Bhopal disaster

The Bhopal disaster was an industrial disaster that occurred in the city of Bhopal, Madhya Pradesh, India, resulting in the immediate deaths of more than 3,000 people, according to the Indian Supreme Court. A more probable figure is that 8,000 died within two weeks, and it is estimated that the same number have since died from gas related diseases. However, testimonies from doctors who provided medical assistance during the tragedy claim over 15,000 were dead in the first month[1][2] and approximately 20,000 in total.[3].

The incident took place in the early hours of the morning of December 3, 1984.[4] in the heart of the city of Bhopal in the Indian state of Madhya Pradesh. A Union Carbide subsidiary pesticide plant released 40 tonnes of methyl isocyanate (MIC) gas, killing approximately 3,800 people instantly.[5] The Bhopal disaster is frequently cited as the world’s worst industrial disaster.[1][2][6][7] [8] The International Medical Commission on Bhopal was established in 1993 to respond to the disasters.

Two decades later, more than 100,000 people have permanent injuries, light or severe. The groundwater around the plant area remains contaminated, and the question of cleaning up the area is still unresolved.

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Background and causes, summary

The Union Carbide India, Limited (UCIL) plant was established in 1969. 51% was owned by Union Carbide Corporation (UCC) and 49% by Indian authorities. It produced the pesticide carbaryl (trade mark Sevin). Methyl isocyanate (MIC), an intermediate in carbaryl manufacture, was used instead of less toxic but more expensive materials. In 1979, a plant for producing MIC was added. UCC was responsible for all technique and design. The plant was located close to a densely populated area, instead of on the other side of the town where UCIL was offered an area. MIC was stored in a few large tanks instead of several small tanks. The alarms did not direct the inhabitants.
During the nights of December 2nd and 3rd, large amounts of water entered tank 610. The resulting reaction generated a major increase in the temperature of liquid inside the tank to over 400°F (200°C). The MIC holding tank then gave off a large volume of toxic gas, forcing the emergency release of pressure. The reaction was sped up by the presence of iron from corroding non-stainless steel pipelines.

There have been several theories on the reason for the entry of water into the tank. The workers claim that, because of the bad maintenance with leaking valves etc, it was possible for the water to climb from the point where the pipeline washing was performed to tank 610. UCC maintains that this was not possible, and that it was an act of sabotage by a "disgruntled worker" who introduced water directly into the tank, though this would be unlikely if maintenance had been good, the safety systems had been working and the saboteur would have wanted to save his own life and health.

The deciding factors that caused the outcome were the plant design (location near a densely populated area, using hazardous chemicals instead of less dangerous, storing in large tanks, corroding material in pipelines etc), defective management resulting from the economic pressure from UCC (poor education of operators, safety systems not functioning etc), and in the aftermath, negligence on the part of the governments of India and Madhya Pradesh as well as UCC[1][2].

**Time line, summary**

- 21.00 Water cleaning of pipes begins
- 22.00 Water enters 610. Reaction begins
- 22.30 Gases begin to leak from VGS tower.
- 00.30 Siren sounds, but is turned off
- 1.00 Police alerted to the situation
- 2.00 The first victims reach Hamidia hospital
- 2.10 Siren sounds again
- 6.00 Police announcement that everything is normal

**Health effects**

Apart from MIC the gas cloud may have contained phosgene, hydrogen cyanide, carbon monoxide, hydrogen chloride, nitrous oxides, monomethyl amine (MMA) and carbon dioxide, either produced in the storage tank or in the atmosphere[1][2]. All these gases, except carbon dioxide, are acutely toxic at levels well below 500 ppm.

The gas cloud, composed mainly of materials more dense than the surrounding air, stayed close to the ground and spread outwards through the surrounding community. The initial effects of gas exposure were coughing, vomiting, severe eye irritation and a feeling of suffocation. People awoken by these symptoms fled away from the plant. Those who ran inhaled more than those who had a vehicle. Due to their height, children and other people of lower stature inhaled relatively higher concentrations. Many people were trampled trying to escape[1][2].

Thousands of people had succumbed to gas exposure by the morning hours. There were mass funerals and mass cremations as well as some bodies being disposed of in the Narmada river. 170,000 people were treated at hospitals and temporary dispensaries. 2,000 buffaloes, goats, and other animals had to be collected and buried. Within a few days, leaves on trees went yellow and fell off. Supplies including food became scarce due to safety fears by the suppliers. Fishing was prohibited as well which caused further supply shortages. [1][2].

A total of 36 wards were marked by the authorities as being "gas affected", affecting a population of 520,000. In 1991, 3,928 deaths had been certified. Independent organizations recorded 8,000 dead the first days. Other estimations vary between 10,000 and 20,000. Another 100,000 to 200,000 people are estimated to have been injured.[1][2]

The majority of deaths and serious injuries were related to pulmonary edema, but the gas caused a wide variety of other ailments. Signs and symptoms of methyl isocyanate exposure include coughing, dyspnea, chest pain, lacrimation, eyelid edema, and unconsciousness. These effects tend to progress over 24 to 72 hours following exposure to include acute lung injury, cardiac arrest, and death.

**Long term health effects**

The quality of the epidemiological and clinical research varies. Reported and studied symptoms are eye problems, respiratory difficulties, immune and neurological disorders, cardiac failure secondary to lung injury, female reproductive difficulties, and birth defects among children born to affected women. Other symptoms and diseases are often ascribed to the gas exposure, but there is no good research supporting this.[1][2]. For a review of the research on the health effects of the Bhopal disaster (Dhara &
Contributing Factors

Plant Location

A long-term cause of the catastrophe was the location of the plant; authorities had tried and failed to persuade Carbide to build the plant away from densely-populated areas. Carbide explained their refusal on the expense that such a move would incur.[9]

Plant production process

Union Carbide produced their pesticide, Sevin (the name of carbaryl), using MIC as a intermediate. Until 1979, MIC was imported from USA.[2] Other manufacturers, such as Bayer, made Sevin without MIC, though at greater manufacturing costs.[9]

The Bhopal route was to react methyl amine with phosgene (also a deadly gas & chemical warfare agent) to form MIC, the MIC was then reacted with 1-naphthol to form the final product. This route is different to the MIC free route used elsewhere with the same raw materials in a different manufacturing order: phosgene is reacted with the naphthol first to form a chloroformate ester which is then reacted with methyl amine.

In the early 1980s, the demand for pesticides had fallen though production continued leading to buildup of stores of unused MIC [9]

Work conditions

Attempts to reduce expenses affected the factory’s employees and their conditions.

- Kurzman argues that “cuts... meant less stringent quality control and thus looser safety rules. A pipe leaked? Don’t replace it, employees said they were told... MIC workers needed more training? They could do with less. Promotions were halted, seriously affecting employee morale and driving some of the most skilled... elsewhere”. [10]
- Workers were forced to use English manuals, despite the fact that only a few had a grasp of the language.[11]
- By 1984, only six of the original twelve operators were still working with MIC and the number of supervisory personnel was also cut in half. No maintenance supervisor was placed on the night shift and instrument readings were taken every two hours, rather than the previous and required one-hour readings.[10]
- Workers made complaints about the cuts through their union but were ignored. One employee was fired after going on a 15-day hunger strike. 70% of the plant’s employees were fined before the disaster for refusing to deviate from the proper safety regulations under pressure from management.[10]
- In addition, some observers, such as those writing in the Trade Environmental Database (TED) Case Studies as part of the Mandala Project from American University, have pointed to “serious communication problems and management gaps between Union Carbide and its Indian operation”, characterised by “the parent companies [sic] hands-off approach to its overseas operation” and “cross-cultural barriers”. [12]

Equipment and safety regulations

- It emerged in 1998, during civil action suits in India, that, unlike Union Carbide plants in the USA, its Indian subsidiary plants were not prepared for problems. No action plans had been established to cope with incidents of this magnitude. This included not informing local authorities of the quantities or dangers of chemicals used and manufactured at Bhopal.[9]
- The MIC tank’s alarms had not worked for 4 years.[13]
- There was only one manual back-up system, not the four-stage system used in the USA.[13]
- The flare tower and the vent gas scrubber had been out of service for 5 months before the disaster. The gas scrubber therefore did not treat escaping gases with sodium hydroxide (caustic soda), which may have brought the concentration down to a safe level.[13] Even if the scrubber had been working, according to Weir, investigations in the aftermath of the disaster discovered that the maximum pressure it could handle was only one-quarter of that which was present in the accident. Furthermore, the flare tower itself was improperly designed and could only hold one-quarter of the volume of gas that was leaked in 1984.[14]
- To reduce energy costs, the refrigeration system, designed to inhibit the volatilization of MIC, had been left idle – the MIC was kept at 20 degrees Celsius, not the 4.5 degrees advised by the manual, and some of the coolant was being used elsewhere.[13]
- The steam boiler, intended to clean the pipes, was out of action for unknown reasons.[13]
- Slip-blind plates that would have prevented water from pipes being cleaned from leaking into the MIC tanks via faulty valves were not installed. Their installation had been omitted from the cleaning checklist.
- Water sprays designed to “knock down” gas leaks were poorly designed – set to 13 metres and below, they could not spray...
high enough to reduce the concentration of escaping gas.\[13\]

- The MIC tank had been malfunctioning for roughly a week. Other tanks had been used for that week, rather than repairing the broken one, which was left to “stew”. The build-up in temperature and pressure is believed to have affected the explosion and its intensity.\[13\]
- Carbon-steel valves were used at the factory, despite the fact that they corrode when exposed to acid.\[9\] On the night of the disaster, a leaking carbon-steel valve was found, allowing water to enter the MIC tanks. The pipe was not repaired because it was believed it would take too much time and be too expensive.\[13\]
- Themistocles D'Silva contends in *The Black Box of Bhopal* that the design of the MIC plant, following government guidelines, was "Indianized" by UCIL engineers to maximize the use of indigenous materials and products. It also dispensed with the use of sophisticated instrumentation as not appropriate for the Indian plant. Because of the unavailability of electronic parts in India, the Indian engineers preferred pneumatic instrumentation.

**Previous warnings and accidents**

A series of prior warnings and MIC-related accidents had been ignored:

- Reports issued months before the incident by scientists within the Union Carbide corporation warned of the possibility of an accident almost identical to that which occurred in Bhopal. The reports were ignored and never reached senior staff.\[9\]
- Union Carbide was warned by American experts who visited the plant after 1981 of the potential of a “runaway reaction” in the MIC storage tank; local Indian authorities warned the company of problems on several occasions from 1979 onwards. Again, these warnings were not heeded.\[9\]
- From 1981, inhalation accidents were reported at the factory. Five workers were hospitalised in 1982 after a leak of MIC.\[9\]

**Aftermath of the explosion**

In the immediate aftermath of the explosion:\[9\]

- Though the audible external alarm was activated to warn the residents of Bhopal, it was quickly silenced to avoid causing panic. Thus, many continued to sleep, unaware of the unfolding drama, and those that had woken assumed any problem had been sorted out. Many woke to painful sensations and difficulty breathing as the MIC gas diffused among residential areas.\[15\]
- Doctors and hospitals were not informed of proper treatment methods for MIC gas inhalation. They were told to simply give cough medicine and eye-drops to their patients.\[1\][2]\[15\]
- The recent discovery of documents, obtained through discovery in the course of a lawsuit against Union Carbide, for environmental contamination before a New York Federal District Court, revealed that Carbide had exported "untested, unproven technology" to the Indian plant.\[16\]

**Union Carbide’s defense**

Now owned by Dow Chemical Company, Union Carbide denies allegations against it on its website dedicated to the tragedy. The corporation believes that the accident was the result of sabotage, stating that safety systems were in place and operative. It also stresses that it did all it could to alleviate human suffering following the disaster.\[17\]

**Investigation into possible sabotage**

The company cites an investigation conducted by the engineering consulting firm Arthur D. Little, which concluded that a single employee secretly and deliberately introduced a large amount of water into the MIC tank by removing a meter and connecting a water hose directly to the tank through the metering port. Carbide claims such a large amount of water could not have found its way into the tank by accident, and safety systems were not designed to deal with intentional sabotage. UC says that the rest of the plant staff falsified numerous records to distance themselves from the incident, and that the Indian Government impeded its investigation and declined to prosecute the employee responsible, presumably because that would weaken its allegations of negligence against Union Carbide.

Union Carbide has never publicly named or identified the employee it claims sabotaged its Bhopal plant or attempted to prosecute. Nevertheless, on the company’s Bhopal Information Center website, Carbide claims that “the Indian authorities are well aware of the identity of the employee and the nature of the evidence against him”.\[18\]

**Safety and equipment issues**


The corporation denies the claim that the valves on the tank were malfunctioning, claiming that “documented evidence gathered after the incident showed that the valve close to the plant's water-washing operation was closed and leak-tight. Furthermore, process safety systems – in place and operational – would have prevented water from entering the tank by accident”. Carbide states that the safety concerns identified in 1982 were all allayed before 1984 and “none of them had anything to do with the incident”.[18]

The company admits that “the safety systems in place could not have prevented a chemical reaction of this magnitude from causing a leak”. According to Carbide, “in designing the plant's safety systems, a chemical reaction of this magnitude was not factored in” because “the tank's gas storage system was designed to automatically prevent such a large amount of water from being inadvertently introduced into the system” and “process safety systems – in place and operational – would have prevented water from entering the tank by accident”. Instead, they claim that “employee sabotage – not faulty design or operation – was the cause of the tragedy”.[18]

**Response**

The company stresses the “immediate action” taken after the disaster and their continued commitment to helping the victims. On December 4th, the day following the leak, Union Carbide sent material aid and several international medical experts to assist the medical facilities in Bhopal.[18]

Carbide put $2 million into the Indian Prime Minister’s immediate disaster relief fund on 11th December 1984[18]. The corporation established the Employees' Bhopal Relief Fund in February 1985, which raised more than $5 million for immediate relief.[4]

In August 1987, Carbide made an additional $4.6 million in humanitarian interim relief available.[4]

Union Carbide also undertook several steps to provide continuing aid to the victims of the Bhopal disaster after the court ruling, including:

- The sale of its 50.9 percent interest in UCIL in April 1992 and establishment of a charitable trust to contribute to the building of a local hospital. The sale was finalized in November 1994. The hospital was begun in October 1995 and was opened in 2001. The company provided a fund with around $90 million from sale of its UCIL stock. In 1991, the trust had amounted approximately $100 million. The hospital caters for the treatment of heart, lung and eye problems.[17]
- Providing "a $2.2 million grant to Arizona State University to establish a vocational-technical center in Bhopal, which was constructed and opened, but was later closed and leveled by the government”.[5]
- Donating $5 million to the Indian Red Cross.[5]
- Developing the Responsible Care system with other members of the chemical industry as a response to the Bhopal crisis, which is designed “to help prevent such an event in the future by improving community awareness, emergency preparedness and process safety standards”. [4]

**Long-term fallout**

Legal action against Union Carbide has dominated the aftermath of the disaster. However, other issues have also continued to develop. These include the problems of ongoing contamination, criticisms of the clean-up operation undertaken by Union Carbide, and a 2004 hoax.


**Legal action against Union Carbide**

Legal issues began affecting Union Carbide, the US and Indian governments, the local authorities in Bhopal and the victims of the disaster immediately after the catastrophe.

**Legal proceedings leading to the settlement**

On 14th December 1984, the Chairman and CEO of Union Carbide, Warren Anderson, addressed the US Congress, stressing the company’s “commitment to safety” and promising to ensure that a similar accident “cannot happen again”. However, the Indian Government passed the Bhopal Gas Leak Act in March 1985, allowing the Government of India to act as the legal representative for victims of the disaster,[4] leading to the beginning of legal wrangling.
March 1986 saw Union Carbide propose a settlement figure, endorsed by plaintiffs’ US attorneys, of $350 million that would, according to the company, “generate a fund for Bhopal victims of between $500-600 million over 20 years”. In May, litigation was transferred from the US to Indian courts by US District Court Judge. Following an appeal of this decision, the US Court of Appeals affirmed the transfer, judging, in January 1987, that UCIL was a “separate entity, owned, managed and operated exclusively by Indian citizens in India”. The judge in the US, Judge Keenan, granted Carbide’s forum request, thus moving the case to India. This meant that, under US federal law, the company had to submit to Indian jurisdiction.

Litigation continued in India during 1988. The Indian Supreme Court told both sides to come to an agreement and “start with a clean slate” in November 1988. Eventually, in an out-of-court settlement reached in 1989, Union Carbide agreed to pay US$470 million for damages caused in the Bhopal disaster, 15% of the original $3 billion claimed in the lawsuit. By the end of October 2003, according to the Bhopal Gas Tragedy Relief and Rehabilitation Department, compensation had been awarded to 554,895 people for injuries received and 15,310 survivors of those killed. The average amount to families of the dead was $2,200.

Throughout 1990, the Indian Supreme Court heard appeals against the settlement from “activist petitions”. Nonetheless, in October 1991, the Supreme Court upheld the original $470 million, dismissing any other outstanding petitions that challenged the original decision. The decision set aside a “portion of settlement that quashed criminal prosecutions that were pending at the time of settlement”. The Court ordered the Indian government “to purchase, out of settlement fund, a group medical insurance policy to cover 100,000 persons who may later develop symptoms” and cover any shortfall in the settlement fund. It also “requests that Carbide and its subsidiary “voluntarily” fund a hospital in Bhopal, at an estimated $17 million, to specifically treat victims of the Bhopal disaster. The company agreed to this. However, the International Campaign for Justice in Bhopal notes that the Court also reinstated criminal charges.

**Charges against Warren Anderson and others**

The Chairman and CEO of Union Carbide, Warren Anderson, had been arrested and released on bail by the Madhya Pradesh Police in Bhopal on December 7, 1984. This caused controversy as his trip to Bhopal was conditional on an initial promise by Indian authorities not to arrest him. Anderson has since refused to return to India.

Beginning in 1991, the local authorities from Bhopal charged Warren Anderson, who had retired in 1986, with manslaughter, a crime that carries a maximum penalty of 10 years in prison. Anderson has so far avoided an international arrest warrant and a US extradition. Some allege that the Indian government has hesitated to put forth a strong case of extradition to the United States, fearing backlash from foreign investors who have become more important players in the Indian economy following liberalization. A seemingly apathetic attitude from the US government, which has failed to pursue the case, has also led to strong protests in the past, most notably by Greenpeace. A plea by India's Central Bureau of Investigation to dilute the charges from culpable homicide to criminal negligence has since been dismissed by the Indian courts.

The U.S. Supreme Court refused to hear appeal of the decision of the lower federal courts in October 1993, meaning that victims of the Bhopal disaster could not seek damages in a US court.

Meanwhile, very little of the money from the settlement reached with Union Carbide went to the survivors, and people in the area feel betrayed not only by Union Carbide (and chairman Warren Anderson), but also by their own politicians. On the anniversary of the tragedy, effigies of Anderson and politicians are burnt.

In July 2004, the Indian Supreme Court ordered the Indian government to release any remaining settlement funds to victims. The deadline for this release was extended by the Indian Supreme Court In April 2005, giving the Indian government until 30th April 2006 after a request from the Welfare Commission for Bhopal Gas Victims. The fund is believed to amount to $500 million after earning interest “from money remaining after all claims had been paid”. August 2006 saw the Second Circuit Court of Appeals in New York City upheld the dismissal of remaining claims in the case of Bano v. Union Carbide Corporation. This move blocked plaintiffs’ motions for class certification and claims for property damages and remediation. In the view of Carbide, “the ruling reaffirms UCC’s long-held positions and finally puts to rest — both procedurally and substantively — the issues raised in the class action complaint first filed against Union Carbide in 1999 by Haseena Bi and several organizations representing the residents of Bhopal”. In September 2006, the Welfare Commission for
Bhopal Gas Victims announced that all original compensation claims and revised petitions had been “cleared”.\[4\]

Criminal charges are proceeding against former Union Carbide India Limited employees including: Former UCIL Chairman Shri Keshub Mahindra; presently Chairman-cum managing Director Shri Vijay Gokhale; former Vice-President Functioning In charge, Shri Kishor Kamdar; former works manager Shri J. Mukund; and former Production manager A.P. Division, Shri S.P. Choudhury.

Federal class action litigation, Sahu v. Union Carbide et al.\[21\], is presently pending on appeal before the Second Circuit Court of Appeals in New York\[22\]. The litigation seeks damages for personal injury, medical monitoring\[23\] and injunctive relief in the form of cleanup\[24\] of the drinking water supplies\[25\] for residential areas near the Bhopal plant\[26\]. A related complaint seeking similar relief for property damage claimants is stayed pending the outcome of the Sahu appeal before the federal district court in the Southern District of New York.

Changes in corporate identity

**Sale of Union Carbide India Limited**

Union Carbide sold its Indian subsidiary, which had operated the Bhopal plant, to Eveready Industries India Limited, in 1994.

**Merger of Union Carbide and Dow Chemical Company**

The Dow Chemical Company purchased Union Carbide in 2001 for $10.3 billion in stock and debt. Dow has publicly stated several times that the Union Carbide settlement payments have already fulfilled Dow's financial responsibility for the disaster.

Some Dow stockholders filed suits to stop the merger, noting the outstanding liabilities for the Bhopal disaster.\[27\] The merger has gained criticism from the International Campaign for Justice in Bhopal, as it is apparently “contrary to established merger law” in that “Dow denies any responsibility for Carbide’s Bhopal liabilities”. According to the Bhopal Medical Appeal, Carbide “remains liable for the environmental devastation” as environmental damage was not included in the 1989 settlement, despite ongoing contamination issues.\[27\]

Ongoing contamination from the accident

Lack of political willpower has led to a stalemate on the issue of cleaning up the plant and its environs of hundreds of tonnes of toxic waste, which has been left untouched. Environmentalists have warned that the waste is a potential minefield in the heart of the city, and the resulting contamination may lead to decades of slow poisoning, and diseases affecting the nervous system, liver and kidneys in humans. Studies have shown that the rates of cancer and other ailments are higher in the region since the event. Activists have demanded that Dow clean up this toxic waste, and have pressed the government of India to demand more money from Dow.

**Criticisms of Clean-up Operations**

Carbide states that “after the incident, UCIL began clean-up work at the site under the direction of Indian central and state government authorities”, which was continued after 1994 by the successor to UCIL, Eveready Industries, until 1998, when it was placed under the authority of the Madhya Pradesh Government.\[4\] Critics of the clean-up undertaken by Carbide, such as the International Campaign for Justice in Bhopal, claim that “several internal studies” by the corporation, which evidenced “severe contamination”, were not made public; the Indian authorities were also refused access. They believe that Union Carbide “continued directing operations” in Bhopal until “at least 1995” through Hayaran, the US trained site manager, even after the sale of its UCIL stock. The successor, Eveready Industries, abruptly relinquished the site lease to one department of the State Government while being supervised by another department on an extensive clean up programme. Environmental problems resulting from lack of a proper clean-up persist today.\[2\] The Madhya Pradesh authorities have announced that they will “pursue both Dow and Eveready” to conduct the clean-up as joint tortfeasors.

The International Campaign view Carbide’s sale of UCIL in 1994 as a strategy “to escape the Indian courts, who threatened Carbide’s assets due to their non-appearance in the criminal case”. The successor, Eveready Industries India, Limited (EIIL), ended its 99 year lease in 1998 and turned over control of the site to the state government of the Madhya Pradesh.\[17\] Currently, the Madhya Pradesh Government is trying to legally force Dow and EIIL to finance clean-up operations.

**Contamination from the site itself**
A large portion of the contamination in the site itself and the surrounding areas did not arise directly from the Bhopal disaster, but rather from the materials processed at the plant and the conditions under which those materials were processed. A report from Greenpeace details the extent and persistence of this contamination, which accounts for most of the heavy metal contamination. [28]

In 2002, an inquiry found a number of toxins, including mercury, lead, 1,3,5 trichlorobenzene, dichloromethane and chloroform, in nursing women’s breast milk. Well water and groundwater tests conducted in the surrounding areas in 1999 showed mercury levels to be at “20,000 and 6 million times” higher than expected levels; heavy metals and organochlorines were present in the soil. Chemicals that have been linked to various forms of cancer were also discovered, as well as trichloroethene, known to impair fetal development, at 50 times above safety limits specified by the United States Environmental Protection Agency (EPA).[27]

In an investigation broadcast on BBC Radio 5 on November 14, 2004 [29], it was reported that the site is still contaminated with 'thousands' of metric tons of toxic chemicals, including benzene hexachloride and mercury, held in open containers or loose on the ground. Some areas are reportedly so polluted that anyone entering the area for more than ten minutes is likely to lose consciousness. Rainfall causes run-off, polluting local wells and boreholes, and the results of tests undertaken on behalf of the BBC by accredited water analysis laboratories in the United Kingdom reveal pollution levels in borehole water 500 times the legal maximum in that country. Statistical surveys of local residents, with a control population in a similarly poor area away from the plant, are reported to reveal higher levels of various diseases around the plant.

Additional Settlement Funds Hoax

On December 3, 2004, the twentieth anniversary of the disaster, a man claiming to be a Dow representative named Jude Finisterra was interviewed on the BBC. He claimed that the company had agreed to clean up the site and compensate those harmed in the incident. (video) Immediately afterward, Dow's share price fell 4.2% in 23 minutes, for a loss of $2 billion in market value [1]. Dow quickly issued a statement saying that they had no employee by that name — that he was an impostor, not affiliated with Dow, and that his claims were a hoax. BBC broadcast a correction and an apology. The statement was widely carried [2].

"Jude Finisterra" was actually Andy Bichlbaum, a member of the activist prankster group The Yes Men. In 2002, The Yes Men issued a phony press release explaining why Dow refused to take responsibility for the disaster and started up a website, DowEthics.com, designed to look like the Dow website but give what they felt was a more accurate cast on the events. In 2004, a producer for BBC News emailed them through the website requesting an interview, which they gladly obliged [3].

Taking credit for the prank in an interview on Democracy Now!, Bichlbaum explains how his fake name was derived: "Jude is the patron saint of impossible causes and Finisterra means the end of the Earth". He explained that he settled on this approach (taking responsibility) because it would show people precisely how Dow could help the situation as well as likely garnering major media attention in the US, which had largely ignored the disaster's anniversaries, when Dow attempted to correct the statement [4].

After the original interview was revealed as a hoax, Bichlbaum appeared in a follow-up interview on the United Kingdom's Channel 4 news (video). During the interview he was repeatedly asked if he had considered the emotions and reaction of the people of Bhopal when producing the hoax. According to the interviewer, "there were many people in tears" upon having learned of the hoax. Each time, Bichlbaum said that, in comparison, what distress he had caused the people was minimal to that for which Dow was responsible.

See also

- Lake Nyos, a natural disaster involving carbon dioxide.

Notes

1. a b c d e f g h i Eckerman (2001).
2. a b c d e f g h i j k l Eckerman (2004).
4. a b c d e f g h i j k l "Chronology". Bhopal Information Center (November 2006).
5. a b c "Incident Response and Settlement". Bhopal Information Center.
References

- "Health and Epidemiology Papers About the Bhopal Disaster".
- (2003?) *Health Effects of the Toxic Gas Leak from the Union Carbide Methyl Isocyanate Plant in Bhopal*. Technical report
External links

- International Campaign For Justice in Bhopal
- Bhopal Medical Appeal and Sambhavna Trust Clinic
- Students for Bhopal
- Union Carbide's Bhopal Web Site
- Clouds of Injustice: Bhopal disaster 20 Years on Amnesty International report (link to 100 page pdf file)
- Animal's People a fictionalized story of a Bhopal survivors that recreates present day Bhopal for the reader
- The official website of Bhopal Gas Tragedy Relief & Rehabilitation Department, Government of Madhya Pradesh
- Twenty Years Without Justice: The Bhopal Chemical Disaster International Campaign for Justice for Bhopal video
- Fake Dow website by The Yes Men
- Bhopal related community website broadcasting music and video
- "One Night in Bhopal". BBC News.
- Health and Epidemiology Papers About the Bhopal Disaster - mostly from peer-reviewed journals
- The Ghosts of Bhopal slideshow from the Common Language Project
- World Press Photo of the Year for 1984 - Child killed by the poisonous gas leak in the Union Carbide chemical plant disaster.

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