

UNION CARBIDE: DISASTER AT BHOPAL

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THE TRAGEDY

In the early hours of Monday, Dec. 3, 1984, a toxic cloud of methyl isocyanate (MIC) gas enveloped the hundreds of shanties and huts surrounding a pesticide plant in Bhopal, India. Later, as the deadly cloud slowly drifted in the cool night air through streets in surrounding sections, sleeping residents awoke, coughing, choking, and rubbing painfully stinging eyes. By the time the gas cleared at dawn, many were dead or injured. Four months after the tragedy, the Indian government reported to its Parliament that 1,430 people had died. In 1991 the official Indian government panel charged with tabulating deaths and injuries updated the count to more than 3,800 dead and approximately 11,000 with disabilities.

Although it was not known at the time, the gas was formed when a disgruntled plant employee, apparently bent on spoiling a batch of methyl isocyanate, added water to a storage tank. The water caused a reaction that built up heat and pressure in the tank, quickly transforming the chemical compound into a lethal gas that escaped into the cool night air.

The plant was operated by Union Carbide India Limited (UCIL), just over 50 percent of which was owned by Union Carbide Corporation. The first report of the disaster reached Union Carbide executives in the United States more than 12 hours after the incident. By 6:00 a.m. in the U.S., executives were gathering with technical, legal, and communications staff at the company's Danbury, Connecticut headquarters. Information was sparse but, as casualty estimates quickly climbed, the matter was soon recognized as a massive industrial disaster.

The first press inquiry came at 4:30 a.m. in the U.S., marking the beginning of a deluge that, at its peak, reached 500 calls a day for several weeks. The scope of the Bhopal tragedy made it "page one" material in the weeks and months that followed. And, as its legal, political, technological and -- above all -- human aspects were explored, it became a persistent headline into the 1990s.

SETTING THE STAGE

In 1984, Union Carbide reported sales of \$9.5 billion, reflecting its position as one of the largest industrial companies in the United States and the world. International operations represented nearly 30 percent of total sales that year. India was one of three dozen countries where the company had affiliates and business interests.

Divided by industry segments, sales encompassed petrochemicals (28 percent); technology, services, and specialty products (26 percent); consumer products such as batteries, automotive supplies, and plastic wraps and bags (20 percent); industrial gases (16 percent); and metals and carbon products (10 percent).

Financially, 1984 was a good year for Union Carbide. The company was pursuing ambitious commercial plans in the People's Republic of China. Twelve promising new high-performance specialty products were being marketed. A joint venture with Shell Chemical Company was moving forward. Union Carbide was keeping pace as the U.S. economy recovered from the persistent recession that had begun in 1981.

In 1984, Union Carbide India Limited was celebrating its 50th anniversary. UCIL had sales of about \$200 million annually. It operated 14 plants, and was organized into five operating divisions with 9,000 employees. It was a diversified manufacturing concern. The shares of the Indian company, publicly traded on the Calcutta Stock Exchange, were held by more than 23, 000 shareholders. About 24 percent of the shares were owned by government-run insurance companies. Union Carbide Corporation held 50.9 percent of the stock as part of a corporate global business strategy that evolved in the post World War II era. By investing in companies abroad, Union Carbide expected to contribute to -- and benefit from -- growing national economies around the world.

Ironically, the plant at Bhopal had its origin in a humane goal: supplying pesticides to protect Indian agricultural production. The pesticides made at Bhopal were for the Indian market and contributed to the nation's ability to transform its agricultural sector into a modern activity capable of feeding one of the world's most heavily populated regions.

In the late 1960's, operations at Bhopal packaged the pesticide Sevin, then considered an environmentally-preferred alternative to DDT, an insecticide now restricted by the U.S. Environmental Protection Agency.

Later, the Bhopal plant started handling methyl isocyanate shipped from the United States. The process, which reacted methyl isocyanate with another compound, was

considered the leading technology for producing Sevin and another pesticide, Temik. The development was part of an active Indian government effort to achieve industrial self-sufficiency.

Ultimately, in the late 1970s those government objectives led to the construction of a plant for manufacturing methyl isocyanate at Bhopal. The plant was located on the outskirts of Bhopal on land leased to UCIL by the Indian state government of Madhya Pradesh.

SAFETY EMPHASIZED

In 1984, the entire work force at the Bhopal plant was Indian. In keeping with the government's interest in promoting self-sufficiency and local control, the last American employed at the site had left two years before. The Indian workers had years of experience working with methyl isocyanate dating back to the mid-1970s. During the years since the plant first opened, a densely-populated shanty town had grown up near the plant on land deeded from local officials. Its residents were the first and main victims of the poisonous gas.

No balanced analysis of Union Carbide's reaction to the Bhopal tragedy is possible without recognizing the considerable emphasis the company and its affiliates had placed on safe operations. It was a deeply ingrained commitment that involved every employee worldwide and had been spurred in the chemical business by stringent internal standards dating back to the 1930s. The development of toxicology, which studies the effects of poisonous substances, was spurred by industry efforts, led in part by joint Carbide and Carnegie-Mellon research in Pittsburgh. In the 1970s Carbide and other companies founded the Chemical Industry Institute of Toxicology. Because of such efforts the company was well prepared to meet a surge of U.S. government environmental and safety regulations in the 1970s and 1980s.

Nonetheless, chemical companies, including Union Carbide, were a focus of both criticism and control. In 1976, Union Carbide was among the first corporations to respond to this tough regulatory climate. It established a corporate-level department to oversee activities that ranged from product safety and on-the-job safety to measuring the environmental impact of its operations and monitoring adherence to strict medical standards.

Commenting after the Bhopal incident was international management specialist Richard D. Robinson, a professor at the Massachusetts Institute of Technology:

"For those of us who follow the vicissitudes of the multinational corporation as part of our professional responsibilities, it is particularly depressing that it was Union Carbide which was involved.

"For some years now, Union Carbide has maintained a sophisticated environmental monitoring system, backed by top management support, and has initiated joint health research with the U.S. National Institute of Occupational Safety and Health (NIOSH) which, at the time, was new for the industry."

Within the company, awareness of the depth and scope of the company's strict policies on safety made the news of the Bhopal tragedy astounding.

THE LONG CHAIN OF EVENTS

The chronology of the Bhopal incident is measured by both clock and calendar. It begins in the hours immediately following the incident, then tracks a series of connected developments that span years.

When the dreadful news reached Union Carbide in the United States, it was already afternoon in India, 10 and a half hours ahead of the company's Connecticut headquarters on standard time. Information direct from Bhopal was slow in arriving and fragmentary at best because the disaster had quickly overwhelmed the capacity of two telephone trunk lines serving the central Indian city of 750,000. In those early hours, company executives in Connecticut relied on telephone connections to New Delhi and Bombay, where BBC radio news reports were being taped and relayed.

I had received my first notice of the incident through a telephone call from a colleague at 2:30 a.m. on Dec. 3. I was advised that there had been an "accident" at a plant in India, that no plant employees had been injured, but that there were fatalities -- possibly eight or twelve -- in the nearby community. A meeting had been called for 6 a.m. in Danbury. On my way, I listened to news reports on my car radio as the death estimate rose to about 50. Later in the day, the number grew much larger.

Chairman Warren M. Anderson had received news about Bhopal in a telephone call from his office staff and Alec Flamm, the corporation's President and Chief Operating Officer. Anderson was returning from a business trip to Washington, suffering from a bad cold and a fever. We agreed that he would stay at home, relying on telephone reports to keep him updated. I was his media stand-in until he was able to come to the office the next day.

At 1:00 p.m. on Dec. 3 we held our first press conference at the Danbury Hilton hotel. We chose a public site for the meeting because our offices had been transformed into a command center to gather information and mobilize resources. Since we were still not aware of what had taken place in Bhopal -- or why -- we were also concerned about security in Danbury and other company locations.

RESPONDING TO THE PRESS

The first press conference was relatively short. We acknowledged that the disaster had occurred at a plant owned by Union Carbide India Limited, in which we had a 50.9 percent share. We explained that we were sending medical and technical experts to aid the people of Bhopal, to help dispose of the remaining methyl isocyanate at the plant and to investigate

the cause of the tragedy. We announced our plans to halt production at our only other methyl isocyanate plant in Institute, West Virginia, and to convert existing supplies into less volatile compounds. We explained that methyl isocyanate was not a common chemical and was not contained in products generally available to the public. We also pledged to share information with users of the chemical as we received it.

We didn't have a great deal of information to report and under no circumstance would we speculate. I went into the conference hoping to establish an important tone: one structured of frankness, credibility, and accessibility. I think the effort succeeded and formed a vital foundation for our relationship with the media and ultimately all the audiences we faced, including employees, shareholders, customers, suppliers, plant communities, government officials, and the general public. In the weeks and months that followed, we conducted a half dozen news conferences in Danbury, some attended by as many as 100 reporters. Elsewhere, we met with the media in briefings, editorial board discussions, and interviews.

In the first days, scheduled news conferences helped us deal with the hundreds of inquiries that poured in from around the world. There was no way we could respond to every individual call. But many of the frequently asked questions were considered when we prepared for daily briefings.

There was another benefit to the news conferences. They were public forums on which many key constituents, such as employees, shareholders, and customers, relied for information. They also demonstrated how the company would deal with the crisis as well as the demands of its ongoing businesses. We understood that above all we would have to demonstrate, as best we could, our integrity and competence. Additionally, I'm persuaded that the exceptional performance of Union Carbide employees throughout the world confirmed what we said. It also reassured all of us and our constituents that we would not hide or crumble in the face of adversity.

Press coverage was massive. At first, the story was a front-page, general news disaster. In time, it became a complex legal drama. It also was an international detective story as our scientists and engineers sought to determine the cause of the disaster in a frustrating situation where they were denied cooperation, information and access. Finally, it became a political story that focused on varied interpretations of the societal role of multinational corporations and crucial differences between Eastern and Western cultures.

In the first months alone, stories about Bhopal in the New York Times carried 25 different by-lines. By-lines in the Wall Street Journal were shared by 16 writers. Even Connecticut's Hartford Courant, the nation's oldest newspaper (but one with a modest size staff and largely regional influence) had as many as a dozen different by-lines on its Bhopal stories.

FIRST STEPS AT CONTROL

In those frustrating first days, as the dimensions of the tragedy gradually were learned,

vital decisions were made:

- A Union Carbide facility in West Virginia was quickly closed because it manufactured methyl isocyanate. It remained closed until safety measures were reexamined and more light shed on the cause of the Bhopal tragedy.
- A management task force, headed by Anderson, was set up to deal with the crisis. President Flamm took over running the company's day-to-day business. That decision by Anderson permitted his Bhopal team to concentrate on the facts of the tragedy and its aftermath.
- Anderson, seeking to underscore our concern, decency, and humaneness in the face of the terrible tragedy, accepted moral responsibility for the incident at a Dec. 4 news conference and announced that he would travel at once to India to offer relief to the victims, including an immediate aid offer of \$1 million. UCIL also pledged the Indian equivalent of \$840,000.
- A medical and technical team was dispatched to Bhopal within 24 hours of the disaster. Their tasks: to help arrange for immediate and long-term relief; to assist in the safe disposal of remaining methyl isocyanate supplies at the plant; and to investigate the incident.

These decisive early actions gave us an answer to the press question, "What is Carbide doing about this?" But we were still desperately short of information. We did not have answers to such basic questions as, "What caused the disaster?" or even, "What happened?" In this information vacuum, we reaffirmed a standing procedure -- no speculation. (It took considerable effort on the first day to make even the simple determination that the tragedy did not involve an explosion or fire, as the media had reported in some instances.) It took courage to say, "We don't have the information. We'll have to get back on that," especially in face of the obvious question, "Why don't you know?"

Because of the obstacles placed in our way by Indian authorities, it would be March 1985 before we could point with certainty to the cause. In the interim, we took the heat.

CONTINGENCY PLANNING AND EXPERIENCE HELP

Union Carbide had a contingency plan for emergencies. This plan provided a basic framework and some guidelines. In Bhopal, however, the "unthinkable" had happened and the terrible facts of the tragedy were overwhelming. However, the versatility of our staff, their stamina in the face of long, grueling hours, and a systematic approach to communications that had been in place for some time were significant assets.

Working to our strong advantage, also, were the quality and integrity of Union Carbide people. Trust, respect, and knowledge developed over years of dealing with environmental and safety issues, helped us navigate the uncharted areas into which we had been swept. We shared with Anderson a special understanding -- nurtured over ten years in my case --

that we worked for a responsible company. Colleagues recall me quoting, along the way, my mother's advice, "If you tell the truth, you'll never have to remember your lies." For me, that motto set an important tone that carried us through the crisis.

Other pluses were the diverse skills combined in the Bhopal crisis team. Many of the members were experienced in dealing with emergencies or unusual situations. We also had more than a decade of experience with methyl isocyanate without incident. Although, in light of the enormity of the event, it was difficult to persuade anyone of the significance or value of our considerable expertise.

Given that there was still methyl isocyanate in the Bhopal plant, we especially needed to convince Indian officials that our presence there was essential. Securing a substantial quantity of the remaining methyl isocyanate for analysis was a top priority for our technical team.

Team leader Ron Van Mynen overcame initial resistance through a patient, reasoned approach, stressing that safety was paramount. Government officials finally relented, agreeing that experts from Union Carbide, the Indian company, and the Indian government would convert the remaining methyl isocyanate into a less volatile compound. However, the effort, which Indian officials called "Operation Faith," sent a second shock wave through Bhopal resulting in a spontaneous exodus in the days leading up to the conversion.

In the end, the conversion came off without hitches, despite the distraction of water-laden Indian military airplanes flying overhead to dampen any cloud. During their three-week stay in Bhopal that December, team members were also able to recover residue from the tank directly involved in the gas leak as well as make detailed observations about the facility. The samples and information formed the basis of an intensive scientific investigation into the cause of the incident that took another two months.

In Danbury we put in 12- to 18-hour days working on various aspects of the aftermath. We simultaneously and alternately addressed concerns that cut across technical, humanitarian, legal, and business implications. Throughout we were constant in the assertion that the best approach was to be accessible to the media and to share reliable information as it became available. Occasionally, the media, with their voracious appetite for information, weren't satisfied and let us know. We persevered nonetheless.

We employed basic tools: news conferences, releases, videos, and interviews. Danbury was established as the single place to get reliable information. There was a continuing challenge to translate complex legal and technical data into accurate, understandable language quickly, especially in response to erroneous allegations. In our communications process, corporate jargon was also a very early casualty.

KEEPING VITAL AUDIENCES INFORMED

While the press remained our most visible audience (and most important conduit to the

public), we paid attention to other deeply interested parties. We reassured employees, suppliers, customers, and shareholders. We briefed the members of Congress and regulatory agencies. As early as Dec. 14, Anderson and I testified before two subcommittees of the House Commerce and Energy Committee. Their question was one the press was already asking: "Can it happen here?"

We detailed the steps taken in closing our U.S. manufacturing facility for methyl isocyanate and the actions taken to return the product from France, which refused to accept a shipment that was enroute by sea. We frankly admitted that we had not yet determined the cause of the tragedy, stressing our determination to limit any activity involving methyl isocyanate until we did know. We responded to questions about the company's safety practices, citing Union Carbide's top-of-the-industry performance in annual worker-safety reviews. We shared what information we had and stressed the company's determination to find the cause of the Bhopal tragedy and apply the lessons learned.

In Danbury, from the very first day, it was evident that communication resources had to be committed, on a high-priority basis, to informing our employees. On Dec. 3 and the days following, our corporate offices were marked by individual and collective shock. As fatality estimates rose, many of our people were emotionally devastated. Some wept openly at their desks.

Great care was taken to include our employees in our overall communications effort. The policy of open and early release of factual information covered both internal and external communication. Employees received information at the same time as the press received it. Existing channels of communication -- news bulletins, regular publications, and special videotapes in which senior executives appeared -- were used to provide a consistent body of knowledge to all 90,000 employees.

In Jan., *UC World* magazine, which is mailed regularly to employees and retirees at their homes, dedicated its front page to coverage of the Bhopal incident. Later, the company videotape series, *What's Going On*, shown in cafeterias and at employee meetings, reviewed the Bhopal tragedy from the perspective of media coverage.

In early Feb., Anderson met with employees in Charleston, West Virginia, where the petrochemical business started in the 1920s and not far from the company's only other methyl isocyanate-producing plant in Institute, West Virginia. He reassured them of the company's continuing commitment to employee and community safety and specifically, to reaffirm the safety measures in place at their operation. The appearance was videotaped and highlights of the meeting were circulated to company and affiliated sites throughout the world. A measure of the personal concern and compassion of Union Carbide employees was their spontaneous establishment of a Carbide Employees Bhopal Relief Fund that collected more than \$100,000 to aid the tragedy's victims.

By mid-Dec., Union Carbide's communications on the Bhopal incident were solidly in place. We had clearly identified Danbury as the contact point for the media -- and so informed operating management in our plants, where managers had been besieged by press inquiries. Within the team, rotating assignments helped us cope with the problems of stress and fatigue generated by non-stop inquiries and the task of communicating simultaneously with our employees and others.

CONFRONTATION WITH LOCAL AUTHORITIES

Despite our commitment and strategic approach to communications, we were still frustrated in our efforts to obtain information on the specifics of the incident. And a new element had entered the situation: confrontation.

It began with our relief efforts. When Anderson arrived in Bhopal, he was placed under house arrest by the local authorities and later released. Despite such a reception, at a Dec. 10 press conference, he emphasized that he had been treated "with the utmost courtesy and consideration." Behind the scenes we were having difficulty finding an Indian agency or official who would channel more than \$2 million in immediate aid, Union Carbide, the Indian company, and others had pledged in response to the tragedy.

Within a week of the gas leak, we had recruited and dispatched an independent medical team, including internationally recognized pulmonary and ophthalmic specialists, to Bhopal. Within a few months, Union Carbide offered an additional \$5 million in aid at the suggestion of the U.S. Federal court judge hearing litigation which had been started in the U.S. When this was rejected by the Indian government, the \$5 million was offered to Red Cross authorities working with Bhopal victims. Ultimately, the Indian Red Cross used a substantial portion of these funds.

Despite our repeated "no strings attached" assurance, the Indian government rejected relief that originated with the corporation. Even when we turned to third parties to aid the Bhopal victims, we were rebuffed. In the months following the tragedy, more than \$2 million, for example, was designated for an Arizona State University project to build and operate a rehabilitation center in Bhopal. When it was learned that the funds had come from Union Carbide, the Indian government bulldozed the center. In 1987, CBS's "60 Minutes" depicted the episode as a disturbing example of Indian bureaucratic obstruction.

In communicating with the media, we made an intensive effort to provide facts and to avoid taking a confrontation stance with the Indian government. The latter became increasingly difficult as the Indian political climate changed and Prime Minister Rajiv Gandhi's administration came under fire on a number of political fronts.

At some risk of oversimplification, we can summarize the Indian political situation at the time of the Bhopal gas deaths. It was highly volatile. Just over a month earlier, Prime Minister Indira Gandhi had been assassinated. Communal violence followed, mostly based in religious differences. Rajiv Gandhi was the new prime minister, pledged to reform the government and ruling party. The press was afire with campaign-related political charges. And 350 million Indians were about to elect representatives to the Lok Sabha, the lower house of Parliament. These elections included the Indian state of Madhya Pradesh, whose capital is Bhopal.

In India, Union Carbide was a high-profile multinational company. A measure of that prominence was attributable to the role we and UCIL had played in the "Indianization" of

industry in that country. We had been one of the first multinationals to invest in India, demonstrating our willingness to offer expertise, readiness to comply with Indian laws, and acceptance of a gradual approach to developing Indian consumer markets. Union Carbide's investment had gained us widespread good will -- or so we thought.

Whatever our contributions to national industrialization goals, the current political arguments expediently recast us as an archetypal multinational villain, exploiting India's people and resources. As legal actions proceeded in the United States, it became evident to us that this caricature was designed to gain access to Union Carbide's financial resources.

Along the way it had become rather convenient for some Indian officials to ignore the goodwill and contributions that UCIL had made to India during more than a half century of doing business there. The government of India brought a suit against Union Carbide in the United States, even though the disaster occurred in India and the nation has a well-established court system based on the same legal principles as those in the United States. To resist efforts to send the case to India, the Indian government's U.S. attorneys also invented a novel legal theory for the situation. They called it "multinational enterprise liability" which, in summary, places absolute responsibility on affiliated corporations if anything goes wrong for any reason at any affiliate. This was followed by a ruling in an unrelated case that made liability in India absolute where hazardous materials are involved, without exception, even for acts of God or third parties. It also said that the size and prosperity of the defendant should be considered in assessing damages. This novel approach effectively upended for India the basic legal principles of liability that have existed in common law countries for more than 100 years.

In the February 19, 1985 issue of the Boston Globe, MIT's Professor Robinson observed:

"It would appear that some are condemning Union Carbide precisely because it was so responsive to Indian pressures and relinquished both a measure of ownership and control to Indians, as the Indian government desired. This is not to say that those culpable in the Indian tragedy by reason of negligence should not be held responsible, whomever that may be.

"But to destroy in the process a corporation distinguished by a management with a keen sense of public responsibility is likewise tragic. By doing so, we send the wrong message to all business, a message which says in essence: 'Do not spend resources on trying to be a good citizen; it does not make any difference. Best to maximize profit, no matter what -- whatever you can get away with.'"

DETECTIVE STORY

The shock and the pressures of the early days of the Bhopal crisis were measured in hours. But then the horror story of the disaster began to develop along more specific lines: the cause of the tragedy, the continuing plight of the victims, and the legal consequences. These developments need to be tracked over months, even years.

Union Carbide's technical team, which ultimately was charged with the scientific

investigation into the cause, assembled for the first time in India on Dec. 6. Most of the members flew in from the United States. But team leader, Van Mynen, already in the Far East on routine safety inspections of facilities in that region, arrived a day earlier.

The group of seven engineers and scientists spent 24 days in India and, on return to the U.S., more than two additional months on analysis. It was hampered in its work by the Indian Central Bureau of Investigation, which had taken control of the plant. The team was barred from questioning employees at the plant and had access to only those documents they knew about and specifically requested. Team members were permitted only to examine the tank that had been the source of the leak at the plant and to take scientific samples.

Back in the United States, the team was obliged to pursue its investigation in a unique manner: first, analyze the composition of a gooey residue taken from the Bhopal storage tank where the chemical reaction had occurred; second, undertake a series of 500 experiments, working backward to define the cause. It was tough, detailed work similar to a National Transportation Safety Board (NTSB) effort of piecing an airplane together after a crash.

We were determined not to release information concerning the cause of the tragedy unless we were certain of our conclusions. However, because of the media's search for a quick and ready explanation for a major disaster, enormous public speculation occurred as to the cause. Every conceivable kind of explanation was published, from an Indian government scientist's contention that the reaction was touched off by a pint of water to a claim that an imaginary Sikh terrorist group named "Black September" was responsible. After a short time, some speculated that the tragedy was caused by a combination of management failures and the failure or shut-down of safety equipment. According to one popular story, the reaction was supposedly triggered by a water-washing of lines in another section of the plant, which allowed water to enter the system and, through a series of open valves, leak into the tank.

Ultimately, what actually occurred turned out to be something quite different. In March 1985, after three months of work, our technical team told the world that a substantial amount of water had entered the tank, that the water-washing hypothesis was improbable, and that we believed water had entered the tank directly.

It took us almost two more years before we could corroborate our scientific findings with interviews and documents because the Indian government prevented access to witnesses and records in India. It was only through court actions in the U.S. and in India that such information ultimately became available.

During the next year, the team was aided by the Indian government's reluctant release of some 70,000 pages of documentation. These records became available as a part of the discovery process as Bhopal court cases proceeded.

Late in 1986, Union Carbide filed a lengthy court document in India detailing the findings of its scientific and legal investigations: the cause of the disaster was undeniably sabotage. The evidence showed that an employee at the Bhopal plant had deliberately introduced water into a methyl isocyanate storage tank. The result was the cloud of poisonous gas. The episode is documented in a 17-minute videotape produced in 1988 by

film maker Philip Gittelman, who was invited to undertake the documentary project by Union Carbide and its outside legal counsel, Kelley Drye and Warren of New York City. Also in 1988, an independent study of the incident by the prestigious international engineering consulting firm of Arthur D. Little supported the analysis by the Union Carbide team. Noting the obstacles placed in the team's path by the Indian Government, the Little study said, "Had those constraints not been imposed, the actual cause of the incident would have been determined within several months."

The Indian government, to this day, has not taken a firm position on the tragedy's cause, leaving Carbide's findings as the only definitive conclusion on the subject. The government of India has apparently decided not to pursue an investigation into the charge of employee sabotage.

We released the report of the Union Carbide team and made our technical and legal investigators available to field inquiries from the press and other professional groups. Obviously, this fitted into our policy of open communication. But backing this rationale was our clear understanding that, whatever the cause, a disaster had occurred and we were obligated to help assure that it would not happen again.

ENTER THE LAWYERS

The legal dimensions of the Bhopal story began with what has been characterized as the "greatest ambulance chase in history" as American liability lawyers flocked to India within days of the tragedy and began signing up claimants. The first class action suit in the United States was filed a week after the disaster. Ultimately, 145 suits were filed in state and federal courts. An appalled public watched U.S. attorneys in India signing up local citizens indiscriminately.

In 1985, the government of India filed a civil suit against Union Carbide in Federal District Court in New York City -- after it had quickly enacted a law giving it the right to represent all Bhopal victims and the exclusive right to reach a settlement on their behalf. The Indian government had hired an American law firm, pursuing its strategy to try the case in U.S. courts where it presumably hoped for a higher award or settlement than could be expected in India. At one point in 1986, a settlement with attorneys in the U.S. seemed imminent but, lawyers representing the government of India would not agree and the deal fell apart. Eventually the U.S. courts established that India was the proper site for any Bhopal action and sent the litigation there for disposition.

The Indian government filed suit in India for an unspecified amount and later said claims would amount to \$3 billion. In Feb. 1989, four years after the tragedy, the Indian Supreme Court found itself confronted by activists in India who cared little for the victims and wanted the litigation to drag on for many years in order to "punish" a foreign multinational. Exercising great political courage in the face of that opposition, the Court directed a settlement of \$470 million and nullified criminal charges. The Court described the settlement as "just, equitable, and agreeable." It was the largest settlement ever made in an Indian civil suit. The Court also

instructed the Indian government to make relief payments to the victims of the tragedy.

Unfortunately, the \$470 million, paid within ten days of the court decision, sat untouched as Indian politicians, bureaucrats, and activist lawyers argued, speculated, and maneuvered. Then there was another election in India. V.P. Singh became the new prime minister and within ten days, his government repudiated the Indian Supreme court and rejected the \$470 million settlement as "totally inadequate." His government announced its intention to return to the original \$3 billion claim and to pursue criminal charges against Union Carbide executives. The India government had returned to square one. The Bhopal victims were ignored. Following a lengthy review by the Supreme Court, the original settlement was upheld and the criminal proceedings were reopened. Although the government of India has distributed a limited amount of its own funds, only small amounts of settlement money started trickling through in early 1993.

From a public relations standpoint, the story of Bhopal in the courts raised its own problems. Each news development brought a fresh retelling of the disaster. As the various legal events took place, there was a continuing requirement to tell the story in "plain language" and to try to trace the labyrinth of legal strategies and decisions.

I would be less than candid if I did not admit that many of us at Union Carbide were outraged by the Indian government's apparent indifference to the plight of the Bhopal victims. From the first day, we had been moved by compassion and sympathy. We believed that the company's position was responsible and fair. We could not understand why the government did not promptly distribute the relief funds to the victims.

MYTH VS. REALITY

Even years after the tragedy, it is difficult to measure the human cost of the disaster. Persistent myths conflict with reality. Political purpose and dramatic license have continually motivated some politicians and writers to inflate the fatality number. A very shaky basis for extrapolating casualty estimates has been the number of Indian claimants for damages -- a number that has been as high as 500,000. Yet documents considered by the Supreme Court of India showed that approximately 75 percent of the claims were from areas that the government had not recognized as being gas-affected. And approximately 250,000 claimants elected not to respond to repeated requests to appear for physical examinations.

Television news right after the disaster showed many people with bandaged eyes, leading viewers to believe that many had been blinded. In point of fact, the escaping methyl isocyanate did not cause blindness and relatively few suffered any permanent eye damage at all.

Almost from the beginning, there have been horrendous speculations about the long-term impact of the disaster. But studies by India's Council of Medical Research report that serious injury to the lung is limited to a small percentage of the population and that there is no serious residual eye disease. There is no evidence that the disaster caused cancer, birth defects, or any other delayed effects. Further, Union Carbide, the U.S. National Institute of

Health, and others conducted tests on methyl isocyanate and all concluded that no latent long-term problems were expected.

WHAT DID WE LEARN?

The contemporary Union Carbide Corporation is a different company from what it was at the time of the Bhopal incident in 1984. It is a smaller company. In 1992, its 75th anniversary year, the company spun off its industrial gases division to stockholders. The gases operation was the last tangible reflection of the giant conglomerate of the past. Gone are the metals, consumer products, and other diverse businesses. The restructured Union Carbide is a closely focused \$5 billion basic chemicals and plastics company with advanced process technologies and efficient, large-scale production facilities.

The company has kept pace with the accelerating changes of the times -- changes in markets, economic patterns, and technologies. It has weathered a bitter and costly takeover attempt. It has tackled the basic problems of productivity and cost control that bedevil modern American businesses.

At the time of Bhopal, the company was rated among those manufacturers with the best worker safety records. To a degree, we were smug about our record. Bhopal put an end to that attitude. It spurred new cycles of process monitoring and a fresh look at risk management. In the months and years after Bhopal, Union Carbide focused a microscope on every operation. There was an unprecedented search for every risk, any risk. We discovered that there was still more that we could accomplish in maintaining safer operations. And money and staff were committed to those objectives.

The impact of Bhopal went well beyond Union Carbide. It changed views and practices among the entire U.S. chemical industry. It provided impetus to the development and enactment of federal laws requiring companies to notify government and the public about toxic substances they make or use. The EPA's Federal Superfund Reauthorization, spurred by the Bhopal tragedy, helped bring about a network of local emergency planning councils, in which corporate specialists work with their neighboring communities to safely deal with unthinkable environmental disasters.

The Chemical Manufacturers Association has established Community Action Emergency Response (CAER), a program to prevent or respond to industrial emergencies. Responsible Care is an industry initiative designed to establish basic standards for safe, healthy, and environmentally sound operations. It is being established in some 22 countries around the world. Union Carbide has been an active participant in these and other programs.

AFTERMATH

The sheer scope of the Bhopal incident made it an extremely complex public communications problem. Ron Wishart, summoned by Chairman Anderson from a government relations assignment in Washington to aid him in directing the Bhopal crisis team, put it very succinctly: "The problems raised by the tragedy spanned two companies, two governments, two continents, and two cultures." As our chief outside counsel put it, "There were three tragedies at Bhopal - the gas leak, the reaction to it by the Indian government, and the consequent inability to get relief to the genuine victims."

Union Carbide's approaches at the time of the Bhopal disaster were, I believe, correct ones. This is certainly true of the top-level decision to accept full moral responsibility. Just as logical was the decision to concentrate on relief for the victims.

Remaining accessible to and honest with the press -- indeed, to and with all our audiences -- was also a sound decision, though it placed severe pressures on our media relations people. Our adherence to fact and our unwillingness to deal in speculation were likewise appropriate, although not always popular with the press. With any breaking news story, each reporter attempts to get information that is new, different, and dramatic. These requirements were heightened in the Bhopal story because of its spectrum of consequences.

The Arthur D. Little report on Bhopal includes a commentary on the role of the press: "In the immediate aftermath of a large-magnitude incident, both nontechnical and technically trained reporters converge on the site, looking for quick "answers" to the question of what caused the event. Most reporters are responsible, restrained, and unbiased in their reporting. However, a fringe group usually appears on-site that is more interested in developing causation theories, which seem to have great public appeal, regardless of their veracity."

ABOUT THE AUTHOR

When the Bhopal disaster occurred in 1984, Jackson B. Browning was responsible for Union Carbide Corporation's health, safety, and environmental programs. He and Chairman Warren M. Anderson were the company's chief spokespersons during the crisis. Browning also directed the teams that responded to and investigated the tragedy.

Browning holds degrees in both chemical engineering and law. He joined Union Carbide as a patent attorney in 1948 and held positions of increasing management responsibility for research and operations until he became the company's first senior health, safety, and environmental affairs officer in 1976. He retired from the corporation in 1986 and remains active in his own business.
