court, the lawyers said, Brush would probably lose again. The courts seldom overturned such decisions — unless the government had been deliberately unfair. If Brush could prove that, it might have a chance to win.

Brush officials immediately switched strategies.

"We decided that the only chance we had was to indict the government for bad faith," Mr. Powers told Brush managers in 1986 at the seminar that was tape-recorded.

So when it was Mr. Powers's turn to speak at the hearings, he blasted OSHA's research arm, the National Institute for Occupational Safety and Health, saying it had concealed information, misused

'We decided that the only chance we had was to indict the government for bad faith.'

*Martin Powers
retired Brush executive*

its power, and treated the beryllium industry as "the enemy."

OSHA, he declared in his written statement, just wanted to appear to be "doing something" about beryllium. He called the agency's plan "an arbitrary and capricious misuse of regulatory authority."

Brush's strong words didn't change much.

When the hearings ended, OSHA moved ahead with its safety plan.

U.S. SENATORS PUT PRESSURE ON PLAN

Brush Wellman did not give up.

Shortly after the hearing, the company started a "publicity campaign," according to Mr. Powers's 1986 talk with Brush managers.

One action that captured attention: Eight scientists — at least four of them Brush consultants — wrote a scathing letter to two cabinet members.

The letter was in line with Brush's new attack-the-government strategy: The scientists called the federal regulators' cancer studies on beryllium "shocking examples of the shoddy scholarship and questionable objectivity utilized in making important national regulatory decisions."

Such studies, they wrote, "do the nation a disservice."

None of the scientists identified themselves as beryllium industry consultants.

In fact, three had testified on behalf of Brush Wellman at the recently completed OSHA hearings.

The scientists' letter was sent to Labor Secretary Ray Marshall and Health, Education, and Welfare Secretary Joseph Califano, Jr., and subsequently released by a Washington-based public relations firm.

That same letter wound up in the hands of several members of Congress. These lawmakers, in turn, started writing letters to Carter administration officials, expressing concern about the scientific basis of the safety plan.

Among those who wrote letters: Sen. John Glenn of Ohio, Sen. Orrin Hatch of Utah, and Sen. Richard Schweiker of Pennsylvania — all from states with beryllium plants.

Senator Hatch weighed in several times. In a letter to HEW Secretary Califano, the senator said he was "deeply concerned" by the scientists' letter and called for a "truly independent review" of beryllium.

"I feel that it is the mutual responsibility of the Administration and the Congress to guarantee the integrity and reliability of the studies and of the rule-making process," Senator Hatch wrote.

Senator Glenn also wrote to HEW Secretary Califano, calling for a review. And Utah Sen. Jake Garn told Energy Secretary James Schlesinger that he, too, didn't want the rule adopted prematurely.

But Senator Garn's interest went beyond the opinions raised by a few industry scientists.

A member of the Armed Services Committee, he was concerned how the safety plan might affect America's ability to build nuclear weapons.

That was a concern of defense officials, too.

See PLAN, Page 7

Plan: Deal guaranteed Brush a virtual monopoly for production

Continued from PAGE 6

DEFENSE OFFICIALS CITE NATIONAL SECURITY RISK

At first, defense officials didn't take much interest in the safety plan.

Few testified at the OSHA hearings in the fall of 1977, and few submitted written comments.

But after the hearings were over, and adoption of the safety plan appeared imminent, they grew increasingly concerned.

One reason: They learned that stiffer regulations might drive an important yet financially strapped beryllium supplier, Pennsylvania-based Kawecki Berylco Industries, out of the metal business.

Now, "the full significance of the proposed standard impact was appreciated," a recently declassified government report states.

So in January, 1978 – about the same time Brush Wellman began its "publicity campaign" – defense officials created a beryllium task force.

Its stated mission: to study what impact OSHA's safety plan would have on the beryllium industry and U.S. supplies.

But Mr. Powers, the retired Brush executive, told his colleagues at the 1986 seminar that defense officials informed Brush that the task force was set up "to try to get the OSHA thing reversed."

Four months after it was created, the task force concluded in a report that the OSHA plan had serious national security implications.

It said the nation's two main beryllium producers – Brush Wellman and Kawecki Berylco – would likely stop making beryllium for the government if the safety plan were adopted. Both companies made little money on government orders, and so the firms would rather shut certain operations than invest millions of dollars on new safety equipment.

If the government wanted to pay for the improvements or build its own beryllium plant, the cost would be high: tens of millions of dollars.

The task force concluded the bottom line was this: The Energy Department needed several tons of beryllium each year. If supplies were cut off, there would not be enough beryllium in the stockpile to last two years.

In a memo to top defense officials, the Energy Department's J.K. Bratton recommended that the Energy and Defense departments express these national security concerns to U.S. health and labor officials.

Such letters, he said, would likely "moderate" OSHA's safety plan.

Energy Secretary Schlesinger took the advice: In August, 1978, he wrote identical letters to Labor Secretary Marshall and HEW Secretary Califano. A copy was sent to National Security Adviser Zbigniew Brzezinski at the White House.

Mr. Schlesinger warned that if the safety plan were adopted, the costs of complying with the regulations might drive beryllium firms out of the metal business and cut off U.S. supplies.

"The loss of beryllium production capability would seriously impact our ability to develop and produce weapons for the nuclear stockpile and, consequently, adversely affect our national security."

And that, he said, would be "unacceptable."

Substitutes for beryllium, he wrote, could not be used in existing nuclear weapons without testing the bombs to verify performance. "In some cases, full-yield testing would be necessary."

Weapons under development would have to be redesigned, and that "would require a long-term major investment and would incur significant penalties in performance, safety, and cost."

Mr. Schlesinger concluded by asking Secretary Califano to conduct an independent review of OSHA's basis for the safety plan.

Defense Secretary Harold Brown made a similar request, calling it a matter of "national interest."

In the end, Secretary Califano agreed to an outside review.

This pleased Senator Hatch, who had lobbied Mr. Califano for such a move.

"My congratulations for your excellent judgment," the senator wrote.

The following month, October, 1978, a panel of seven nongovernment scientists convened in Atlanta. They reviewed the cancer studies on beryllium and heard from industry, labor, and OSHA representatives.

The experts' conclusion: The science behind the safety plan was valid.

Finally, it appeared that work places handling beryllium would be made safer.

U.S., BRUSH WELLMAN STRIKE AN AGREEMENT

Then something happened that changed everything.

In May, 1979, the Cabot Corp., now the owner of Kawecki Berylco, did exactly what defense officials feared: It dropped out of the pure beryllium metal business after repeatedly losing money in that venture.

That left Brush Wellman as the sole sup-

plier in the non-Communist world of the kind of beryllium that America needed for weapons.

Needless to say, this put Brush in a strong negotiating position.

Brush executives soon met with defense officials in a series of discussions at the Energy Department's headquarters outside Washington and at its Albuquerque, N.M., office.

At a meeting in June, 1979, a deal was struck, government and Brush documents show. Brush promised to continue to supply the Energy Department with beryllium for its weapons; in return, the agency promised to:

- Pay Brush a one-time 35 per cent price increase.
- Not develop other sources of beryllium.
- Try to persuade OSHA to drop its safety plan.

Former Brush executives Stephen Zenczak and Martin Powers were at this meeting and confirm in interviews with The Blade that these were the terms of the deal.

Mr. Powers, testifying under oath in a recent court deposition, explicitly stated that this was the agreement.

And no action was taken contrary to the terms of the deal.

In addition, Energy Department files contain four separate letters from Brush that detail the agreement. The letters repeatedly stress the importance of the deal to Brush's future business plans.

In one, Brush explicitly states that if the government didn't live up to the agreement, Brush would get out of the beryllium business.

Mr. Zenczak, who retired from Brush in 1987 as vice president and general manager of the company's metals and minerals division, says the government never put the agreement in writing. That's why Brush repeatedly sent letters to the weapons officials outlining the deal.

"We put them on notice as to what our understanding was, the theory being that if they disagreed with it, we would hear from them. We never had a rebuttal."

In fact, in 1985, Brush's Mr. Powers met with Energy Department officials and outlined the history of the deal. He mentioned the written confirmations that Brush had sent to the government and then suggested that the lack of a government rebuttal was tantamount to acceptance.

Even knowing this, the government did not object.

One of Brush's letters was sent to the Energy Department's Dr. Richard Jia-coletti, who has since died. His replacement, Jerry Evans, a senior program engineer, has handled beryllium issues ever since.

He confirms that the government never

PLAN

Continued from PAGE 7

answered Brush's letters. He speculates that is because Energy officials did not agree with Brush's understanding of any agreement.

"This is my opinion, and it may or may not be factual, but I believe that Brush has greatly exaggerated what they felt they walked out of that meeting with," says Mr. Evans, who was not at the meeting and was not working for the Energy Department when the deal was cut.

He did confirm a portion of the deal: The Energy Department agreed to pay a price increase when Brush became the sole beryllium supplier.

Mr. Zenczak, the former Brush executive, says he thinks Energy officials didn't put the deal in writing because it was potentially embarrassing. "That's the nature of the bureaucrats: Never write something that five years later somebody might dig up and accuse you of."

He says the deal was cut unbeknownst to OSHA and that Energy officials gladly accepted the terms, including the promise to try to persuade OSHA to drop its safety plan. "Actually, they were relieved we weren't going to [go out of the beryllium business]."

One additional note: When Brush spelled

**'That's the nature of the bureaucrats:
Never write something that five years later somebody might dig up and accuse you of.'**

*Stephen Zenczak
retired Brush executive*

out the deal in a 1984 letter to the Energy Department, it did so in great detail. The company wrote that it wanted to provide the necessary background for a new request: Brush proposed building a new beryllium plant — provided that defense officials gave the company additional "protective assurances" on competition.

Defense officials met to discuss Brush's letter and request, but in the end, a new plant was not built, so additional "assurances" did not apply.

According to handwritten notes from that meeting, copies of which were obtained through a Freedom of Information request, a defense official wrote:

"Assurances cannot be in writing this time either."

PLAN DIES; OSHA HEAD BLAMES 'POWERFUL VOICE'

Within a few years of the 1979 deal between Brush and defense officials, OSHA's safety plan died.

Concerted governmental opposition played a pivotal role in its demise.

Eula Bingham, OSHA's director at the time, says Defense Secretary Brown's and Energy Secretary Schlesinger's opposition to the plan in 1978 was instrumental in the plan's death. "It was a very powerful voice," she says.

Dr. Bingham, now a professor of environmental health at the University of Cincinnati, says her boss, Labor Secretary Ray Marshall, told her that the plan would not go forward because Mr. Brown and Mr. Schlesinger opposed it.

Mr. Marshall is now a retired professor at the University of Texas. A spokeswoman says he did not recall much of the issue and could not comment.

Likewise, his former Carter administration colleagues — Defense Secretary Harold Brown and National Security Adviser Zbigniew Brzezinski — say they did not remember the matter and could not comment.

Former Energy Secretary James Schlesinger is now with the Center for Strategic and International Studies, a public policy research institution in Washington. Through a spokeswoman, he says he recalls the issue but feels his 1978 letter detailing his concern with OSHA's plan speaks for itself.

Carter White House Science Adviser Frank Press says he recalls the beryllium controversy, but no details.

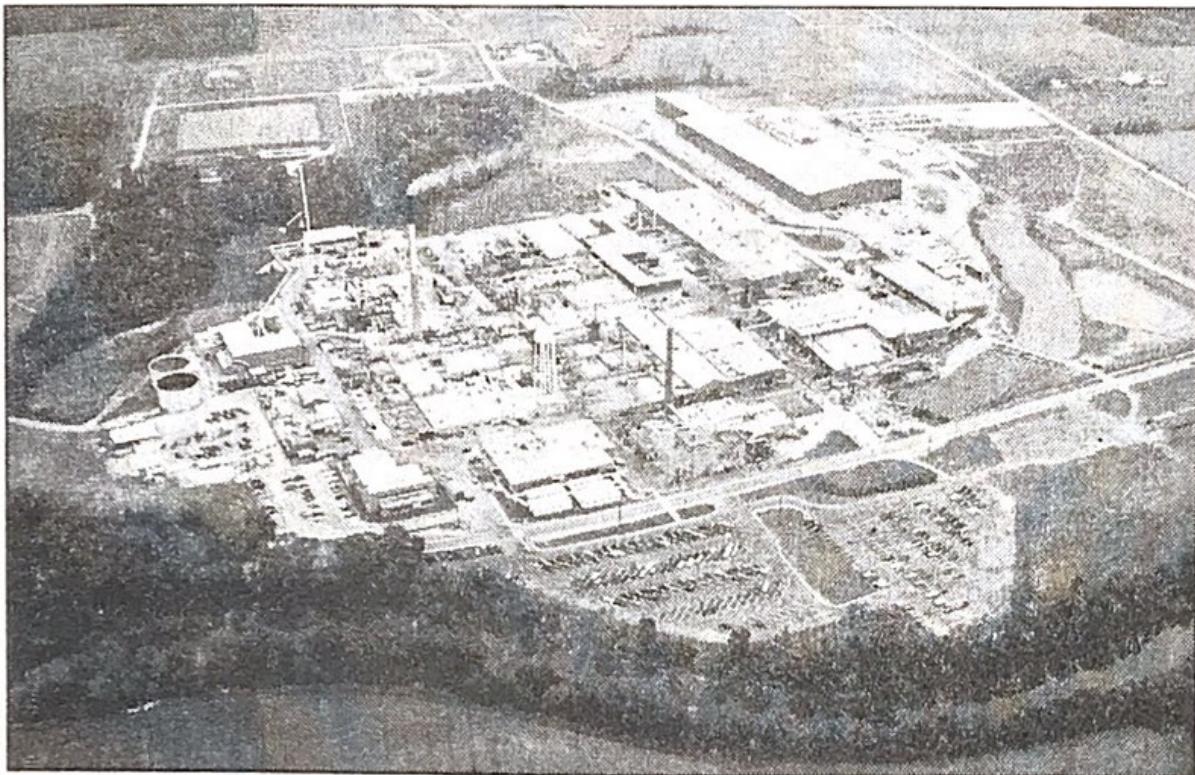
"There are hundreds of these kind of issues," says Dr. Press, now a technology consultant in Washington.

Former Brush executives Mr. Powers and Mr. Zenczak say that defense officials in 1979 clearly promised to try to persuade OSHA to drop its safety plan. But they say they don't know exactly what, if any, action they took.

Says Mr. Zenczak: "It was my understanding that [defense officials] made it known how critical this material was to their programs. That was one of the reasons why [OSHA] backed off and went on to other things."

MORE HIGH EXPOSURES, MORE WORKERS GET ILL

Brush Wellman's deal-making with the government wasn't over.



BLADE PHOTO BY DON SIMMONS

After the deal was cut, workers at Brush's Elmore plant continued to be exposed to high levels of beryllium dust.

One last issue had to be resolved: the condition of Brush's aging metal plant near Elmore — the plant where government materials were made.

At the time, about 1979, workers at the plant were being exposed to extremely high levels of beryllium dust, company records show.

The dust, Brush's Mr. Powers recalls, was "impossible to control."

So Brush wanted the Energy Department to help pay for a new facility.

Although that request never went far, Energy officials did give Brush \$3.5 million in 1982 to study the problem.

One of the main questions that the study posed was: Could the Elmore plant produce 100,000 pounds of beryllium annually for the government and not expose workers to levels of dust over the legal limit?

The company's conclusion: No.

Still, Brush went ahead and produced that amount — and more — two out of the next three years.

And as predicted, workers were exposed to unsafe levels — some four times the legal limit, the Brush study shows.

One of the Brush officials involved in the study was Marc Kolanz, the company's current director of environmental health and safety.

When asked why Brush proceeded with a production schedule that guaranteed workers would be overexposed, he said: "I don't know the answer to that question."

Brush records show that several workers who were overexposed during this period went on to develop beryllium disease.

One victim recalls having coughing fits at the plant.

"I was coughing so hard I was close to passing out," says the victim, who requested anonymity. "I had to hold onto barrels to keep myself up."

In all, 47 Brush Wellman workers have contracted beryllium disease since 1975 — the year OSHA proposed its ill-fated plan.

FROM SAFETY PLAN...

Oct. 14, 1975

OSHA announces plan to reduce the permissible limit of beryllium dust in the workplace. Plan catches industry leader Brush Wellman by surprise. Brush CEO Robert Biggs is furious.

Aug.-Sept. 1977

OSHA holds public hearings on the safety plan. Brush, sensing it cannot defeat the plan on its merits, switches strategies and attacks the government. It later begins a publicity campaign.



Labor Secretary
Ray Marshall

Feb. 10, 1978

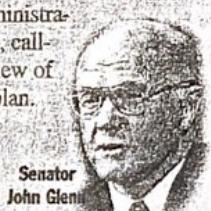
Eight scientists — four of them Brush consultants — write to Labor Secretary Ray Marshall and Health, Education, and Welfare Secretary Joseph Califano, attacking the government studies underlying OSHA's plan.



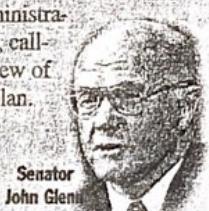
Senator
Richard Schweiker

March-June, 1978

Sens. John Glenn of Ohio, Richard Schweiker of Pennsylvania, and Orrin Hatch of Utah — all states with beryllium plants — write to Carter administration officials, calling for a review of the safety plan.



Senator
Orrin Hatch



Senator
John Glenn

BRUSHWELLMAN
ENGINEERED MATERIALS

...To SECRET DEAL

The safety plan was the biggest effort ever to crack down on beryllium disease. But industry and defense officials, with support from noted lawmakers, helped kill the plan. Before it was all over, a deal was cut between the government and the Brush Wellman beryllium firm.



Beryllium
victim
Dave
Norgard

Today

Workers continue to contract beryllium disease. At Brush plants alone, 47 workers have contracted the disease since OSHA



Former OSHA Director
Eula Bingham

Early 1980s

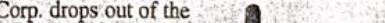
Safety plan dies. Former OSHA director Eula Bingham blames early opposition by Defense Secretary Brown and Energy Secretary Schlesinger.



May, 1979
Cabot Corp. drops out of the beryllium metal business, leaving Brush as the sole supplier for U.S. weapons needs.

June, 1979

Brush and Energy Department cut a deal. Brush gets a price increase, a virtual monopoly, and assurances that Energy officials will try to persuade OSHA to drop the safety plan.



Brush's
Elmore plant

May 17, 1978

Senator Jake Garn, whose home state of Utah contains beryllium mining operations, writes to Energy Secretary James Schlesinger, expressing concern about the plan's impact on the nuclear weapons arsenal.



Senator Jake Garn

Aug. 30, 1978

Energy Secretary Schlesinger writes to Labor Secretary Marshall and HEW Secretary Califano, citing national security risks. He asks for outside review of the safety plan. Defense Secretary Harold Brown makes a similar request.

Secretary James Schlesinger

Sept. 21, 1978

HEW Secretary Califano agrees to an outside review.

Oct. 9, 1978

Outside experts concur with science supporting OSHA's position. HEW Secretary Califano recommends that the safety plan proceed.

May, 1979

Cabot Corp. drops out of the beryllium metal business, leaving Brush as the sole supplier for U.S. weapons needs.

June, 1979

Brush and Energy Department cut a deal. Brush gets a price increase, a virtual monopoly, and assurances that Energy officials will try to persuade OSHA to drop the safety plan.

THE DEAL

In May, 1979, the Cabot Corp. announced that it was dropping out of the beryllium metal business. Shortly after, the U.S. government and Brush Wellman cut a deal. In a Dec. 3, 1984 letter, Brush executive Stephen Zenczak wrote to an Energy Department official. An excerpt of the letter, below, outlines the deal.

Following that (Cabot's) decision, Brush Wellman representatives were invited to the DOE offices in Germantown, Maryland to meet with representatives of the Office of Military Applications. In that meeting Mr. R.W. Biggs, Chairman of the Board of Directors of Brush Wellman, committed Brush to the following actions, conditioned upon certain commitments of DOE, as follows:

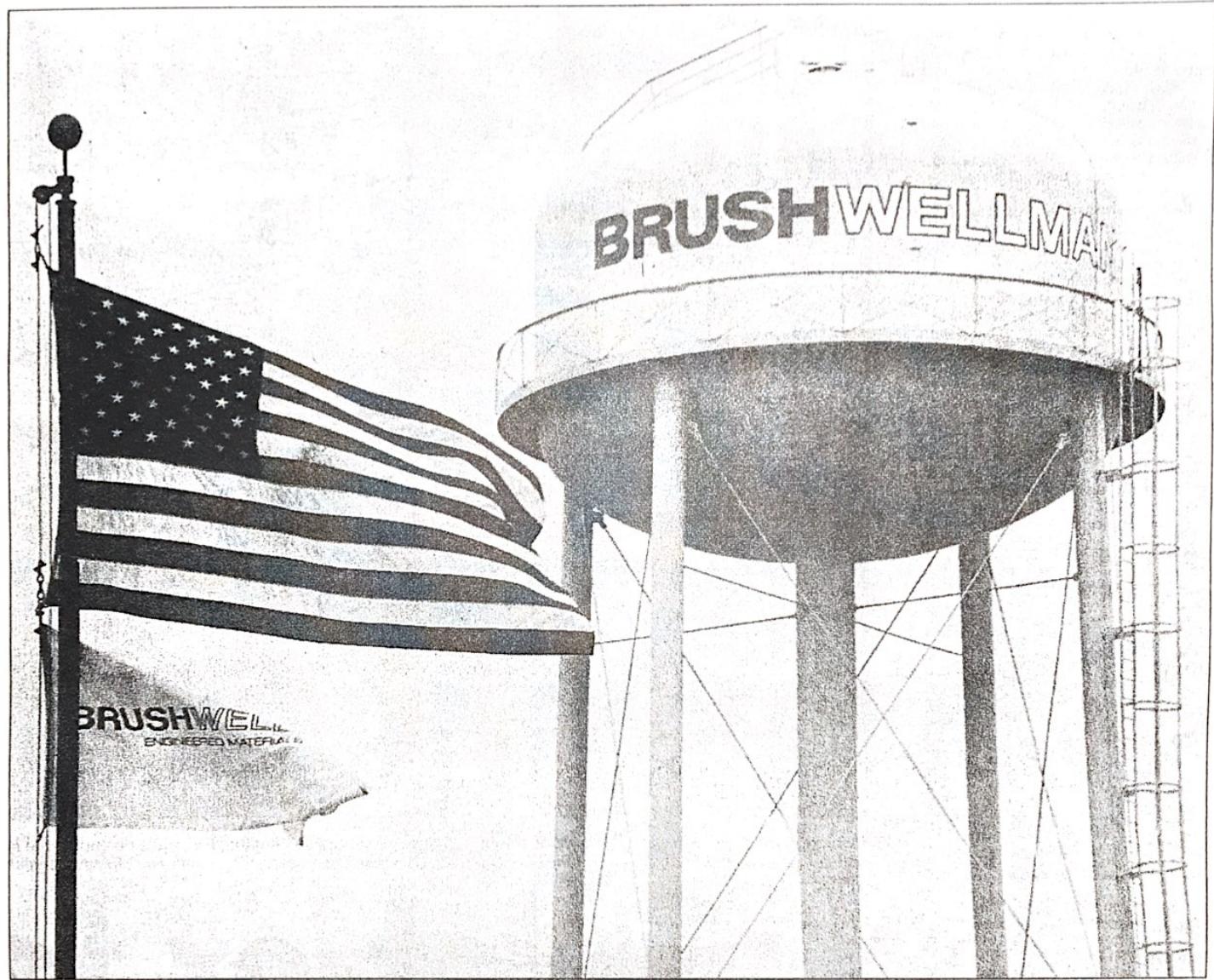
Brush Wellman Commitments

1. Brush would not discontinue beryllium production without notice to the government sufficient to allow an alternative production arrangement to be developed.
2. Should Brush serve notice of its intention to cease beryllium production, it would serve as consultant to DOE to impart its beryllium expertise to any contractors of DOE designation.
3. Brush would exert best efforts to enhance the quality, cost and delivery dependability of its products to the level required by DOE and DOD.

DOE Commitments

1. DOE and DOD would exert best efforts to have OSHA reconsider its proposed unrealistic beryllium standard.
2. DOE would accept a one time 35% price correction on existing beryllium components being supplied to DOE, and thereafter agree to negotiate prices that provided for a commercial rate of return on Brush's efforts.
3. DOE would not condone competitive manufacturing operations in GOCO facilities.

It is our belief that all parties have discharged their obligations under the foregoing agreements. The OSHA problem has become dormant, the prices of beryllium have stabilized, the quality of beryllium parts have been improved and major programs have been carried out within planned budget costs and delivery schedules. And, perhaps most importantly, a cooperative environment of mutual confidence has developed between the user community and Brush Wellman.



BLADE PHOTO BY HERRAL LONG

Brush has been a key supplier for the U.S. government for more than a half century, supplying beryllium for the defense and space industries.

Twist of fate

Industry defender switched sides when diagnosed with cancer

BY SAM ROE
BLADE SENIOR WRITER

For more than 30 years, James Butler was a top beryllium executive and one of the industry's biggest defenders.

One of his jobs: Fight the notion that beryllium causes lung cancer.

So for years he assured customers, the public, and government officials that they had nothing to worry about.

Then Mr. Butler himself developed lung cancer. When he did, he made a stunning turnaround: He blamed beryllium.

"When you get a lung cancer, it's quite a convincer," Mr. Butler said at his workers' compensation hearing in 1988 in Pennsylvania.

Mr. Butler won a \$30,000 award but lost his struggle with cancer. He had numerous radiation treatments and eventually had to use an oxygen tank to breathe. He died in 1990 at age 76.

His eldest son, James Jr., now wishes the federal government would have implemented something his father spent years fighting against: tougher rules on beryllium.

"It would have been good if they would have taken stronger control of the uses and processing of the material," he says.

Mr. Butler's turnaround was a blow to the industry, which has vigorously fought the belief that beryllium causes cancer.

Scientists have believed for 50 years that beryllium causes cancer in animals, but it wasn't until 1993 that the International Agency for Research on Cancer classified beryllium as a human carcinogen. Since then, companies have been required to label their products accordingly.

The industry has complied, but it still maintains

beryllium does not cause cancer in people.

Mr. Butler's reversal makes that argument more difficult.

After all, he was not just anybody. He was a leader in the industry, an executive with the Beryllium Corporation, a Reading, Pa., firm now known as NGK Metals Corp.

A graduate of Yale Law School and the son of a prominent New Orleans banker, Mr. Butler joined the Beryllium Corporation as assistant to the president. For the next three decades he was involved in the most sensitive issues: lawsuits from workers, inquiries from the press, threats from regulators.

In fact, when federal regulators wanted to tighten controls on beryllium in the 1970s, largely because of a cancer concern, Mr. Butler helped orchestrate the industry's defense.

After a long and contentious debate, including three weeks of public hearings in Washington, Mr. Butler and the industry won.

A few years later, in 1986, Mr. Butler noticed his voice was failing. Tests revealed the worst: lung cancer.

Mr. Butler blamed his exposure to beryllium dust, even though he spent most of his time at work in offices and away from the huge dust-generating machines on the plant floor.

But as he testified at his workers' compensation hearing, production workers often traipsed through the office area, leaving behind large amounts of white beryllium dust. "So there was obvious contamination," he said.

Those acquainted with Mr. Butler were surprised by his reversal.

"I thought, Jesus Christ – after all these years – this guy says beryllium doesn't cause cancer in humans, and now he's trying to collect on it," says Dr. David Groth, a cancer researcher who has pushed for tighter beryllium controls.

Perhaps the person most surprised was Martin Powers.

He was one of Mr. Butler's closest friends and his counterpart at Brush Wellman Inc., the country's leading beryllium producer. Like Mr. Butler, Mr. Powers had argued for years that beryllium was not a carcinogen.

Mr. Powers is now retired but remains a paid consultant for Brush Wellman. He says his old friend told him he didn't want to blame beryllium for his cancer but felt he had to – he needed the money.

"He apologized for what he was doing, but said he had no alternative except to file a worker's compensation claim for his injury because he saw no other way to avoid financial disaster for his family."

Mr. Butler, he says, agonized over the decision.

"He did recognize what effect this would have on the industry as a whole and did recognize that I was still there defending the bastion, and I would have to deal with that. And he was man enough to come and apologize."

But was Mr. Butler really in financial trouble?

At his workers' compensation hearing, Mr. Butler testified that insurance was paying all of his medical bills, a transcript from the hearing shows.

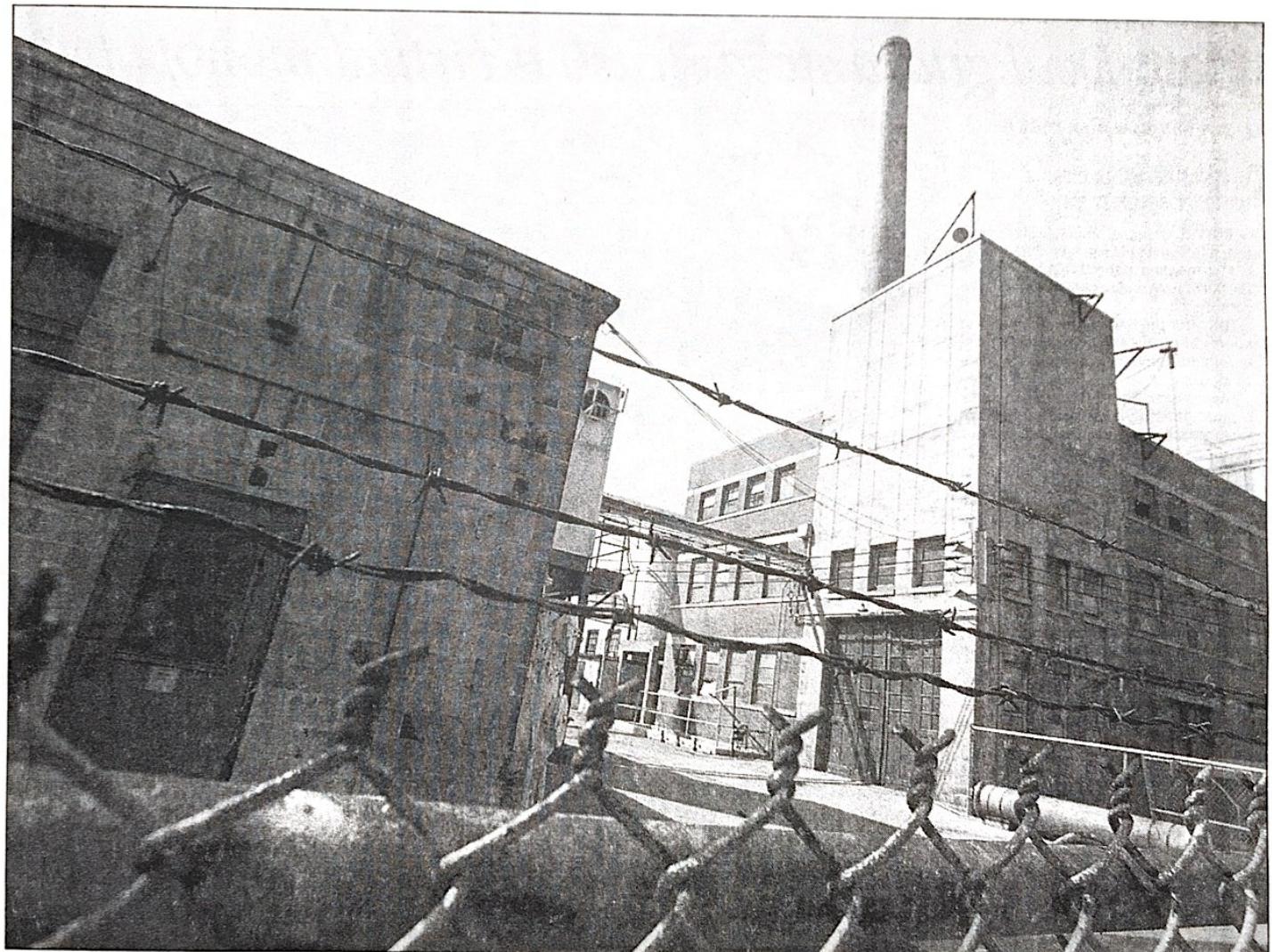
And Mr. Butler's son, a 52-year-old from Douglassville, Pa., says he had no indication that his parents needed money.

"They lived in the same house for 35 years. The house was paid for. No debt – anything. There wasn't anything like that."

Granted, he says, his father was a private man who may have kept his troubles to himself. He rarely even spoke about how he had denounced the very product he had spent his life defending.

"He only said one thing – a year before he died – about hindsight being 20/20."

DEADLY ALLIANCE
Day 2: Death of a safety plan



Corporate executive James Butler worked at this beryllium plant outside Reading, Pa., while defending the industry against claims that beryllium caused cancer. When he developed lung cancer, he filed a workers' compensation claim and blamed beryllium for his illness.

BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

DEADLY ALLIANCE

Day 2: Death of a safety plan

From bombs to toys

*As Cold War
needs waned,
beryllium
found its way
into consumer
products*

BY SAM ROE

BLADE SENIOR WRITER

Beryllium has long been used in nuclear weapons, jet fighters, and the space shuttle.

Not exactly household items.

But in recent years the highly toxic metal has been increasingly used in common consumer products, such as computers, televisions, and cell phones.

It's even in golf clubs, sunglasses, pen clips, and dentures.

This has some health officials and scientists concerned. They think using beryllium for products such as golf clubs is an unnecessary risk to the workers who make them and the consumers who use them.

"Those are frivolous uses of a substance as toxic as this," says Dr. Peter Infante, director of standards review for the U.S. Occupational Safety and Health Administration.

Beryllium often causes a lung disease when its dust is inhaled. Scientists say there is no documented case of a

consumer getting sick from a finished beryllium product, such as a golf club. But they say there is reason for concern.

Researcher Dr. Donna Cragle says consumers could harm themselves if they sanded or sawed a beryllium golf club, possibly creating toxic dust.

"Sawing it would put some of it into the air, you breathe it in, and there you go," says Dr. Cragle, director of the Center for Epidemiologic Research at the Oak Ridge Institute for Science and Education in Oak Ridge, Tenn.

Likewise, sanding or otherwise altering other beryllium products could be risky, researchers say.

And as beryllium use increases, so does the number of manufacturers handling the metal — perhaps without proper safeguards.

In the dental industry, at least two laboratory technicians have contracted beryllium disease, and thousands of others who manufacture crowns, bridges, and dentures are at risk, researchers say. Beryllium is added to these items to improve their durability.

One of the lab workers who got the disease, a 28-year-old woman, didn't personally handle beryllium, but she worked in a room where it was ground, cast, and polished.

Dr. Milton Rossman, a Pennsylvania physician who has seen numerous beryllium victims, says he is unaware of any dental patient becoming ill from crowns, bridges, or dentures that contain beryllium.

Dr. Eula Bingham, director of OSHA under the Carter administration, says beryllium shouldn't be used in the dental industry.

"It's one thing if your country is in a Cold War, and you have to use something. And there may be even some

rationale for using beryllium for space exploration." But using beryllium for dental prostheses is a different matter, she says. "There's no excuse for that."

Others are worried about beryllium scrap from consumer products.

"After 20, 50, 100 years you are going to have piles of beryllium all over the place," says Dr. David Groth, a cancer researcher who is retired from the National Institute for Occupational Safety and Health.

Historically, beryllium has been used mainly in the defense industry. But the end of the Cold War sent beryllium-makers scrambling for other markets.

Beryllium has many commercial uses because it is strong, lightweight, and heat-resistant. When small amounts — typically 2 per cent — are mixed with copper, a remarkably elastic alloy is formed.

Beryllium compounds and alloys can now be found in tiny connectors in computers, relays in cell phones, and air-bag systems in cars.

No one knows how many manufacturers use beryllium, but Brush Wellman Inc., America's leading beryllium producer, reports having thousands of customers, including Ford Motor Co.,

General Motors Corp., and Motorola, Inc.

Brush Wellman officials say beryllium is often in parts so tiny that consumers are not going to be tearing them apart and sanding them. And they emphasize that simply touching a piece of beryllium is not dangerous.

But the company says consumers should not do anything to beryllium products that creates dust.

"It's probably a pretty low likelihood that it is going to cause a problem," says Marc Kolanz, Brush's director of environmental health and safety, "but again, the exposure potential is there."

He says a Utah man once told him he was using beryllium-copper to make replica law enforcement badges in his garage. "He was concerned the [Environmental Protection Agency] was going to find him out. My concern was him." The man was using a respirator, Mr. Kolanz recalls, but the wrong kind.

Brush generally doesn't make finished beryllium products, but it supplies customers with the rods, tubes,

and wire from which many beryllium products are made. Brush says it warns its customers about the hazards of beryllium, but after that, it is up to them to pass the warnings on to consumers.

One product that has raised concerns: golf clubs. Small amounts of beryllium are mixed with nickel or copper to make the heads of putters and wedges.

"The putters are all over the place," says Brush spokesman Timothy Reid, who recently left the firm.

Many professionals have used beryllium clubs, he says, including European star Bernhard Langer.

Karsten Manufacturing Corp., the parent company of Ping, a leading producer of golf equipment, says it has made beryllium clubs for years, has known about the hazards, and has never had a worker contract the disease.

"We are very, very careful to make sure our worker safety is first and foremost," says Rawleigh Grove, attorney for the Phoenix-based corporation.

He says his firm does not put warning labels on the clubs and has never

had a consumer health complaint.

In Formula One auto racing, beryllium is used in the brakes to allow for quicker stops. And the metal has been used in racing bike frames. Bicycling magazine called a \$25,000 prototype a "weightless wonder" and said beryllium, compared to other metals, seemed "positively unearthly."

Other commercial uses:

■ Metal artists work with beryllium-copper, which has a golden luster.

■ Beryllium is in propellers on motorized toy boats. A recent model show at Toledo's SeaGate Centre was selling such items.

■ Beryllium sunglasses by Fila USA, Inc., a sporting goods and apparel firm, are advertised on the Internet.

Gary Renwand, a former Brush Wellman worker who contracted the disease at the company's plant near Elmore, O., says he doesn't understand why beryllium is used in so many products.

"I'm not saying we shouldn't have advances," the 61-year-old from Oak Harbor says, "but let's advance with the right care for people."



BLADE PHOTO BY HERRAL LONG

The beryllium industry has marketed its strong, lightweight metal for consumer products ranging from golf clubs to sunglasses to toys. At a toy fair last year, Trudi Handzel of Chicago looks at a display of beryllium copper propellers at the SeaGate Centre.