

Hudson River fisherman may sue GE over toxic discharge that made their grounds off limits.

POLLUTION CONTROL

GE spawns a fish furor

Polychlorinated biphenyls, a group of chemicals that is suspected of causing a host of human illnesses ranging from dermatitis to cancer, have taken their first clearly economic toll. Last week Ogden Reid, New York State's environmental conservation commissioner, placed the Hudson River off limits to most commercial fishing, saying that the buildup of PCBs in the fish makes them unsafe for human consumption. Mounting evidence of PCB contamination of fish caught elsewhere in the country raises the specter of a wider economic impact.

Although neither environmental groups nor the Hudson River Fishermen's Assn. have instituted legal action against General Electric Co., which is blamed for the PCB contamination in the Hudson, feelings against the company run high. GE's Fort Edward and Hudson Falls plants, which use PCBs as insulating fluids in the manufacture of electrical equipment, have been involved in administrative hearings over their discharge of PCBs into the Hudson since October (BW—Oct. 6), and Reid has made no bones about wanting the company held to a zero-discharge rule by Sept. 30, 1976. The fishermen are waiting for the outcome of the hearings before they make a move. "Of course we've discussed a suit, but we're a party to the hearings, so we'll wait till they're over," says David Seymour, president of the HRFA.

Spawning ground. Since many of the fish species found on the North Atlantic Coast are spawned in the Hudson, other states may soon be involved. And the Food & Drug Administration said last week that levels of PCBs above its allowable 5-parts-per-million standard have been found in fresh-water fish from several areas in the U.S. The FDA also said it may lower its 5 ppm level because "PCBs may be more toxic than previously thought."

Other species of fish may be included soon. Shad and sturgeon, which comprise more than 60% of the annual Hudson catch, were exempted from this week's ban, but the exemption is likely to be short-lived. "As soon as shad start running this spring, we'll do some rapid analyses, and if PCB levels are above whatever the FDA mandates as safe, we'll extend the order," says a high-level executive in the state's Environmental Conservation Dept. The HRFA's Seymour says that the exemption is economically meaningless, anyway. "The public will not make the distinction between 'unsafe' bass and 'safe' shad," he says.

The fishermen's plight has added more fuel to a fire that has alternately smoldered and flared since Reid convened the hearings last fall to see whether GE's discharge of PCBs violated the state's Environmental Conservation Act. Since then the federal Environmental Protection Agency has come down from its original suggested guideline of 3.5 oz. of PCBs discharged into waterways each day and is also calling for zero-discharge.

Last month Governor Hugh L. Carey sided with GE and asked Reid to relent on his zero-discharge stand and accept the 3.5 oz. per day limit. On Feb. 9, Abraham D. Sofaer, a Columbia University law professor who is administrative judge in the hearings, proclaimed GE guilty of violating two sections of the law. Last week GE proposed an abatement plan to Sofaer, and he is expected to reconvene the hearings and decide on the course of action the company should take.

GE's move. GE has maintained a stony silence through most of the furor that attended the fishery closings. It has made no formal statements to the press, nor will it comment on the possibility of damage suits. However, a company spokesman contends that attaining zero-discharge is technologically out of the question. "We believe the ultimate solution is finding a substitute for PCBs," he said.

Monsanto Co., the sole U.S. producer of PCBs, has said it would discontinue production of the toxic chemical as soon as an adequate substitute is found, but there is no perfect replacement on the horison yet. In the interim, GE hopes its plan to keep discharges below 3.5 oz. will satisfy the state. Says the spokesman: "We hope the hearings will result in an understanding of the problem and of the corrective actions we plan to take." ■

The shatter control method

Part of the problem of PCB contamination stems from the chemicals' lack of response to traditional biological treatment systems. But last month a Canadian scientist announced a new method that combines physical and biological treatment so successfully that it reduced PCB concentrations in laboratory samples of effluent from 800,000 parts per billion to 19 ppb in the space of just one week.

The method, which was developed by Dickson Liu at the Canada Centre for Inland Waters, in Burlington, Ontario, uses ultrasonic vibrations to "shatter" the PCB solution into tiny, water-soluble particles. Lignin sulfonate, a common pulp mill effluent, is added as an emulsifying agent to prevent the small particles from recombining. Result: A fortified strain of bacteria commonly found in sewage treatment sludge can digest the emulsified particles.

The solution. "Insolubility of PCBs was the major problem," explains Liu, who emigrated to Canada from mainland China in 1963. Making the PCBs soluble and breaking them down increases the surface area and helps the bacteria feed on the carbon content of the PCBs. "The greater the surface area, the faster the rate of biodegradation," Liu says.

The centre plans to build a pilot plant to prove the feasibility of the system for treating industrial wastes rich in PCBs. It is also researching the method's applicability to breaking down chlordane and lindane, two troublesome pesticides. "We've found the combination," Liu says. "Now we're opening the locks."

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