

THE TOWN IDILEMMA

BY DON JORDAN

Discharging a duty



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WHEN WESTINGHOUSE ELECTRIC CORPORATION opened a large manufacturing plant on the edge of Bloomington in 1957, fathers and businessmen hailed the event and welcomed 800 salaries to the local economy. Today, the 65,000 residents of the southern Indiana city, 50 miles south of Indianapolis, are pulling in the weeds as city, state, and corporate attorneys do battle amid charges of scandal, cover-up, and environmental blackmail.

Nearly 40 miles of river and stream have been posted with signs warning fishermen that fish in those waters are unfit for human consumption. Farmlands have been poisoned, and livestock as well as crops have been contaminated. Food-chain contamination combined with polluted water and air has brought toxic polychlorinated biphenyls (PCBs) to the bodies of the local citizenry, and Westinghouse is the identified corporate polluter.

Four landfills where Westinghouse dumped tons of contaminated solid wastes between 1968 and 1972 have been identified as sources of PCBs leaching into watersheds for 40 miles around Bloomington. Storm-water runoff from outdoor facilities at the Westinghouse brings PCBs to another stream. Industrial discharges from the Westinghouse plant to the Bloomington city sewer system have produced widespread problems.

PCBs are a class of colorless and tasteless chlorinated hydrocarbons similar to the pesticide DDT. Highly resistant to heat, PCBs can be destroyed by incineration at 2,400 degrees F. They have been used in a wide range of products since their introduction in 1929 by the sole U.S. producer, Monsanto.

Until 1971, when Monsanto halted sales to all customers except those using them in "closed systems," PCBs were used in hydraulic brake fluids, ironing-board covers, adhesives and plasticizers, waxes for investment casting, carbonless carbon paper, printer's ink, photocopier toner, soaps, and a vast array of electrical component parts. Use has been so widespread that PCBs have been identified in snow at the North Pole and in fish taken from the Yukon River. Nearly 1,000 samples tested in national monitoring programs has shown PCBs in 1,500 cases. PCBs have been found in human milk from mothers in both the U.S. and Canada.

INDIANA STATE BOARD
OF HEALTH HAS DETER-
MINED THAT FISH TAKEN
FROM THESE WATERS ARE
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CONSUMPTION.

MONROE AND LAWRENCE COUNTY
HEALTH DEPARTMENTS

DATE POSTED _____

The chemicals are to be banned en-
tirely by 1979, under terms of the
recently signed Federal Toxic Sub-
stances Control Act, because of their
adverse effects on human and environ-
mental health and their widespread
presence in the environment. Both gov-
ernment and private industry studies
have labeled PCBs as carcinogenic, and
experiments with laboratory animals
have recorded stillbirths, miscarriages,
and various metabolic disorders.

Use in "Closed Systems"

As a manufacturer of power capacitors
for the world electric power industry,
Westinghouse's Bloomington plant uses
between one million and two million
pounds of PCBs each year. Capacitors
are considered a "closed system" and
PCBs are used inside them as a "dielec-
tric insulating fluid" as protection
against electrical shorts and fire.
Perched atop power-line poles or in-
stalled in transformer "parks," capac-
itors made by Westinghouse and other
companies provide for more efficient
transmission of electricity by smooth-
ing out the flow of the current. Sealed
inside capacitors, PCBs are an ideal
product, but the same characteristic
that makes them fire-resistant and
therefore perfect for electrical applica-
tions also makes them persistent envi-
ronmental contaminants.

What is unfortunate for southern
Indiana is the demonstrated fact that
Bloomington's Westinghouse plant is
not a closed system. Monitoring by the
U.S. Environmental Protection Agency
(EPA), the Indiana State Board of
Health, and the Bloomington utility
department has identified PCBs in air
discharges from the plant, in storm-
water run off from outdoor receiving
and handling areas, and in discharges
to the city sewer system at a rate of
one to eight pounds a day.

These sewage discharges have stimu-
lated the most concern in Blooming-
ton, since both the treatment plant's
final effluent and sewage sludge serve

Signs such as this one posted at Salt Creek
warn of economic devastation for surrounding
areas which depend on recreation and use of
the riparian and other areas for their
livelihood.

as primary carriers of PCBs to the local environment. Westinghouse has never denied discharging PCBs, but the company has not volunteered any information to the city utilities department until just before the November 1975 EPA national conference on PCBs held in Chicago. Until that time Westinghouse had told utilities officials in Bloomington only of using a "dielectric insulating fluid."

"I didn't know what a dielectric insulating fluid was," explained city chemist Rick Peoples, who later was the first to identify PCBs in the company's sewage effluent.

Before November 1975, when city utilities officials first discovered PCB discharges to their sewer lines, there was no problem in giving away nutrient-rich sludge (a by-product of sewage-treatment processes) to area farmers and gardeners, who eagerly applied it to agricultural lands as fertilizer.

"I waited a long time, checking to see if it was safe," said 27-year-old Ron Bell, a self-sufficient farmer and furniture-maker whose family's lifestyle was depicted in a March 1976 *National Geographic* article on southern Indiana's self-reliant hill dwellers. "We asked about heavy metals and other pollutants, but nobody knew about PCBs."

Nell, a borrowed a dump truck and hauled 100 tons of sludge to his four-acre parcel of land, applied it to the family garden and cow pasture, and watered the green results. The sludge was "supposed to contain 100 parts per million of copper and PCBs. The dairy cow, Blossom, who grazed on the treated pasture, gave milk contaminated with 5 ppm PCBs—above the U.S. Food and Drug Administration's (FDA) 2.5 ppm PCB tolerance level in milk. That level and those for other food items are now under FDA review with an eye towards revving them downward.

Nell calculated that he, his wife Sara, and their three-year-old daughter Rachel consumed 85 gallons of milk from the cow, solved their problem. The cows drank the cow abounded their large garden and saw their lifestyle collapse in the process. In-

able to produce goods for either consumption or barter.

"I don't feel we can live here any more," said a tearful Sara as the family began searching for a new farm, ready to leave the two-story log home that her husband had built over a three-year period. "I'm not so concerned about what the PCBs are going to do to me, but I have a three-year-old daughter, and I feel they're going to affect her," she added.

PCBs in Food and Water

Only a small percentage of the nearly 3,000 tons of sludge given away since Westinghouse opened in 1957 has been located, but a few gardeners who used the sludge found that their vegetables had also picked up the toxic chemicals. Beets picked up 0.6 ppm PCBs when grown in soil containing 4 ppm PCBs. Grass clipped from a field with 8.5 ppm in the soil tested at 1.16 ppm PCBs and rhubarb grown in the same soil tested at 0.25 ppm PCBs were also found in carrots, onions, and lettuce and in ground beet from cattle which grazed on contaminated lands. There are no FDA levels for PCBs in plants.

Not all of Westinghouse's PCBs settle into sewage sludge at the city treatment plant. Testing of the city's effluent in early 1976 revealed between 19 and 47 parts per billion (ppb) PCBs flowing into Clear Creek. Creek water immediately below the plant's effluent contained 19 ppb, while water upstream was free of contamination.

A few miles downstream from the sewage plant, soil from a creek-bottom pasture tested at 18 ppm PCBs. The

In Bloomington, Indiana, food-chain contamination combined with polluted water and air has brought toxic PCBs to the bodies of the local citizenry.

farmer, Leo Haganman, has had continual problems with his cattle. They not gain weight, and one calf is born on the farm in 1973 without opening its eyes. "The vet said he'd never seen anything like it," said Haganman. PCB had been deposited on the Haganman pasture by flooding creek waters.

Thirteen miles south of the sewage plant (see map), Clear Creek flows into Salt Creek, a larger stream which serves as a drinking-water supply for the small limestone-mining town of Bedford, twenty miles south of Bloomington. PCBs have been found suspended at a concentration of 0.5 ppb in Salt Creek water near the town's drinking water intake. The EPA has considered a water-quality standard of 1 part per billion (ppb), because of the ability of fish to bioaccumulate PCBs at a rate 270,000 times the amount of PCBs in their habitats. According to the EPA Office of Toxic Substances, recent research indicates that some species can bioaccumulate up to 1,000,000 times the amount suspended in water. Thus, PCB values in the Salt Creek water near Bedford's drinking-water intake already are 500 times greater than this proposed standard.

Bedford's other source of drinking water is the East Fork of White River, a tributary of the Ohio River. White River receives flow from Salt Creek, but only "nondetectable" levels (below 0.1 ppb) of PCBs have been found in the river. Both the state board of health and the EPA have upgraded the town's water as safe to drink.

But Mary Nettekoven of the EPA Western Field Toxicology Station in Eugene, Oregon, says his experiments prove there is no safe level of PCBs as far as fish are concerned. Fish in Clear Creek, Salt Creek, and the East Fork of White River are highly contaminated. In Clear Creek, fish have accumulated up to 334 ppm PCBs, 66 times the FDA's tolerance level of 5 ppm. Largemouth bass in Salt Creek average 59 ppm, and bluegills from the East Fork of White River tested 17 ppm.

When signs went up about the streams and the river last spring, saying that the fish are unfit for consum-

IN THE APRAISALS OF THE WATERBURY 1982

STATUS OF PCB HEARING

James Karen, hearing officer in the Indiana Pollution Control Commission, deflated by the barrage of objections and arguments offered by Westinghouse, asked Indiana Assistant Attorney General Michael Schaefer in mid-December 1976: "Where are these hearings going?"

Schaefer, confounded by the question, reminded Karen of his opening statement of September 30, and pointed out that most of the hearing time has been devoted to cross-examination of state witnesses and Westinghouse objections. Schaefer also observed that his prediction of a one-week hearing was a gross understatement.

Although the hearing began in Bloomington, public interest waned, and Karen transferred the hearing site to Indianapolis, where testimony has been heard since November 1976.

A class action citizen lawsuit filed by Bloomington attorney Guy Loftman against Westinghouse and Monsanto on behalf of residents directly affected by contamination has been venued to another county at Westinghouse's request. The company has also taken legal steps to bring the city into this lawsuit as a codefendant, because it is the city's sewage effluent that carries PCBs to Clear Creek and the city's sludge that has brought PCBs to agricultural lands.

Even though the EPA measured airborne discharges from Westinghouse in the spring of 1976 and required installation of airborne emission control equipment, there has been no subsequent effort to track these PCBs. No fish sampling has been initiated in streams adjacent to leaching landfills, and despite conflicting reports on PCB levels in fish from Monroe Reservoir just south of Bloomington, no further sampling has followed. The reservoir is the state's largest, and millions of dollars (both private and public) have been invested there in recreational projects. The reservoir is also Bloomington's primary drinking water supply.

Westinghouse installed a solvent washing device to hot PCB sludges to the city sewer system in December 1976, and effluent levels from the plant have dropped. Residues in sewer lines, however, still bring about one pound of PCBs a day to the city sewage treatment plant.

Westinghouse also commissioned a Chicago engineering firm to study ways to dispose of the contaminated sludge. This report advised landfilling in clay-lined "scientific" pits. Although the report has been sent to state environmental health assistant commissioner Ralph Pickard, no public response has occurred.

Meanwhile, the elections of last November seemed to produce public support for Westinghouse's position. State Representative Anthony Pizzo, who characterized the Westinghouse "educa-

tional seminar" on PCBs as a "whitewash" and later threatened to modify state laws concerning PCBs, was defeated in his reelection bid. Republican Governor Otis Bowen was returned to office in a landslide, as was U.S. Congressman John Myers, who was one of a handful of congressmen to vote against passage of the Toxic Substances Control Act.

Thomas Middleton, the physician who compared PCBs with vitamin E, was elected president of the city council in December after voting to eliminate funds for the city environmental commission.

David Dilcher, a paleobotanist and utility board member who suggested a symposium for Westinghouse, was removed from the board in early January and replaced by a construction company owner.

As required by the EPA, Westinghouse has applied for a National Pollution Discharge Elimination System permit covering storm-water drainage from the plant into a nearby stream. The company has roofed outside receiving and storage areas.

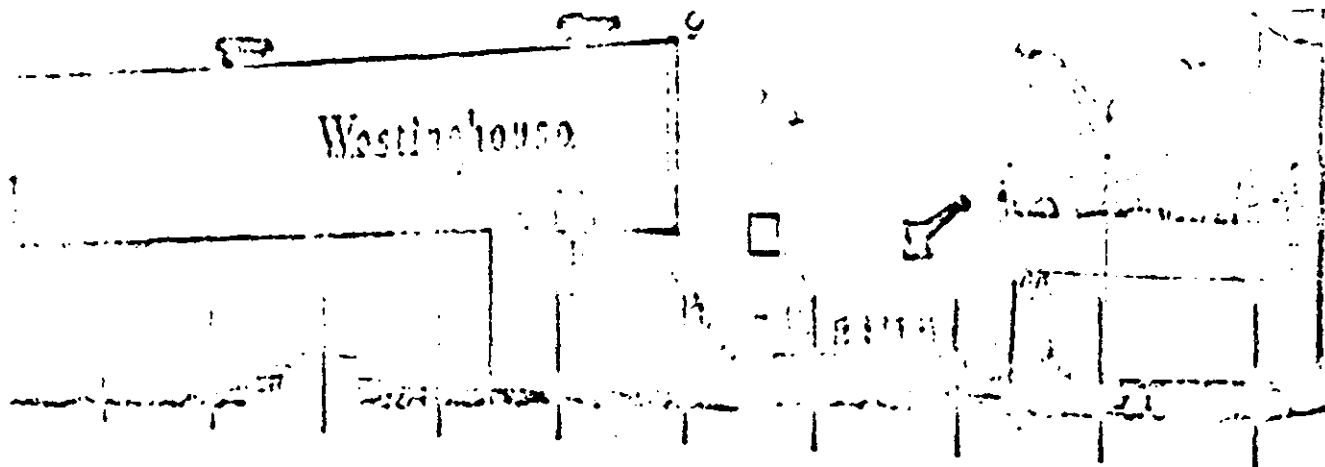
In another Indiana PCB-pollution episode not involving Westinghouse, several Indiana dairyfarmers were forced to dump contaminated milk during 1976. State pesticide-monitoring dating back to 1971 has identified excessive PCB levels (up to four times higher than the FDA's "action" level for milk) in milk sold to commercial creameries throughout the state. No state or federal action was taken to keep this milk off the market until the matter became public knowledge.

According to H. H. Vaux, director of the board of health's bureau of food and drugs, the milk was contaminated after cows ate silage stored in silos sealed with a paint containing PCBs. Vaux also explained the state's reasoning for not stopping the sale of contaminated milk. He said the contaminated milk, when mixed with uncontaminated milk at the creameries, was diluted to levels below the FDA's 2.5-ppm action level. As public interest dwindled in late 1976, the state quietly lifted bans on milk from some of the affected farms. According to the state, cattle removed from contaminated food sources gradually eliminated PCBs from their systems, and the levels in milk dropped to below 2.5 ppm. A bill has now been introduced in the state legislature to provide public funds for relief of these farmers.

Finally, the pressures of pollution and public controversy proved too much for sludge-users Ron and Sara Nehrig. Their farm poisoned and lifestyle destroyed, the Nehrigs have separated. They have found a buyer for their hand-built two-story log home.

Westinghouse is scheduled to begin presenting its case sometime in January 1977, but several state and local witnesses are still waiting for their turn on the witness stand.

D. J.



Randall Heyman

near Buffalo, New York. In reviewing the state's actions, Bloomington Sierra Club President Dennis Falck joined the Audubon Society's Restle in describing the state's reluctance, and he dubbed the entire affair the "PCB scandal."

Conflicting Local Interests

Bloomington, the home of Indiana University, consists of a minority of leftist political radicals and environmental activists in the midst of a conservative majority of school Republican Hoosiers. There are no less than five active local environmental organizations, with university students and faculty members serving as the primary membership base. As a college town, very few towns or cities in the local populace is more conservative. Republican Congressman John Myers was returned to Washington in the November 1976 elections after voting against passage of the Toxic Substances Control Act that banned PCBs.

Surrounded by state parks and forests, the sprawling Hoosier National Forest, and a 10,000-acre U.S. Army Corps of Engineers reservoir, Bloomington is also the focal point of outdoor recreation for millions of midwesterners. Only a handful of industries have located in Bloomington, and they are highly valued by local businessmen.

Thus, as one of these valued corporate citizens, Westinghouse weathered the adverse publicity brought on by the scandal but decided to convene an "educational seminar" on PCBs in April 1976.

The seminar was divided into two sessions—one for the press and another for state and local government officials. Plant Manager Donald Sauter explained the separate sessions as a measure designed to forestall "changing the direction of the seminar" by reporters who might ask questions of government officials instead of Westinghouse executives. Those executives told of past attempts to control discharges to the city sewers and of changing to a "more biodegradable" Monsanto product in mid-1971.

Westinghouse argued that the fluid Aroclor 1016 is more "moderately" and less environmentally destructive than earlier Aroclors because of a lower chlorine content. Before introduction of Aroclor 1016, Monsanto had used a numerical system to relay information of chlorine content in their PCB mixtures (see also "PCBs in the Environment," *Environment*, March 1976). The last two numbers of the four-digit identification system tell the percentage of chlorine. The first two numbers signify the double benzene ring, or biphenyl structure. Thus,

Aroclor 1242 is a biphenyl compound containing 42 percent chlorine. Aroclor 1248 is 48 percent chlorine. The same system applies to Aroclor 1221, 1232, 1254, and 1260. Yet, Aroclor 1016, introduced when information on the health hazards associated with PCBs was published, is not 10 percent chlorine as the old system would imply; its chlorine content is 41.5 percent.

The EPA has disputed Monsanto's and Westinghouse's claims of safety for Aroclor 1016. Research chemists refer to it as Aroclor 1241.3, and the EPA has stated flatly, "Aroclor 1016 and Aroclor 1242 are similar in toxicity."

Westinghouse admitted that some Bloomington workers developed "dermatitis" when exposed to PCBs but claimed the same workers suffered similar problems when working with machine oil. Corporate attorney Roger Wills from the company's Pittsburgh offices denied that these dermatitis cases were similar to an acne-like skin eruption suffered by several hundred Japanese poisoned by PCBs in 1968 (the so-called "Yusho" disease).

Plant Manager Sauter demonstrated his confidence in Aroclor 1016 by washing his hands in the fluid for reporters and proclaimed there was no area of his plant where he would be afraid of sending his children to for his life. Wills also announced during

the seminar that Westinghouse would be unable to install abatement devices by September 30, 1976, as had been "suggested" by state health authorities.

Controversy Deepens

The seminar succeeded in polarizing the populace and stimulating an incredible public controversy. Anthony Pizzo, a state representative from Bloomington, attended the seminar and characterized it as a "whitewash." Pizzo, ironically, had been a sponsor of Indiana's "PCB ban" which passed the state legislature during its 1975-1976 session. PCBs used as a dielectric insulating fluid in capacitors and transformers are specifically exempted from the ban. Westinghouse is the only such user in the state, according to Monsanto.

Bloomington Prosecuting Attorney Barry Brown sent an investigative assistant to attend the seminar, but the assistant was refused admittance.

"I don't believe their actions speak very well for their intentions," said Brown. "I don't think their priorities are ordered properly for this community. We need to bring this problem to a larger public forum, outside the controlled atmosphere of Westinghouse."

The local newspaper came to Westinghouse's defense, calling Brown's reaction a "knee jerk" and criticizing Pizzo for being "closed-minded." Seventy-three local businessmen purchased a half-page newspaper ad headlined, "Thank You Westinghouse." Special thanks was offered for \$800,000 in state and local taxes paid, \$2,250,000 in state and local taxes paid, and \$213,000 in donations to the local United Fund.

Then came revelations that the Occupational Health and Safety Administration has cited Westinghouse for violations of air quality regulations inside the plant. Westinghouse announced it would contest the citation. When a team of investigators from the National Institute for Occupational Safety and Health (NIOSH) visited the plant, Westinghouse refused them entrance until company industrial hygienists could accompany the investigators.

As the state's policy of silence con-

PCBs are to be banned entirely by 1979, under terms of the recently signed federal Toxic Substances Control Act, because of their adverse effects on human and environmental health and their widespread presence in the environment.

tinued, the EPA announced several recommendations for abatement of PCBs. Discharges into air, storm-water drainage, and runoff into the sewers were to be halted by the end of 1976, said the EPA. Plant Manager Sauter went to the city utilities board to announce that Westinghouse would comply with the EPA recommendations but stalled when asked to pay for sludge removal. Sludge at the city treatment plant has been accumulating at the rate of seventeen tons a month since November 1975.

Workers at the sewage plant, worried about exposure to contaminated sewage and sludge, asked for medical examinations. Tissue samples tested by the WARI Institute of Madison, Wisconsin, were reviewed by the Center for Disease Control (CDC), of the U.S. Public Health Service. PCBs were found in all eight workers. Two men who had previously worked at Westinghouse tested at 10.4 and 10.1 ppm (lipid basis). The other six averaged 6 ppm. According to Renate Kimbrough of the CDC, the workers' levels were higher than levels found in a national monitoring survey. Of 637 tissue samples tested in the national program, only 5 percent contained more than 2 ppm PCBs.

Westinghouse has made much of the fact that the PCBs found in these workers were not reported as Aroclor 1016; however, current EPA-sponsored research indicates Aroclor fluids containing high percentages of tetrachlorobiphenyl and other lower homologs metabolize quickly to take on appear-

ance of different Aroclor fluids.

Instead of offering to finance removal of the sludge, Westinghouse made a bizarre offer to control "other sources" of PCBs in the community. Barrels would be provided for citizens to use for disposing of old air conditioners, television sets, and brake fluid from service stations. If the city would pay a disposal fee of \$50 per barrel, offered Sauter, Westinghouse would haul the barrels to the New York State landfill. "We ought to be concentrating our attention on these other sources," said Sauter, ignoring state and federal monitoring of the city's sewer line which showed Westinghouse as the primary source of PCB pollution.

Westinghouse vs. the City

Bloomington Mayor Frank McCoskey announced a private conversation with Sauter and praised the company's abatement plans. Later, the mayor changed his position as public outcry descended on city hall.

Faced with continued discharge to the sewers, lawsuits filed by affected local residents, and a growing mountain of sludge, the city utilities department scheduled a public hearing at the end of June. City attorneys reinforced the board of an ordinance prohibiting discharge of any material to the sewer that interferes with the treatment process. The board made the order that the sludge, dubbed "Mount Westinghouse" by treatment-plant workers, was ample proof of such interference. "They've had a symposium for us; we ought to have one for them," board member David Dierker, a city professor specializing in plants, said.

The mayor promised Westinghouse that no disconnection order would be issued, but the company wanted insurance. Two days before the public hearing on the ordinance, Plant Manager Sauter called his employees into the company yard and warned them of an immediate layoff of 300 workers if the city invoked the ordinance and forced disconnection from the sewers.

At least 300 workers packed the hall to the hearing. Several noted that Westinghouse was a "dirty con-

pany and reported that nobody at the plant suffered from PCB poisoning. A union representative from the International Brotherhood of Electrical Workers warned against invoking the ordinance, claiming the city would get a bad name and new industries would not move to Bloomington. The Sierra Club charged Westinghouse with "environmental blackmail" for the tactic.

Thomas Middleton, a pediatrician and chairman of the local board of health as well as a Republican city councilman, came to the company's defense. Middleton compared PCBs with vitamin E, claiming both were merely "food adulterants" which could be either good or bad for human health. He also attacked existing scientific research, claiming, "Nobody can prove what happens when a PCB strikes human tissue." The physician also announced a study of the local populace to be funded by a "private philanthropic foundation," but the study never materialized.

Meeting two days after the hearing, the city utilities board invoked the ordinance but abandoned previous

zero-discharge aims and added language to their order permitting continued PCB discharges to the sewers at whatever level Westinghouse was able to achieve through installation and operation of abatement devices by December 1, 1976.

Yet Another Hearing

Prosecutor Brown made good his vow to take legal action and joined with county sanitarian Raymond Schneider in submitting a "notice to file an environmental lawsuit" against Westinghouse—a cumbersome procedure required under Indiana environmental law and designed to stall "trivial" lawsuits. The notice required the Indiana State Board of Health to convene public hearings and "communicate with the people of Bloomington as to PCBs." Jurisdiction for the required hearing falls under the broad responsibilities of the Indiana Environmental Management Board (IEMB)—a group of appointed state agency chiefs and private citizens, including the commissioner of the state board of health.

Indiana Attorney General Theodore Sendak scheduled the hearing for mid-August 1976, but his assistants asked for and were granted a postponement while attempting to achieve a settlement among Westinghouse, the city of Bloomington, the Indiana Public Interest Research Group, prosecutor Brown, a prosecuting attorney from Bedford, and a local citizen-action group led and organized by Sierra Club members. When charges of a "sell-out" appeared in letters to the local newspaper and charges of a lack of concern on the part of Governor Otis Bowen (a physician) came from his Democrat challenger for the office, Larry Conrad, Sendak immediately asked for a new hearing date. Involved in a close reelection campaign at the time, Sendak disavowed any knowledge of his office's previous settlement attempt. Westinghouse countered with a settlement offer encompassing the expenditure of \$150,000 for installation of abatement equipment but not addressing questions of environmental damages and clean-up costs.

The IEMB promptly rejected the offer but also rejected motions by Brown and the Sierra Club seeking a new hearing officer. Brown and the Sierrans argued that hearing officer Joseph Karen, a state board of health attorney, was unlikely to issue findings of fact holding his superiors responsible for negligence. Also rejected was a Sierra Club motion to place jurisdiction for the hearing in the hands of a disinterested party, as had been done in New York State's General Electric PCB contamination situation on the Hudson River. The Sierrans argued that the IEMB, with state board of health commissioner William Paynter a voting member, was hardly impartial.

The hearing got under way on September 30, 1976, in the basement of Bloomington church, and Westinghouse lawyers began a series of tactical maneuvers. The company's four attorneys asked that television cameras be removed and that the entire proceedings

Bloomington's sewage treatment plant. The first effluent and sludge were the main carriers of PCBs to the local environment.

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Before PCB discharges were discovered in Bloomington's sewer lines, there was no problem in giving away nutrient-rich sewage sludge for use as agricultural fertilizers.

be dismissed because the LMB lacked authority to hear the case. Both motions were denied, and an atmosphere of confusion enveloped the hearing.

Aimed at determining the extent of contamination and addressing problems of clean-up responsibility, the hearing was also designed to be a vehicle to establish whether PCBs are a hazardous chemical. As state witnesses were called to testify, Westinghouse attorney Joseph Carney, retained for the duration from an Indianapolis law firm, objected to any questions concerning events prior to passage of the state's environmental laws in 1972 and claimed Westinghouse could not be held responsible for discharging PCBs into "the waters of Indiana." Carney argued that the company discharges to the city sewer system, not to the waters of Indiana. His objections were overruled by Karen, and Assistant Attorney General Michael Schaefer called his first witness, Westinghouse's Sauter.

The plant manager, under questioning by the state attorney and prosecutor Brown, calmly testified that Westinghouse was aware of "possible" health hazards associated with PCBs in 1970. He added that discharges to the sewers were recognized in 1971 and that the company had found PCBs in fish from area streams the same year. He added that no state or local health authorities were notified of the fish contamination and that the sewer discharges were never mentioned because he did not consider those discharges as "waste."

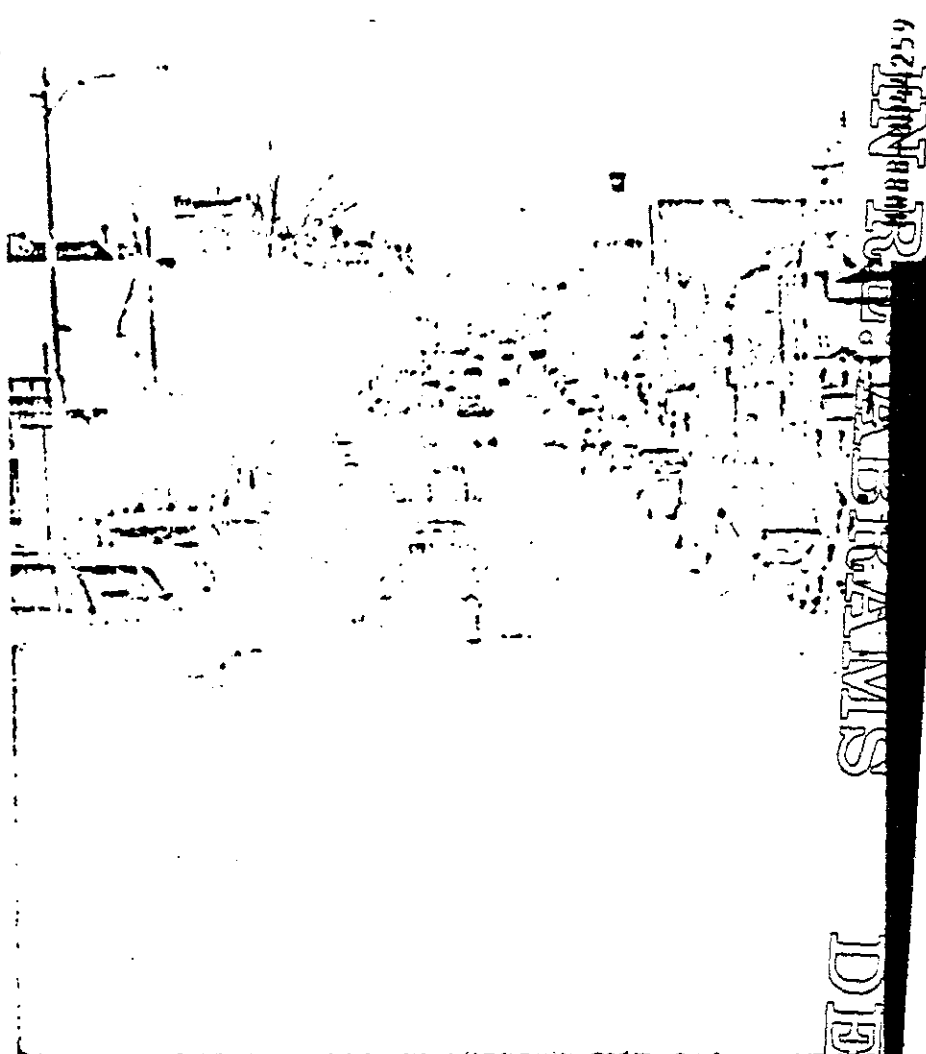
State board of health chemist John Feld, called to establish monitoring

data for the record, was laboriously cross-examined by Carney. The attorney repeated technical questions again and again. Carney asked if Feld had ever "seen" a PCB and dwelt upon Feld's gas chromatograph techniques, wondering what each peak on the testing device's graph meant. After two full days of such tedious questioning, Feld cried, "Your question doesn't make any sense!" He was driven from the witness stand, finally despairing, "I'm sick. I can't go on. There's no telling what I might say." Feld later returned to the witness stand for three more days of cross-examination. At one point, Carney challenged the use of a standard chemical reference book noted in the testimony. Since the chemist had not written the book, rea-

sioned Carney, his testimony concerning what the book said was hearsay.

Prosecutor Brown, in his opening statement, said, "This hearing will answer whether or not a corporate citizen is willing to assume its responsibilities for the unwanted presence of PCBs in our communities."

Attorney Steve Richardson, representing the city (Bloomington is a respondent in the case along with Westinghouse because the city sewage plant's effluent and sludge have served as primary carriers of PCBs to the environment), noted that PCB residues level at up to 1,000 ppm have been found in sewer line between Westinghouse and the sewage plant and expected to contaminate sewage



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17 street in Bloomington, Indiana.

after Westinghouse stopped all discharges. Replacement of the sewer lines, which is being considered as a last resort, has been estimated to cost between \$3 million and \$4 million. PCBs in stream sediment pose a more difficult problem. Sophisticated "vacuum cleaners" may be used to remove this contaminated sediment at a cost of up to \$20 million. If the state decides this method is feasible. Landfills are to be reworked at an as-yet-unknown cost.

Renate Kimbrough and Clark Heath, doctors from the U.S. Public Health Service, visited Bloomington in September 1976, at the request of the mayor, to initiate a long-term disease study of the population. A major blood-sampling program was announced in January 1977. County cancer statistics will provide a base for this study, too. Since 1965, when the local health department began keeping statistics, the number of cancer-caused deaths has risen by 64 percent. During that same period, the population increased by 40 percent.

Monsanto will stop production of PCBs in 1977, and Westinghouse has announced it will use up existing stocks and then switch to a new fluid called WEMCOI. The company describes this fluid as an "isopropyl biphenyl." It is manufactured by Sun Oil Company and has also been referred to as "S-1" by Westinghouse. According to the company, WEMCOI is another biphenyl compound but has an alkylating agent (CH₃) attached to the benzene rings instead of chlorine. Westinghouse claims the fluid is safe but the EPA has yet to pass judgement on it.

Although hearing officer Karen and Assistant Attorney General Schaefer both predicted the hearing would be completed in one week, the state was still presenting its case in mid-January. Pressured to cut costs and shorten the hearing, Karen has ordered all future testimony submitted in written form. Attorneys on all sides have objected to this procedure, and the EPA has been asked to decide the question.

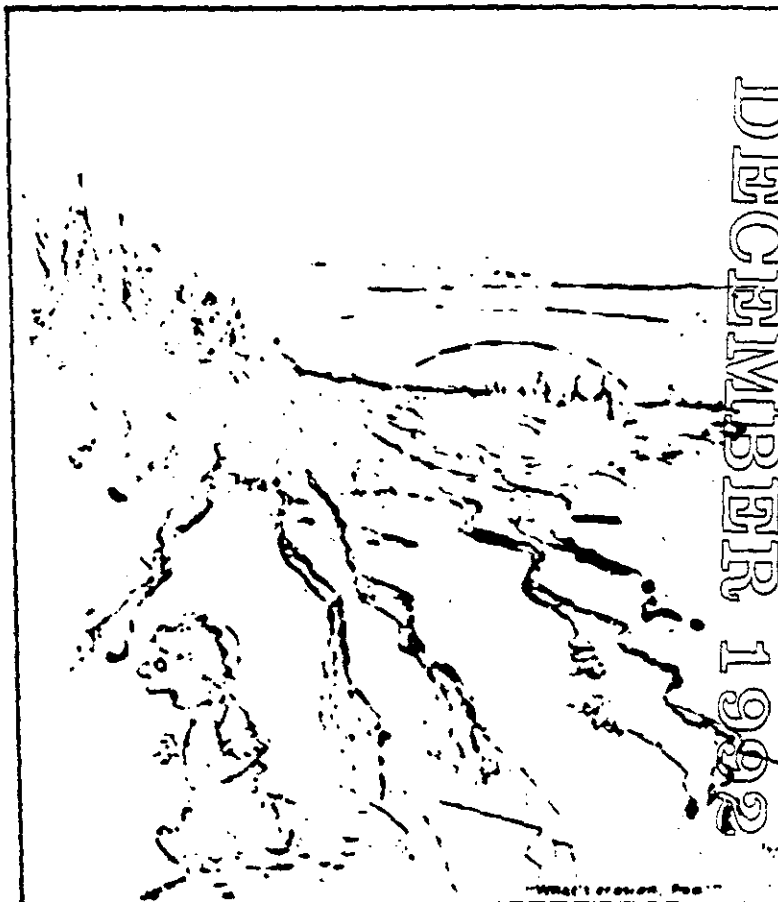
James Allen, whose PCB experiments on rhesus monkeys at the University of Wisconsin have been discussed during the hearing, marveled at the Indiana-Westinghouse hearing. Comparing the Indiana hearing with 1976 EPA hearings on PCBs in which he also testified, Allen observed there were "not nearly so many objections" in Washington, D.C., from the corporations involved.

Westinghouse attorney Carney had explained the company's position in his opening statement on September 30. "We think the facts will show Westinghouse has been in compliance with environmental regulations of the state. Bloomington has a problem, but it must not think it is unique, must not think it is unusual. Since we are all enjoying the benefit of PCBs, these are problems we must share."

The public attitude in Bloomington is cynical. As expressed by sludge-user Ron Nehma, whose wife has accumulated over 4 ppm PCBs in her body:

Carney argued that the company discharges to the city sewer system, not to the waters of Indiana.

"I am concerned by the implications of what we have done, not only from the health aspect but from a legal aspect. It is looking more and more as though only large cities have rights that are protected, while the rights of individuals are ignored. Government has been moving over backwards for years protecting industry, while in those same years individuals and communities are losing, and, indeed, the health of the entire planet is in danger from the careless dumping of toxic materials into the home of mankind."



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