Documentary exposes workplace, environmental poisoning

PBS TV's "Trade Secrets: A Moyers Report"

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“Trade Secrets: A Moyers Report,” hosted by journalist Bill Moyers, was aired March 26 by the Public Broadcasting System (PBS). Through an examination of recently released chemical industry documents and interviews with medical experts and chemical plant workers, the program exposed the anti-social practices of the US chemical industry over the past half century. It documented the systematic effort by the industry to conceal the toxic effect of many of its products from its workforce as well as the general public.

The majority of the synthetic chemicals used in US manufacturing today were only developed in the second half of the twentieth century. Technological developments during the Second World War led to a boom in the petrochemical and synthetic chemical industries, including the development of plastics. Literally thousands of new chemical substances were developed, with little or no testing done to determine their safety for the workers producing them, residents nearby the factories, or consumers. It has been subsequently determined that some of these chemicals pose severe health risks.

The 90-minute PBS documentary dealt in particular with the toxic effects of vinyl chloride, benzene and DBCP. Vinyl chloride, used widely in plastics manufacturing, causes liver damage. It has been proven to cause angiosarcoma, a rare form of liver cancer, among workers exposed to even low levels of the substance. It has also been linked to other forms of cancer. Benzene, a clear, colorless liquid most widely used as a solvent in the rubber industry and the production of gasoline, has been proven to cause leukemia. The pesticide DBCP is known to cause sterility and testicular atrophy among male workers exposed to the chemical.

“Trade Secrets” centers around internal chemical industry documents revealing that management was in many cases aware of the health dangers these substances posed to their workforces, but withheld the information. Much of this previously confidential information became available as a result of a lawsuit by a worker, Dan Ross, against the oil giant Conoco, where he was employed for 23 years. The plant where Ross worked produces the raw vinyl chloride that is key to the manufacture of PVC plastic, a widely used and lucrative product for the chemical industry.

Conoco is one of a number of companies in Texas and Louisiana along a 300-mile stretch of the Gulf of Mexico coast that houses the largest collection of petrochemical refineries and factories in the world. Workers and nearby residents refer to the area as “Cancer Alley.”

Dan Ross began working at Conoco in 1967. For the next 23 years he was exposed every workday to vinyl chloride. Workers at his plant—and thousands of other chemical workers—were repeatedly assured that exposure to the chemical posed no health risks. But, as has become clear through an examination of company memoranda and documents, the industry was aware of immense health dangers, but took no action to inform the workforce or the American public.

Dan Ross's wife, Elaine, explains, “Not one day was he not exposed. As the years went by, you could see it on his face. He started to get this hollow look under his eyes, and he always smelled. I could always smell the chemicals on him. I could even smell it on his breath after a while. But even up until he was diagnosed the first time, he said, ‘They'll take care of me. They're my friends.'”

In the spring of 1989, Dan Ross was diagnosed with a rare form of brain cancer, and on October 9, 1990 he died at the age of 46. But before Dan Ross succumbed, Elaine Ross took it upon herself to investigate what had caused her husband's death.

As she says in the PBS program, “I was just going through some of his papers, and I found this exposure record. It tells you what the amount was that he was exposed to in any given day.”

Bill Moyers asks her: “Somebody's written on here, ‘exceeds short-term exposure.' What does that mean?”

Ross: “That it was over the acceptable limit that the government allows. So this exceeded what he should have been exposed to that day.”

But Ross also found a notation reading: “Do not include on wire to Houston.” In other words, the company was covering up the fatal poisoning of her husband. This revelation led Dan and Elaine Ross to initiate a legal battle that included charges of conspiracy against the companies producing vinyl chloride.

Attorney William Baggett, Jr. waged a 10-year legal battle on behalf of the Rosses that led to the uncovering of more than a million pages of chemical company documents, which in turn formed the basis of the PBS documentary. Gerald Markowitz and David Rosner, historians of public health in New York, were also retained by two law firms to study the Ross archive.

“Trade Secrets” also investigated the case of Bernard Skaggs, who began working in 1955 for the B.F. Goodrich company in Louisville, Kentucky. At the plant where Skaggs worked, vinyl chloride was turned into a dough-like mixture that was then dried and processed into the raw material for PVC plastic. Skaggs' job was to climb into the giant vats that mixed the vinyl chloride and chip off what was left behind—what the workers called “kettle crud.”

One of B.F. Goodrich's internal documents from May 1959 to the director of the company's Department of Industrial Hygiene reads:

“We have been investigating vinyl chloride a bit.... We feel quite confident that 500 parts per million is going to produce rather appreciable injury when inhaled 7 hours a day, five days a week for an extended period.”

Another memo from B.F Goodrich to Union Carbide, Imperial Chemical Industries and the Monsanto Company reads: “Gentlemen: There is no question that skin lesions, absorption of bone of the terminal joints of the hands, and circulatory changes can occur in workers associated with the

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polymerization of PVC."

However, the employees of these companies were never informed of the dangers of working with this chemical. Bernard Skaggs described his work experience at B.F. Goodrich as follows: "There was vinyl chloride everywhere. The valve, overhead valves over there where the vinyl chloride was pumped into the reactors. All of those leaked and dripped. Most of them dripped on the floor all the time. They said it had to be ... 1,500 parts per million before you could smell it. Not only could you smell it ... it would get into a vapor, and through the sunlight it waves.... It was all the time that way.

"My hands began to get sore, and they began to swell some. My fingers got so sore on the ends, I couldn't button a shirt, couldn't dial a phone. And I had thick skin like it was burned all over the back of my hand, back of my fingers, all the way up my arm, almost to my armpit. And after enough time, I got thick places on my face right under my eyes."

Skaggs finally had his fingers x-rayed and was shocked to discover that the bones in his fingers were dissolving. But as horrendous as this discovery was, B.F. Goodrich suspected that vinyl chloride posed an even greater threat to its workforce.

By October 1966, medical consultants advising the company wrote that the danger posed by the chemical "may be a systemic disease as opposed to a purely localized disease (fingers).... They (Goodrich) are worried about possible long term effect on body tissue especially if it proves to be systemic."

According to "Trade Secrets," although Goodrich executives did inform other companies of the toxic effects of the chemical, they sought to keep this information from their workforce and the public. A Goodrich memo to other chemical companies read: "They hope all will use discretion in making the problem public.... They particularly want to avoid exposés like Silent Spring." (*Silent Spring* was the groundbreaking book by Rachel Carson, published in 1962, which exposed the role of chemical pollutants such as the pesticide DDT in the poisoning of the environment.)

In the documentary, Professor Gerald Markowitz from John Jay College in New York comments: "They [Goodrich] understand the implications of what is before them and they are faced with a situation that could explode at any minute.... Politically, culturally, economically—this could affect their whole industry if people feel that this plastic could represent a real hazard to the workforce, and if it could present a hazard to the workforce, people are going to wonder, consumers are going to wonder what is the impact that it could have for me."

On April 30, 1969, members of the chemical industry's trade association met in Washington. They received a report from a group of medical researchers who recommended that exposure to vinyl chloride be reduced from 500 parts per million to 50 parts. The industry group voted to reject the advisers' recommendations.

Medical evidence continued to mount that vinyl chloride posed severe health risks. In the early 1970s, Dr. P.L. Viola, a scientist at an Italian plant, exposed rats to vinyl chloride and discovered cancer in the laboratory animals, even as the exposure level was steadily lowered. Another Italian researcher, Dr. Cesare Maltoni, found evidence of angiosarcoma from exposure to the chemical. In studies sponsored by the European chemical industry, cancer appeared in rats exposed to levels of vinyl chloride common on factory floors in the US.

The chemical industry's response to this mounting scientific evidence was to move even more deliberately to keep it under wraps. Representatives from both European and American chemical companies signed an agreement to keep the information secret from everyone outside the industry. Companies signing the secrecy agreement included: Conoco, B.F. Goodrich, Dow, Shell, Ethyl Corporation and Union Carbide.

In 1973, when chemical industry representatives addressed the National Institute for Occupational Safety and Health (NIOSH), a new government agency, on the safety of vinyl chloride, they made no mention of Dr. Maltoni's research. Subsequently, NIOSH made no recommendations on use of the chemical. According to internal correspondence at Union Carbide: "NIOSH did not appear to want to alienate a cooperative industry."

In 1974, B.F. Goodrich announced that four workers at its Louisville, Kentucky vinyl chloride plant had died from angiosarcoma, the liver cancer detected in Dr. Maltoni's study. Two hundred seventy workers at the plant were tested, and blood abnormalities showed up in fifty-five of them. Nine months later, the federal government finally ordered workplace exposure to vinyl chloride reduced to one part per million, despite objections from the chemical industry.

Chemical workers were not the only ones exposed to the dangers of vinyl chloride. Beginning in the late 1960s, the chemical was used as the propellant in a wide array of consumer products. Aerosol-propelled hairspray was aggressively marketed to women. According to "Trade Secrets": "In beauty parlors across America, hairdressers and their customers were using new aerosol sprays. No one told them they were inhaling toxic gas at exposure levels much higher than on the factory floor."

Fearing costly lawsuits over the health dangers of vinyl chloride, companies slowly began to withdraw these products from the market. "Trade Secrets" commented: "Some companies would give up the aerosol business—but quietly. No public warning was issued. Now, 30 years later, those hairdressers and their customers are unaware of the risks to which they were exposed. And it is impossible to know how many women may have been sick or died—without knowing why." There has never been a study to calculate the impact of vinyl chloride products on hairdressers or the consuming public.

"Trade Secrets" also examined the connection between leukemia and benzene. An internal memo from Esso Oil's medical research division reads: "Most authorities agree the only level which can be considered absolutely safe for prolonged exposure is zero." But when the Occupational Safety and Health Administration (OSHA) proposed that workplace exposure be lowered to one part per million, the chemical industry funded a $500,000 "Benzene Program Panel" to fight the regulation.

It would take almost a decade before regulations on benzene exposure were finally instituted. According to Dr. Philip Landrigan, chairman of Preventative Medicine at the Mt. Sinai School of Medicine in New York, 492 workers—in rubber plants, oil refineries and other industries—eventually died from exposure to benzene during this 10-year period.

The chemical companies also fought against the imposition of restrictions on the manufacture of DBCP, a pesticide produced by Dow, Occidental and Shell. An "internal and confidential" report on DBCP from the Dow Chemical Company Biochemical Research Laboratory dated July 23, 1958 reads: "Testicular atrophy may result from prolonged repeated exposure. A tentative hygiene standard of 1 part per million is suggested." However, Dow did not reduce exposures to the chemical, and many workers became sterile as a result.

An inter-office memo written by an engineer at Occidental on the impact of DBCP reads: "We are slowly contaminating all wells in our area and two of our own wells are contaminated to the point of being toxic to animals or humans. THIS IS A TIME BOMB THAT WE MUST DE-FUSE." Despite this knowledge, the companies kept the pesticide on the market for eight more years.

The chemical industry has expended millions of dollars to fight regulations on the manufacture of its products. The industry contributed over $6 million dollars to more than 200 political action committees to back Ronald Reagan—the petrochemical favorite—in his 1980 presidential bid. Within a month of assuming office in 1981, Reagan signed an executive order transforming the battle over chemical safety.

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Reagan directed the Environmental Protection Agency (EPA) to delay proposing or finalizing any regulations on the chemical industry until it could be proven that they were "cost-effective." In other words, the EPA—instead of being a watchdog organization to protect workers, the general public and the environment from the dangers of toxic substances—was more and more transformed into an agency that calculates the minimum number of workers who can be poisoned and killed while still allowing the companies to turn a profit.

Over the last two decades, chemical companies have spent millions of dollars to thwart the implementation of the Toxic Substances Control Act (TSCA) and the EPA agency it established to regulate toxic chemicals. "Trade Secrets" referred to the case of the class of chemicals known as phthalates, which are widely used in such products as shower curtains and children's toys. As early as 1980 the National Cancer Institute had determined that one phthalate, DEHP, causes cancer in animals. The EPA held numerous meetings with chemical industry representatives and their attorneys, but to date the agency has taken no action to either ban or limit the use of phthalates.

Of the 80,000 man-made chemicals that have been registered with the EPA for possible manufacturing use, some 15,000 are actually produced each year in major quantities. Only about 43 percent of these have ever been tested for their effects on humans. Nearly 25 years after TSCA was enacted, only five types of chemicals have been banned by law.

By the chemical industry's own admission, very little is known about the majority of chemical substances with which workers and consumers come into contact on a daily basis. However, "Trade Secrets" concludes by pointing out alarming data available about the health of Americans:

"What we do know is that breast cancer has risen steadily over the last four decades. Forty thousand women will die of it in this year alone.

"We do know brain cancer among children is up by 26 percent. We know testicular cancer among older teenage boys has almost doubled, that infertility among young adults is up, and so are learning disabilities in children...

"So we are flying blind. Except the laboratory mice in this vast chemical experiment are the children."

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Following the documentary, chemical industry representatives were invited to join in a half-hour panel discussion. Joining Bill Moyers were Terry Yosie, vice president of the American Chemistry Council, and Ted Voorhees, an attorney representing the Chemical Trade Association in the Dan Ross case. Also on hand were Ken Cook, president of the Environmental Working Group (a Washington, DC-based research group that lobbies Congress and government agencies on issues of workplace safety and environmental issues), and Dr. Philip Landrigan of the Mount Sinai School of Medicine.

Industry spokesman Terry Yosie began by criticizing "Trade Secrets," claiming it presented a biased view of the chemical companies. He did not, however, dispute the validity of any of the documentary evidence presented in the program, the bulk of which came from the internal records of the companies themselves.

While Yosie claimed the chemical industry conducts thorough testing of its products to determine their safety for workers and the public, he had no comment when Ken Cook pointed out that the legislation mandating such tests had been consistently opposed by the chemical companies.

Attorney Ted Voorhees could not explain why—despite the fact that B.F. Goodrich knew the damage in Bernie Skaggs' hands was due to vinyl chloride exposure—the company never provided the worker with this information. Voorhees made the absurd claim that the company in 1967 made a full public disclosure in the form of an article about the health dangers of the chemical published by a doctor on its payroll in the *Journal of the American Medical Association*. Skaggs' doctor should have read the article and informed his patient, Voorhees said.

Moyers repeatedly pressed Voorhees over the fact that B.F. Goodrich never informed Bernie Skaggs or its workforce as a whole about the health dangers from vinyl chloride, a charge which the corporate attorney could not refute.

Dr. Landrigan said that in addition to independent testing of chemicals, the most important way to guard against the chemical poisoning of the population was for the chemical industry, environmental groups and the academic community to work together to support a national right-to-know initiative.

"Trade Secrets" presented a powerful indictment of the US chemical industry and made a strong case for the need for strict, independent testing of industrial chemicals and full disclosure of the results of these tests to workers and the general public. Documents from the chemical companies' own files reveal that time and again, despite knowledge that they were exposing their workers and consumers to health risks, they did nothing to alter their practices until compelled to do so.

However, "Trade Secrets" never probed the underlying reasons for the chemical industry's five-decade-long campaign to keep the truth from its workers and the public—a practice that continues to this day. In the final analysis, this question cannot be answered simply by pointing to the subjective motives of industry executives.

No doubt, many of the practices of these individuals are reprehensible and in some cases arguably criminal. But this conduct is promoted by a social system that puts the material interests of company executives and big shareholders above the social interests of the broad masses of people, as well as the health of the environment. The willful chemical contamination of workers and consumers and the injection of toxins into the water and air are justified on the basis of the supreme right of these companies to make a profit, and the concealment of this poisoning is rationalized in the name of "business secrets."

This conduct on the part of the US chemical industry—which is supported by the bulk of the political establishment and is rarely challenged in the media—is one of the clearest demonstrations of the socially destructive implications of a society organized according to the principle of private ownership of the means of production and the subordination of all social questions to the private accumulation of wealth. It exposes the stunted nature of democracy in America, where multibillion-dollar companies have the "democratic right" to poison and kill thousands of citizens.

Workers and the general public have a basic right to know whether the chemical substances being produced in factories are safe. At the very least, strict and ruthlessly enforced regulations need to be imposed across the entire chemical industry. As "Trade Secrets" demonstrated, business cannot be relied upon to conduct its own studies and make its own disclosures.

But research into the consequences of chemical production on human life and the environment can only be truly "independent" if working people as a whole have democratic control over these industries. Ultimately, this poses a fundamental change in property relations, in which the major levers of the economy, such as the petrochemical monopolies, are transformed into public utilities and placed under the democratic control of the working population. Such a socialist organization of society will be based on the interests of the vast majority of the people, rather than a small and privileged minority.

To its credit, "Trade Secrets" exposed how the chemical industry over the past 50 years has placed the lives and health of millions of people—as well as the environment—at risk. The question posed by the program—and left largely unanswered—is what political perspective needs to be adopted by working people to counteract these socially destructive practices.

The 40,000 pages of chemical industry and other documents referred to in "Trade Secrets: A Moyers Report" are published in full on the web site of the Environmental Working Group at: www.ewg.org.

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