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## **EVERYTHING YOU EVER WANTED TO KNOW ABOUT PCBs AND MORE...**

Due to disposal of PCBs by the General Electric Company (GE) over a 30-year period, a 200-mile stretch of the Hudson River is one of the nation's largest hazardous waste Superfund sites. Long regulated as probable carcinogens, PCBs are now implicated as disrupters of the human endocrine system, capable of interfering with growth and development, disease resistance, reproduction and intelligence, as well as being responsible for causing attention deficit and behavior problems. "Eat None" advisories are in effect for all Hudson River fish at all locations for children and women of childbearing age. The risks to human health in the Hudson Valley from exposure to PCBs far exceed standards for cancer and non-cancer effects. Because of high PCB levels in commercially important fish species, New York State closed the commercial fishery in the 1970s. Health advisories in place along 200 miles of the River also interfere with recreational fishing.

The U.S. Environmental Protection Agency (EPA) completed a decade of investigation and issued a Hudson River PCB cleanup decision in February 2002 calling for the removal of 150,000 pounds of PCBs from the upper Hudson. Under the law, GE will be responsible for paying for the cleanup. Now that a cleanup decision has been made the EPA will work with GE and others interested in this cleanup on designing the remediation. As an initial part of this Remedial Design (RD) process, GE and EPA have agreed on a sampling effort to delineate area to be dredged. EPA is currently negotiating other elements of RD with GE as well as the final remediation.

Under the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), GE is also liable for injuries to the natural resources of the Hudson River that have resulted from that release. In 1997, a Hudson River Natural Resources Trustees Council was established to begin work on a "Natural Resource Damage Claim" (NRD Claim). The purpose of the NRD Claim is to restore the lost natural resources of the Hudson River due to PCB contamination. To put forth this claim, the Trustees, two federal agencies (National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service) and one state agency (New York State Department of Environmental Protection), have begun to assess the past, current and future injuries to a variety of Hudson River natural resources.

Historically, GE has distorted the facts about PCBs in the Hudson River, in an effort to convince the public that no action is necessary. Their position is not based on science or public interest, but on the company's bottom line. The information here sets the record straight, and is taken from EPA's reports and other scientific research on PCBs and the Hudson River.

## **Why do we need to cleanup the PCBs?**

**The Hudson River remains a toxic waste area. As the result of GE having dumped approximately 1.3 million pounds of PCBs,** 200 miles of the Hudson River, from Hudson Falls to New York City, have been designated a Federal toxic waste site. Ironically, the Hudson, designated by Congress and the White House as a National Heritage Area and an American Heritage River because of its outstanding natural and cultural history and scenic beauty, is arguably the nation's largest toxic waste site at the hands of the country's most successful corporation;

**Contrary to GE's claims, PCBs remaining in Hudson River sediment, water and fish will not go away by themselves.** PCBs are not naturally breaking down appreciably, nor are they being safely buried under cleaner sediments. Levels of PCBs in water and fish remain unacceptably high. All fish from every Hudson River location are contaminated with PCBs. This will continue indefinitely unless the contaminants are removed.

**PCBs are harmful to people and wildlife.** PCBs cause cancer and a range of other health effects. PCBs collect in the body over time and can be passed from mother to child through the umbilical cord and breast milk. Studies have linked PCB exposure of mothers to low birth weight, developmental and neurological problems in their children, which result in lowered IQ and behavioral problems, such as attention deficit disorder.

**PCBs have destroyed a key part of our Hudson River heritage.** Commercial fishing once flourished along the Hudson and provided a way of life and rich cultural legacy. Those days are virtually gone. Because of high PCB levels in commercially important fish species, New York State closed the commercial fishery in the 1970s. Health advisories in place along 200 miles of the River also interfere with recreational fishing. Safe use and enjoyment of these resources can only be restored if PCB laden sediments are removed from the river.

## FREQUENTLY ASKED QUESTIONS ABOUT PCBs IN THE HUDSON

### 1. What are PCBs and what were they used for?

PCBs are a family of man-made chemicals that were widely used as insulators, coolants and lubricants from 1930, until their manufacture was banned in 1976. PCBs are stable chemical compounds that are very resistant to breakdown in the environment. They remain a common pollutant more than 20 years after they were banned.

### 2. Are PCBs really that harmful?

Yes, PCBs are classified as chemicals that are likely to cause cancer in humans. PCBs have been proven to cause cancer in laboratory animals. Research has also shown a variety of non-cancer health effects associated with PCBs, and PCBs are now understood to affect the delicate endocrine, or hormonal systems of living things. These effects include hazards to intellectual functions and the nervous, immune and reproductive systems. PCBs pose special risks to pregnant women and newborns because they pass from mother to child through the umbilical cord and breast milk, and PCB exposure has been linked to premature birth and lowered IQs in children. These non-cancer effects can be caused by low levels of PCBs and may be of greater concern than the cancer-causing effects.

People are most likely to be exposed to the Hudson River PCBs by eating contaminated fish. Like DDT and many other dangerous man-made chemicals, PCBs tend to pass up the food chain reaching greater and greater concentrations at each step. Because of this process, called bioaccumulation, the concentrations of PCBs in fish are thousands of times higher than in the river itself. To make matters worse, PCBs persist and accumulate in our bodies for many years.

The EPA has found that both cancer and non-cancer health risks are significantly increased from exposure to PCBs by eating Hudson River PCB-contaminated fish. Specifically, the cancer risk from eating fish from the upper Hudson River is 1,000 times over the EPA protection goal. The non-cancer health risks, including reproductive, nervous and immune system disorders are also found to greatly exceed EPA's level of concern for adults and children.

The New York State Department of Health advises that women of childbearing age and children under the age of 15 not eat any fish from any location along the final 200 miles of the Hudson River. According to the state, no one should eat any fish caught in the upper River (Hudson Falls to Troy). Hudson River angler surveys have shown that the majority of people who catch fish are eating them, or sharing them with others, despite these advisories. For more specific information about the advisories, please contact the NYSDOH at (800) 458-1158 or visit its Web site at <http://www.health.state.ny.us/home.html>.

PCBs can volatilize into the air. The EPA says that PCBs in the air from the Hudson River are within acceptable limits. However, PCBs in the atmosphere are redeposited, entering the food chain in other locations.

### **3. How did PCBs get in the River and where are they?**

General Electric used PCBs at two manufacturing plants located on the Hudson River at Hudson Falls and Fort Edward, New York. Very large volumes of waste PCBs were discharged into the Hudson River - an estimated 1.3 million pounds. Also, spillage resulted in the plant sites becoming heavily contaminated.

Today, PCBs are throughout the Hudson River ecosystem, and can be found in sediment, water and animals all along the river. However, large amounts of PCBs still remain concentrated in river sediments in the upper Hudson between Fort Edward and the Federal Dam at Troy. Studies have identified 40 “hot spots” or areas of high PCB concentration. Half of these hot spots are in a quiet, six-mile stretch of the river directly downstream of the two GE plants called the Thompson Island Pool.

GE’s two plant sites in Hudson Falls and Fort Edward are heavily contaminated and continue to release “fresh” PCBs into the Hudson River. Under order from the state GE has begun to clean up these two sites however, the task is far from complete. These cleanup efforts are necessary to reduce the flow of new PCBs into the Hudson River, GE has suggested that the plant sites are the main source of PCB pollution to the river, and that cleanup efforts should be limited to these sites. While cleaning up the plant sites is very important to restoring the River, *the EPA has concluded that the main source of PCBs to the rest of the river is the contaminated sediments in the upper Hudson.* Although GE contests this conclusion, a panel of independent peer-review experts supports EPA’s analysis.

### **4. What should be done to get rid of PCBs?**

Contaminated sediments have been removed successfully from dozens of sites in the U.S. and around the world, including large PCB-contaminated sites and river sites. Examples include the Cumberland Bay PCB site on Lake Champlain, Manistique Harbor in Michigan and the Marathon Battery Site on the Hudson River at Cold Spring, New York.

Dredging is the best-proven and most effective technology for cleaning up contaminated sediments. Newer technologies that use suction to remove the sediments have been developed. Sediments can be removed without being stirred up – the impacts are limited to the immediate area of the dredge.

Most people have seen dredges used for construction and the maintenance of navigation channels. But the equipment and methods used for cleanup dredging are much different. Navigational dredging is done to quickly remove large amounts of sediments for boat traffic where contamination is not an issue and usually employs “clamshell” dredges. In contrast, cleanup dredging uses hydraulic or suction technology to remove sediment with greater precision. Cleanup dredging is designed to minimize the amount of sediment that is resuspended into the water.

GE has used images of clamshell dredging to characterize how dredging would occur on the upper Hudson, and portrays dredging as a devastating operation. In fact, sediments probably

would be removed using highly controlled dredging techniques that are akin to vacuuming the river's floor. Very little sediment is released, usually no more than is stirred up by the normal flow of the River.

Cleanup dredging removes the source of contamination and reduces contaminant concentrations in sediment and fish. Monitoring data for cleanups at other PCB contamination sites shows that cleanups were able to reduce the total amount of PCBs by more than 90 percent, reduce concentrations of PCBs in sediment by 82 to more than 99 percent, and reduce PCB concentrations in fish by 56 to more than 99 percent.

**5. What can be done with the PCBs after they are taken out of the river?**

What happens to the sediments once they are out of the river depends on the amount taken out, and the cost involved. Options may include on-site treatment, (such as sediment washing) and off-site disposal. The EPA will not create a new landfill near the Hudson River. Off-site disposal at an existing, permitted hazardous waste facility is the most likely option. Treatment technologies for decontaminating sediments and destroying PCBs do exist, and will need continued investigation as the cleanup design moves forward.

**6. Isn't the Hudson cleaner than it has been? Won't the PCBs gradually disappear if left alone?**

In many respects the Hudson River is much cleaner than it used to be. Millions of dollars have been spent to build sewage treatment plants and control other discharges to the river, with excellent results. While the River has shown the ability to recover from these abuses, the sewage treatment plants do nothing to address the PCB problem. PCBs are still present in the river sediments, water and animal life throughout the river and estuary.

Despite GE's claims, PCBs are not simply buried by clean sediments. The EPA has concluded that there is little evidence of widespread burial of PCBs. While some burial has occurred, polluted sediments continue to release PCBs into the Hudson River system.

PCB levels in fish have declined since the days when they were being dumped, however, levels remain unacceptably high. The decline occurred primarily after PCB dumping was prohibited in 1977. Since the 1980's, levels of PCBs in Hudson River fish have been quite stable and are not expected to decline significantly without a cleanup. In other river systems where dredging has occurred, levels in fish have dropped significantly within a few years.

**7. Who has the responsibility to fix this mess and what will it cost?**

Under the Federal Superfund Law, GE is responsible for the cost of the cleanup. The estimated cost of the cleanup plan is \$460 million. GE, with more \$130 billion in revenues in 1999, reassured stockholders in the 1999 annual report that the cost of remediation would not affect the company financially.

Under Superfund law, a separate claim can be brought against the polluter to recover the losses that occurred because of the pollution, such as with the Exxon Valdez case (termed a "Natural

Resource Damage Claim"). This type of claim is currently being developed for the Hudson River.

**Legal Discharges?** GE maintains that its discharges of PCBs were legal, implying that there should be no penalty, or responsibility for cleanup. Much of the PCB dumping that occurred was prior to our current laws and standards. Under the law, that does not mean that GE is free of responsibility for cleanup. Across the country, there is contamination that resulted from careless disposal practices prior to the advent of our current environmental laws. Our federal Superfund law is intended to address those cases, and make sure the cleanup of our water and land takes place, regardless of the circumstances that created the pollution. Scores of companies have acted responsibly under the Superfund law to clean up pollution they created prior to our current standards. Superfund's basic principle is that "the polluter pays". In GE's case, it is important to note that during the 1970's the company was given permits to release certain amounts of PCBs into the Hudson River. They exceeded those amounts.

**Why The Delay?** GE has effectively delayed a decision on the Hudson River for many years. The company has spent millions of dollars to develop arguments against a cleanup and millions more on public relations to spread that message. It seems apparent that GE does not want to spend money on the cleanup, perhaps because of the precedent for the company's 80 Superfund sites nationally. GE's massive public relations campaign was just one more chapter in a strategy to create delay, confusion and public ambivalence about the need for a cleanup. Meanwhile, a team of 17 high-powered lobbyists has worked on GE's behalf in Washington to undo the company's liability.