Who Should Clean Up the Mess?

Love Canal and Corporate Responsibility for Old Pollution

Questions to Keep in Mind

1. How do we assess blame, or accountability for action, in general? How do we assess blame for unforeseen events in particular? What factors are most important for assigning blame for Love Canal?

2. What is risk? What kinds of risk are "acceptable," and why? How did the homeowners see their risk? How far should the government protect us against risk?

3. What was the role of the media in all of the events of Love Canal? Can we make sense of general duties owed to the society by the press? Were they fulfilled or breached in this case?

4. On July 1, 2002, President George W. Bush announced that funding for the cleanup of toxic sites like Love Canal would be drastically cut. What had the "Superfund" accomplished in its history (which dates from the events described in this chapter)?
LOVE CANAL, THE EVENT:
A CHRONOLOGY

May 1892: William T. Love plans to build a model industrial city. Since the technology of the time allows only for transmission of power by direct current, economical only over short distances, the Niagara Falls region, rich in hydroelectric power, is ideal. He starts to dig one of several planned canals, then is stymied by recession and the development of alternating current (1894). Love goes bankrupt.

April 1942: Hooker Chemical acquires the old canal, gets the necessary permits, and in 1947 starts dumping wastes (ultimately 21,800 tons) into the canal. So do several federal agencies, especially the army. Clay lining makes the canal an ideal spot for getting rid of toxic wastes—one where human beings will never be exposed.

1951: Housing development begins near canal.

April 1953: Hooker closes the dump and seals it with a clay cap. With an increase in population of young families in Niagara Falls in the 1950s, the board of education needs more land for schools. It asks Hooker Chemical to release the Love Canal area, which, under threat of seizure, it does, for a sum of $1.

November 1957: Public hearings on use of ceded land. Hooker issues warnings not to cut into the clay cap because of danger from toxic wastes.

June 1958: By this time roads and sewers are cut through and homes have been built in the Canal area. Children are burned after chemical exposure, probably from lindane. Hooker Chemical reissues warnings about waste.

1971–1977: Presence of chemicals in basements and on grounds of school noted occasionally.

April 1978: New York State orders access to the area restricted; buried chemicals to be removed.

June 1978: After two years of occasional articles on the fears and odors of Love Canal, Michael Brown of the Niagara Gazette begins chronicles of ill individuals who attribute their ills to Love Canal exposures; national media attention follows.

August 1978: New York State commissioner of health declares health emergency at Love Canal, orders evacuation of some twenty families. Governor Hugh Carey announces that state will fund relocation of 236 families. Love
Canal Homeowners Association formed. Soon thereafter, President Jimmy Carter declares Love Canal a disaster area.

**February 1979:** Dr. Beverly Paigen of Roswell Park Memorial Institute in Buffalo urges further evacuations based on in-depth study of several families living near the pollutants. In these families, a high incidence of hysterectomies, asthma, and mental instability is found.

**November 1979:** Federal report indicates that odds of residents contracting cancer "are as high as 1 in 10."

**December 1979:** Justice Department files a $124.5 million lawsuit against Hooker.

**May 15, 1980:** Dr. Dante Picciano, on commission from the Environmental Protection Agency, finds an elevated level of chromosome damage among families in the Love Canal area. This report is leaked to the media on May 17.

**May 19, 1980:** Dr. Steven Barron, on commission from the EPA, finds some degree of peripheral nerve damage to Love Canal residents. Love Canal residents mob streets, seize two EPA inspectors hostage. Love Canal Homeowners Association President Lois Gibbs telephones White House to describe the situation.

**May 21, 1980:** President Carter declares State of Emergency at Love Canal. At an ultimate cost of about $30 million, 2,500 more residents to be permanently relocated.

**June 1982:** First of 227 houses is demolished.

**July 1982:** Attorney General Robert Abrams says two studies show levels of dioxin in homes next to the canal were "among the highest ever found in the human environment."

**March 1983:** The EPA declares that homes a block and a half or more away from the canal are safe enough to live in; members of the panel originating the report differ on the conclusions.

**May 1983:** Findings of chromosome damage contradicted.

**September 1983:** EPA finds new leaks of chemicals.

**October 1983:** The lawsuit that had been brought by Love Canal residents against Occidental Petroleum (the chemicals company that had acquired Hooker Chemical), the city, the county, and the Board of Education is settled for $20 million.
December 1984: A new clay cap is installed over the canal.

February 1985: Former residents receive settlement shares averaging $14,000 each.

January 1986: The cleaning of the sewer system begins.

October 1987: EPA decides to burn all dioxin-contaminated soil taken from the area.

February 1988: Judge John Curtin of Federal District Court finds Occidental liable for the cost of the clean-up, estimated at $250 million.

**INTRODUCTION**

For most Americans the words “Love Canal” represent the emerging awareness that a price tag is attached to the conveniences provided by the chemical technology of the twentieth century. Love Canal was the warning trickle that became a flood of chemical stews in open pits, rusting steel drums leaking toxins, dirt roads sprayed with PCB-laden oil, radioactive and chemical contamination at nuclear weapons facilities, PCB-contaminated fish in the Hudson River, Vietnam veterans contaminated by Agent Orange, and, finally, an explosion of popular protest, manifest in legislation (CERCLA, or SUPERFUND) and the self-protective fear of local pollution that we came to call NIMBY—“Not In My Back Yard.”

After the first evacuation in 1978, Love Canal disappeared (temporarily) from the news—but not before entering our vocabularies as a universal designator of a new kind of evil. An article in *Time* more than a decade later, for instance, quotes the director of a Mexican research facility, speaking about mostly U.S.-owned industries on the Mexican border, “These are all Love Canals in the making.” In a 1990 *Newsweek* article, Anne Underwood captured the significance of the events at the Canal:

Love Canal became a national story, a byword, because it radicalized apparently ordinary people. Love Canal severed the bond between citizens and their city, their state, and their country. The battle . . . was fought in public, through protest marches and press releases, because the public, not the state, was at risk.

From another perspective, emerging in sharper focus in retrospect, Love Canal has another significance. As Elizabeth Whelan put it,

Love Canal . . . serves well as the focal point for an exposé of the questionable, indeed, immoral and dishonest tactics of those individuals who term themselves “environmentalists” but who are in fact mostly a group of anticorporation, antitechnology advocates. Love Canal is a classic story of
half truths, distorted historical facts, unprecedented media exaggeration, and misguided government intervention, all of which caused substantially more human upset and misery than did even the most toxic of Hooker's chemicals.  

From either perspective, Love Canal is a symbol, a watershed, an icon—of something. What do Americans do with icons? They memorialize them. By the beginning of 2001, Love Canal Museum was in the works, prepared to entertain up to 200,000 tourists a year with an account and guided tour through the once-toxic area.  

The two perspectives are clearly in conflict, but are not necessarily contradictory. Both may be true and valuable. Public ethics is often best understood as the skill of making judgments without assigning blame. Both perspectives should be more comprehensible at the end of our inquiry than they are at this point.

I. A BRAVE HISTORY, A SHATTERING REVELATION

1. Background

Petroleum was discovered in 1859. Soon after it was discovered, it was found that petroleum could be separated by a distillation process (cracking) into various components, such as gasoline, kerosene, and other hydrocarbons. Kerosene soon replaced whale oil as fuel for lanterns. The other hydrocarbons included the olefins such as ethylene (CH2=CH2), which became the feedstock for petrochemicals—from plastics to pesticides, synthetic drugs to synthetic fibers. In 1927 it was discovered that a combination of ethylene and benzene produced another basic petrochemical, styrene. By 1937, the chemistry of connecting these individual basic molecules to each other, in very long chains, was worked out, and polymerization was born, bringing with it polyethylene, polystyrene, polyvinylchloride, and thousands of new solvents, films, fibers, plastic, adhesives, and synthetic rubber products.

Petrochemicals began to dominate the chemical industry by in 1920, but it was World War II that brought them into prominence. With natural rubber and silk no longer available, the Allies turned to the chemical industry for synthetic rubber and nylon to provide tires and parachutes. To kill the anopheles mosquitoes that carried the malaria parasite, they rediscovered the chlorinated hydrocarbon, dichloro-diphenyl-trichloroethane (DDT), which had been gathering dust on an English chemist's shelf. In the thirty years following World War II, the petrochemical industry expanded by a factor of 60; 95 percent of organic chemicals are petrochemicals.

The problem is that many of the petrochemicals are suspected to be toxic. By the usual methods we employ to determine toxicity of various kinds, many
are carcinogens; that is, substances associated with the onset of cancer. Others seem to do damage to the nervous system, the liver, or other human systems. Pesticides are clearly toxic and are designed to be so. No surprise, chemicals that are designed to kill may well kill species other than the targeted species. The story of DDT’s harmful effects on wild birds, especially raptors, is well known⁸ and parallels the stories of many other pesticides. (It is estimated that hundreds of thousands of pesticide poisonings occur each year, most of them to agricultural workers in the Third World.) But pesticides are only a small portion of the synthetic chemicals produced by the industry—there are some 70,000 chemicals used every day, with up to 1,000 new ones added to the environment each year.

Once these chemicals, or those used in their production, are discarded, a “toxic waste” site is born. (“Toxic” because data, not usually data on human beings, suggests that some components present harm those exposed to them.) Unfortunately, hard scientific data on the vast majority of petrochemicals is lacking. According to Sandra Postel, the National Research Council “estimates that no information on toxic effects is available for 79 percent of the more than 48,500 chemicals listed in EPA’s inventory of toxic substances.”¹⁰ In 546 toxic waste dumps there are an estimated 229 chemicals, but only 25 chemicals comprise two-thirds of the identified toxic waste “occurrences” (incidents in which toxic chemicals are brought to public notice by reason of some cause for alarm).¹¹ Of these, eleven are chlorinated hydrocarbons, accepted as toxic; four are hydrocarbons, many of which are toxic; and seven are heavy metals (lead, cadmium, mercury), which are naturally occurring (as opposed to synthetic petrochemicals), but nevertheless generally toxic. We do not know what toxicity is created when these chemicals are mixed together, as in a dump.

In the midst of this toxic stew, it should be noted that “…epidemiological studies have shown very little evidence of a hazard to human health resulting from exposures to chemical disposal sites.” The fear that drives people from their homes is primarily fear of the unknown: We simply have no data on delayed effects of exposure to these chemicals.¹² As for that, the verdict on many aspects of the toxic waste dilemma is still wanting, as we shall see.

2. The Event

There is no typical hazardous waste site. At one point, 20,000 sites were addressed by the EPA as part of the “Superfund” legislation,¹³ but they varied tremendously in geological, hydrological, ecological, physical, and chemical characteristics. There is not even an accepted definition of a hazardous waste site. The problem is too new, or rather, too recently recognized, to have generated the research that will allow us to categorize the problem; the “failure of U.S. society to assess and manage the issue of hazardous waste”¹⁴ is shown first and foremost in the failure to engage in basic research on site characteristics.

The sixteen-acre Love Canal site is located in Niagara Falls, New York. In 1892 William T. Love began the development of an industrial site along the canal that connected the Niagara River to Lake Ontario. Two years later, the
project was dropped for lack of interest. The Hooker Chemical Company took
over the isolated, abandoned canal in 1947, having received permission in 1942
to use it. The company had complied with what few requirements were nec-
essary for waste disposal at that time. The canal bottom consisted of a soil con-
taining clay. Among natural soils, solid clay is the preferred liner for waste sites,
because it is virtually impermeable to water. (Because some chemicals will dif-
fuse through it—a three-foot clay barrier will leak mobile chemicals in five
years—most modern sites use a mixture of clay and synthetic materials.) Was
this natural liner cracked and permeable? Hooker Chemical certainly did not
think so at the time the dumping began; but it became an issue in the legal
arguments when the wrangling began. We’ll get to that later. By 1952 the com-
pany had dumped 21,800 tons of chemical wastes into the site. Hooker was
not the only source of chemicals in that dumpsite, by the way; several federal
agencies, especially the army, arranged with Hooker to dump residues of
wartime production in the same spot. Meanwhile, residential building had
begun nearby, as the city of Niagara Falls expanded outward. In 1953, the canal
could accept no more waste, so the company covered it, again, as they thought,
with a cap of solid clay.

Soon afterwards, an expanding population required more schools in the
area, so the company sold the site (reluctantly, and under threat of condemna-
tion) to the Niagara Falls Board of Education for $1. Apparently at that time
the school board wanted the site only for a playground, and that was fine with
Hooker. They made sure to insert into the deed (dated April 28, 1953), a strong
disclaimer regarding any injury to come from those wastes:

Prior to the delivery of this instrument of conveyance, the grantee herein
has been advised by the grantor that the premises above described have
been filled, in whole or in part, to the present grade level thereof with
waste products resulting from the manufacturing of chemicals by the
grantor at its plant in the City of Niagara Falls, New York, and the grantee
assumes all risk and liability incident to the use thereof. It is therefore
understood and agreed that, as a part of the consideration for this conveyance
and as a condition thereof, no claim, suit, action or demand of any nature
whatsoever shall ever be made by the grantee, its successors or assigns,
against the grantor, its successors or assigns, for injury to a person or per-
sons, including death resulting therefrom, or loss of or damage to property
caused by, in connection with or by reason of the presence of said indus-
trial wastes. It is further agreed as a condition hereof that each subsequent
conveyance of the aforesaid lands shall be made subject to the foregoing
provisions and conditions.15

There matters stood for four years; then the school board decided to build
on part of the site and sell the rest. Hooker showed up at the hearings; com-
pany officials were insistent that hazardous wastes were under that ground,
and issued dire warnings about what might happen if that clay cap were
pierced. The minutes of the school board’s meeting on November 7, 1957, in-
dicate that A. W. Chambers of Hooker was present at the meeting, specifically
warning about the dangers of those buried chemicals should the site be disturbed. He conceded that the company had no further control over the use of the property, but urged strongly that none of that land be sold or used for building houses or other structures.

When the school board eventually decided to build an elementary school on the site, then, Hooker had informed the board that chemicals were buried there; it had not, however, told them what the chemicals were, or to what extent they were toxic; nor did it tell them what quantity of chemicals were buried there. It is not clear whether Hooker officials knew any of those items of information. A later review of the situation revealed quite an assemblage:

What lay beneath the surface was 43.6 million pounds of 82 different chemical substances: oil, solvents and other manufacturing residues. The mixture included benzene, a chemical known to cause leukemia and anemia; chloroform, a carcinogen that affects the nervous, respiratory and gastrointestinal systems; lindane, which causes convulsions and extra production of white blood cells; trichloroethylene, a carcinogen that also attacks the nervous system, the genes and the liver. . . . The list of chemicals buried in the Love Canal seems endless, and the accompanying list of their acute and chronic effects on human beings reads like an encyclopedia of medical illness and abnormality.

Trouble could be expected. An elementary school was built and house lots were sold. As early as 1958 children were burned from playing in the dump, probably from the pesticide lindane, some 5,000 tons of which Hooker had buried at the site and which surfaced in a cake-like form.

3. Trouble Materializes

In 1977, chemicals started to appear in the basements of nearby houses after heavy rains, leaching out of their graves like ghosts on Halloween. Michael Brown, a reporter for the Niagara Gazette wrote of resident complaints of dizziness, respiratory problems, a chemical stench, breast cancer, and pets losing their fur. In 1978, national publicity prompted both state and federal action.

Two hundred chemicals were identified on the grounds around the school built over Hooker's protests. Among them, benzene, a known carcinogen, was prominent, and is credited for initiating government action. New York State began studies of the site, supplementing the anecdotal newspaper reports of the time. A panic atmosphere, however, is not ideal for scientific studies. Before any real study began, Robert Whalan, New York State Commissioner of Health, declared an emergency and moved to evacuate about twenty families. On August 9, 1978, New York Governor Hugh Carey visited the site and declared that all 236 families living along the streets affected would be permanently relocated, at state expense. (At that time a new clay cap was placed over the old Canal area.) As residents of the houses just beyond those purchased and evacuated by the state began to find more and more ailments among them,
Dr. Beverly Paigen, a biologist with Roswell Park Memorial Institute in Buffalo, came out with her own study of a few families and their ailments. Her evidence was largely anecdotal, but triggered enough interest to bring the Environmental Protection Agency into the case.

Early in 1980 the EPA commissioned a study by Dr. Dante Picciano on chromosome damage in the area. The study claimed to find elevated damage. Hard on the heels of this study came another, by Dr. Steven Barron, on nerve damage among inhabitants of the Love Canal area; he also claimed to find elevated levels. Coming at a time of tension as they did, these two reports incited a full-scale riot, including the taking of two EPA officials hostage by the local Homeowners Association. Within days, President Jimmy Carter declared a State of Emergency at Love Canal, announcing the relocation of another 2,500 residents—first temporarily, at a cost of $3 million to $5 million, then permanently, at a cost of $30 million.

Interpretations of these events vary. On the one hand, we can see an appropriate response, possibly a warm-up for more serious things, in the way public, press, and government worked together to address a situation that was certainly perceived to be dangerous. Between 1978 and 1980 federal, state, and local authorities, goaded by the press and encouraged, to say the least, by local voluntary organizations, worked with rare cooperation to get the people out of danger. They had moved quickly and thoroughly: New York State closed the school and started to evacuate the 236 families who lived next to the canal; President Jimmy Carter declared Love Canal a disaster area, which provided funds for additional evacuations in 1980. New York State had capped the canal with clay and installed a drainage system that pumped any leaking material to a new treatment plant, started demolishing the most contaminated houses, and started buying up the others that had been abandoned. In 1982 and 1983 the houses, the school, the parking lot, and the original playground were all demolished. By 1990, everything west of the street that backed up to the canal, for one-quarter mile, had been buried and fenced off, and the State owned 789 single-family homes. The total clean-up costs at that point were estimated at $250 million.

On the other hand, there may have been no danger. None of these studies—not Beverly Paigen’s anecdotal study of epilepsy, mental illness, and reproductive difficulties (including miscarriages) in a few families; not Dante Picciano’s studies, which lacked controls; nor Steven Barron’s study, which was merely a pilot study but was leaked when the others became public—has withstood scientific scrutiny. A word about scientific testing is in order.

**4. The Chemicals, the Illnesses, the Tests**

Determining toxicity is difficult and expensive, and unless we start experimenting on humans, the results will always be controversial. The most common technique is animal testing, although some techniques use bacteria and other organisms or tissues. The smaller the population tested, and the less time
taken to reach significant results, the less expensive the test, so these tests typically are conducted on animals—frequently white mice bred for genetic sameness—that are exposed to a much larger quantity of the chemical, over a much shorter period of time, than any human population ever would be.

On the basis of such testing, we are prepared to say that many of the substances found at the Love Canal site—including benzene, dioxin, toluene, lindane, PCBs, chloroform, trichlorethylene, trichlorobenzene, and heavy metals—are certainly capable of causing harm. Thirteen are known carcinogens. With the exception of heavy metals, most of the chemicals found there would be liquid at room temperature and soluble in water, increasing the chances of migration away from the site. Additionally, chlorinated hydrocarbons are denser than water and therefore would sink, migrating toward ground water.

It is very hard to prove cause and effect in these cases—to prove that exposure to a given chemical at a given time causes a specific symptom. In order to determine that, it would be necessary to know the quantity of the chemical to which the sufferer was exposed and the period of time of exposure, for each individual within the exposed population. Additionally, findings should be repeated in a number of exposed individuals, other causative factors must be ruled out, and the cause and effect should make physiological sense. There were 200 chemicals at Love Canal and an exposed population that occupied some 800 homes. Separating each chemical and symptom from others appears to be a monumental task; given the number of chemicals, synergistic and antagonistic reactions cannot be ruled out. There has never been a comprehensive study done on the health effects purported to have resulted from chemical exposure at Love Canal. And of the less-than-comprehensive studies that have been done, the ones that tried to connect the chemicals to the symptoms (those mentioned above) have, as above, not been accepted by the scientific community.

Many of the early accounts, the accounts that drew the attention of the media to Love Canal, were informal surveys done by the residents themselves. The state and federal government studies mentioned above were among the few governmental studies done. As noted above, Paigen’s results were anecdotal and impossible to interpret statistically; Picciano’s, on chromosomal damage, were uncontrolled. A group of seventeen scientists from the Centers for Disease Control, Brookhaven National Laboratory, and Oak Ridge National Laboratory attempted a follow-up study on chromosome damage in 1983 and found that, if anything, the chromosomes of Love Canal residents were healthier than the norm. As for the miscarriages, those results were taken up specifically by Dr. Nicholas Vianna of the New York State Department of Health:

Efforts to establish a correlation between adverse pregnancy outcomes and evidence of chemical exposure have proven negative. Comprehensive studies of three households with unusually adverse reproductive histories did not produce evidence of unusual risk of chemical exposure...
pregnancy outcomes with chemical evidence of exposure. At present, there is no direct evidence of a cause-effect relationship with chemicals from the canal.21

Meanwhile anecdotal evidence continued to accumulate, including stories of seizures, learning problems, eye and skin irritations, incontinence, abdominal pains, lung cancer, non-Hodgkins lymphoma, and leukemia. In children, birth defects, low birth weight, and hyperactivity were noted. One child born of parents in the area was deaf, had a cleft palate, deformed ears, a hole in the heart, and impaired learning abilities.

Anecdotal evidence, as above, carries little weight in scientific circles. Even if it could be shown that the incidence of such ailments is statistically higher in the Love Canal area than elsewhere, and it has not been, no connection to exposure to chemicals could be shown. But the residents, as may be imagined, dismiss all denials of that type as politically motivated (like the Tobacco Institute’s disclaimers on the link between smoking and cancer), and continue to insist that the New York State Department of Health (DOH) underestimated the health effects of the event. The DOH scientists, for their part, believe that the health effects were overestimated by unqualified independent investigators, and that the second evacuation in 1980 was unnecessary. There seems to be general agreement that the psychological toll on the residents has been immense; for them, any slight physical symptom becomes a cause for serious concern and that is not a pleasant way to live.

5. Legislation

No one disputes that the publicity given to the symptoms reported by the Love Canal residents and to the eventual abandonment of the area was the driving force behind Congress’ enactment of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or “Superfund”), designed to assess liability for hazardous waste sites and to clean them up. By this act the EPA is empowered to sue the owner, or the dumper, for the clean-up costs; if the site is significant, the responsibility for payment is usually settled in court. (The other piece of legislation that controls hazardous waste is the Resource Conservation and Recovery Act [RCRA, 1976, 1984] which requires dumpers to obtain permits and describe how the material is to be treated. It also requires “cradle to grave” reporting of waste, from origin to final disposal. This requirement is generally acknowledged to be unenforceable, given the estimated 750,000 hazardous waste producers and 15,000 hazardous waste carriers.) Is stimulating the EPA’s mandate why the publicity happened?

The actions taken by the EPA in this case are subject to two readings: On the one hand, the EPA is charged with protecting the public from environmental dangers; when evidence came to their attention that an environmental hazard existed at Love Canal in Niagara Falls, New York, it acted appropriately in commissioning studies and in cooperating with state and local agencies in acting on the results of those studies. To be sure, not all the data was in when
they acted, and scientific nitpickers may continue to find flaws in the research designs. However, given that lives were apparently in danger, the results, if only suggestive, were adequate basis for taking appropriate action.

On the other hand, any responsible public agency should have thought long and hard about the “panic factor” in such situations. Any such action is certain to cause fear and injury (if only to property values); why would the EPA gamble on uncertain results? The answer, suggests Hank Cox in *Regulatory Action Network*

may lie in EPA’s awareness of the growing tide of public opinion opposed to excessive regulation and the agency’s desire to deflect political pressure for reform. At the same time it was creating the Love Canal panic, the EPA came out with another report showing that there were an estimated 50,666 hazardous waste sites similar to that in Love Canal around the country, thereby laying the groundwork for [the creation of] a “superfund” to clean up this alleged danger to the American people.22

“We’re EPA’s actions at Love Canal self-serving, simply to stimulate more federal laws, activities, and, most important, budgetary revenues for itself?” wonders Elizabeth Whelan.23 Superfund was a major triumph for an agency worried about its legitimacy. We tend to think of individuals as self-interested and corporations as profit-oriented, but there is a strong sense in which government agencies can be self-interested in much the same way that private parties can be. In government as in business, success is measured not simply by salary or prominence in the press, but also by extent of office space, numbers of secretaries, computers, rugs on the floors, number of staff—in short, by total budget. An agency will stay in business only as long as it finds work to do, dragons to slay, and maidens to save. A fincing that the evil that they are set up to fight is really minimal right now will lead straight to budget cuts and layoffs. The detection of violation is in the hands of those who will prosper if there are violations and who will be cut from the budget if there are none. There is a worrisome bias built into the system: The regulators are acting as judges in their own cause.

6. Liability

Of course there were and are lawsuits against the company involved in Love Canal. Let’s review what a lawsuit would have to establish. Whether brought by public or private party, the kind of negligence that will be alleged requires the establishment of four points: (1) that there was injury (someone got hurt—the plaintiff, generally); (2) that the defendant was under a duty to the plaintiff, which preexisted the injury—either under existing law governing conduct or under the common law duty to exercise “due care” in all actions; (3) that the defendant breached that duty by some act or omission, which act or omission figured in the injury; and (4) that indeed, that act or omission was the proximate (nearest, most immediate) cause of the injury. Accordingly, any defense against charges of negligence will argue that there was no injury; or that
no duty existed between defendant and plaintiff; or that if there was a duty, then there was no breach (i.e., that defendant obeyed the law; was within his rights, and exercised due care in what he did); or finally, that so many other causative factors are present that we could not possibly sort out the defendant's contribution from all the others.

Occidental Chemical, which had bought out Hooker in 1968, argued all of those things, and very cogently. It continued to claim that there were no documented health effects attributable to the leakage of chemicals from Love Canal, beyond the dogs with chemical burns discovered in 1977. Psychological distress counts as an injury, of course—but again, only if the company was the proximate cause of the psychological distress, and the company could argue convincingly that the publicity, not the chemicals, caused that distress. In any case, the situation worsened. Hooker was under no duty of any kind to anyone regarding that site, after the sale (under compulsion of condemnation) of the site to the City of Niagara Falls, especially given the disclaimers in the deed. It is not clear what obligation companies have to people in general regarding the safe disposal of toxic wastes. That obligation is generally determined by the law at the time the wastes are dumped (the 1940s, in this case), added to the general duty of due care, which Occidental claimed was satisfied by the choice of an impermeable clay receptacle and the placement of an impermeable clay cap when the dump was full. The landfill was perfectly secure when they sold it, and they were demonstrating good corporate citizenship by turning it over to the city without a fight and by warning the city's officials about the toxic chemicals buried there. And finally, the act that disseminated the chemicals was the piercing of that clay cap when the school and the neighboring houses were built. When that was done, there was no way to keep water from seeping into the dump. Given that the floor of the canal was impermeable clay, there was no way for it to get out except by overflowing the top—carrying all manner of dissolved chemicals with it, just as Hooker had warned at the time of the sale. Surely, the company argued, whatever happened (and it is not clear that very much did, beyond a feeding frenzy for the press), the company is not to blame for it.

The courts have not seen things Occidental's way. Companies may settle civil lawsuits for many reasons, of course, but when Occidental settled a $20 million suit brought by the residents in 1983 (disbursing payments from $2,000 to $400,000), they must have seen a court decision going against them. And in February 1988, Federal District Court Judge John T. Curtin found Occidental liable under CERCLA for all clean-up and resettlement costs, about $250 million. Encouraged by that result, the State of New York sued Occidental in the fall of 1990, asking another $250 million in punitive damages for “recklessly disregarding public health.” The suit, later settled out of court, was brought despite the clause in the deed from Hooker to the Board of Education that protected Hooker from liability; such clauses are not binding on third parties, like New York State.

The State brought new claims to this trial. In particular, it claimed that the landfill was never secure: That the bottom is actually cracked and permeable,
The next year the decision was reversed again, in May of 1990. Williams K.

7. Restatement

...
Niagara Falls and Chairman of LCARA, predictably, insisted that the houses were perfectly safe; the Natural Resources Defense Council, an advocacy group, predictably, protested that the “EPA has given a narrow, legalistic reading” of the data, and that “Love Canal is a ticking time bomb.” Given that there are more than 200 toxic waste sites within 50 miles of Love Canal, 23 of which were leaking, another activist complained that comparing soil around Love Canal to soil elsewhere in the area is like “comparing rotten oranges to rotten oranges.”

Over the protests of six environmental groups, the LCARA went forward with its plan to sell 70 houses in the summer of 1990, the first 10 to be offered in August. More than 200 people were willing to accept the risk (and stigma) of a house at Love Canal and applied for homes selling between $30,000 and $80,000, about 20 percent below the local current market price. For many of the prospective buyers, generally working class, this sale might be their best or only chance to own their own homes. Besides, as they felt, the hazard may have been overrated in the first place, and if the government says it is safe to move in, that’s probably the best guarantee they’ll get. The advocacy groups’ plea for an injunction was denied by the state court.

II. CONCLUDING REFLECTION

The final phase of the Love Canal clean-up was supposed to occur over a five-year period, while the rehabilitated houses continue to be reoccupied. An incinerator was built to burn the 35,000 cubic yards of dioxin-contaminated soil and sediment that resulted from earlier dredging of creeks and sewers. The residual ash was buried in a newly designed landfill. The cost was in the neighborhood of $30 million, in addition to the amount already spent and the cost of relocating 1,000 families.

Niagara Falls has not fared well in the meantime. The early 1990s saw major entertainment ventures proposed and fail for lack of funding, visionary leadership, honest management, or all three. A series of master plans—the latest relying on state authorization for casino gambling that never came—broke the surface of the waters and disappeared during the last years of the twentieth century, leaving only cynicism and disappointment behind. The last project, now apparently in its death throes, was the Love Canal Museum mentioned at the beginning of the chapter. Nothing yet has worked.

Yet the city has earned its place in history. The influence of the Love Canal story has been considerable. It is responsible for the emergence of popular awareness of the threat of toxic chemicals, the consequent Superfund legislation, and the strengthening of the Resource Conservation and Recovery Act. With that awareness came also increased fear, some justified and much not, that led to the syndrome known as NIMBY—“not in my back yard.” It has become enormously difficult to find an acceptable place to dump toxic wastes.
As a result, we are resorting to increasingly expensive means of disposing of the stuff—a ton of hazardous waste that had cost of $10 to dispose of before Love Canal cost $500 by 1988. As the expense rose, so did the incidence of illegal dumping, which has reached scandalous proportions in some parts of the country.

Ironically, while hazardous wastes are among the environmental issues that have "aroused high emotions, generated reams of reports and prodded Congress to spend billions of dollars . . . scientists rate them at near the bottom of a broad array of environmental threats." The acute health threat posed by hazardous wastes is uncertain, limited, possibly inflated and generally short-lived, compared, for instance, to ozone depletion. We still have no more useful data than we did years ago on how, or whether, small amounts of "toxic" chemicals cause damage to human health. The National Research Council issued a report on October 21, 1991, arguing that the national effort to clean up toxic waste was "hampered by its inability to tell the difference between dumps posing a real threat to human health and those that do not," and we know precious little more today. Cleanup agencies do not know whether or not the dumps are dangerous because they do not know whether the chemicals are dangerous:

Almost nothing is known about the effects on human health of most chemicals found in hazardous waste sites, the study said. Most people exposed to hazardous waste at those sites come in contact with minute amounts of chemicals, but very little is known about how they are affected, it continued. Another gap in the Government's data is that scientists have virtually no idea of the risks posed by two or more chemicals that react in a waste site to form another toxic compound.

Yet clearly exposure to some (most?) chemicals, in high enough amount, causes health problems. The danger must be taken seriously, at some level. If there is danger at all, the greatest long-term threat posed by the wastes may be their migration to ground water, because the seepage will move as a unit, very slowly, and the chemicals are very long-lived and hard to detect, making cleanup very difficult.

The hope that strict regulation would reduce the amount of hazardous waste has not been realized. Figures on waste disposal are hard to come by, but with 70,000 chemicals in daily use and 500 to 1,000 new ones added each year, it is safe to assume that the 1983 figure of 266 million tons of waste per year is much higher now.

What, then, is the legacy of Love Canal? It will not be completely known for years. On the positive side, the increase in difficulty and costs of disposal have brought the hazardous waste generation issue full circle to source reduction. Industries are finding that by recycling and changing some procedures, they can reduce their waste considerably and save significant dollars. One EPA study showed that of twenty-eight firms investing in waste reduction techniques, 54 percent recovered their investment in less than one year, and 21 percent more in less than two years. As with many other environmental
issues, the encouragement of the positive effects depends upon the negative: The fear of another Love Canal propels communities to prohibit disposal of toxic wastes except at ridiculous cost; the cost makes it profitable for industry to experiment with new and costlier methods of manufacture that eliminate the production of that waste; and the overall result is a cleaner industry.

On the other hand, some of the results of that fear are clearly undesirable. There are unrealistic and counterproductive requirements for the handling of any land found stained with toxins—like the requirement that all hazardous wastes found on any building site must be cleared away, transported to a disposal site, and burned, before the title can be cleared and building can begin. That particular rule results only in more hazard, as the exposed, exhumed, and transported waste is picked up by wind or rain in transit and disseminated more widely than it ever would have been if it had been left alone. And there is the NIMBY syndrome, which makes all municipal efforts to dispose safely of toxic wastes very difficult, probably for no cause at all. There is the stigma of “chemicals” and the reinforced tendency to accept any fearfulness as gospel truth, any reassurance as political coverup. All of these, especially that last, will make it difficult to adapt to the necessities of handling toxic wastes.

QUESTIONS FOR REFLECTION

1. How should we assess blame, or accountability for action, in general? How should we assess blame for unforeseen events in particular? What constellation of factors suggests that the company—or some company—ought to take the blame (and pay the price) for Love Canal? What constellation of factors suggests that the public, in the form of the city of Niagara Falls (or New York State) ought to take the blame and pay the price for the cleanup?

2. Now that you have read the chapter, what do you think risk is? What kinds of risk are acceptable, and why? What kinds are not? How much of our notion of “acceptable risk” derives from scientific probability (the probability, assessed by experts, of incurring damage of a certain magnitude), and how much derives from voluntariness (my willingness to accept that risk, whatever it may be, as a condition for doing or having something that I want)? Compare the case of the rock climber, who voluntarily undertakes to engage in objectively very risky activity, and the case of the homeowner near Love Canal.

3. Ordinarily we assume that the community (or state, government, or society) will protect us from certain risks, through measures such as the criminalization of provision of certain drugs or the placement of guard rails on mountain roads. How far should this protection extend? What values other than physical safety determine the limits of protection?

4. Is there a sense in which society as a whole (as opposed to any individual or individuals) can voluntarily assume a risk—for instance, for a whole new technology, like gene splicing (or, in this case, for the petrochemical industry)?
5. Now that you have read the chapter, what do you think of the role of the mass media in all of the events of Love Canal? Can we make sense of general duties owed to the society by the press? Were they fulfilled or breached in this case?

6. Is Superfund doing its job? On July 1, 2002, President George W. Bush announced that funding for the cleanup of toxic sites like Love Canal would be drastically cut. What had the "Superfund" accomplished in its history (which dates to the events described in this chapter)?

7. What was the role of government agencies (local, state, and federal) in the incidents at Love Canal? Is there any way of discerning, and preventing, the pursuit of "self-interest" by government agencies? How might agency self-interest have operated in these incidents?

8. How can corporations prepare themselves for the consequences of dealing with toxic substances?

Was there anything else that Occidental could have done to prevent the fallout from Love Canal?

9. What are the values in dispute in the case of Love Canal? What are their limitations? How can we read into the equation, and compare

- The property values of the owners
- The health of the residents
- The public image of the town
- The preservation of contractual agreements
- The health of the ecosystem
- The integrity of the local aquifers

Was there, in all this, a duty not to pollute, or otherwise hurt the soil, for the sake of the soil itself, in advance of legislation on the subject? If so, why? To what or whom was that duty owed?

10. Who should pay for the cleanups, now and in the future? Who was really responsible for the leaking chemicals and/or for the rest of what happened?

SUGGESTIONS FOR FURTHER READING


ENDNOTES


7. Olefins are compounds consisting of carbon chains in which some of the carbon atoms are connected by double bonds, i.e., they have room for more hydrogen atoms and are therefore called unsaturated.


10. Ibid., p. 15.


12. Ibid.

13. In the summer of 2002, President George W. Bush cut federal funds to the cleanup effort, reducing by thirty-three the number of sites slated for cleanup.


23. Whelan, op. cit., p. 99. For further discussion of Superfund, see Chapter 9, of this text, “What Responsibilities Do We Have for Foreign Management?”


25. Ibid.

26. Ibid.


35. Schneider, loc. cit.
37. Ibid.
38. Postel, op. cit.