

MAY 10 1976

To: PCB ad hoc committee

From: R. L. Hauser

Subject: Committee hearing regarding PCB legislation Illinois General Assembly House Committee on Environment, Energy and Natural Resources, April 27, 1976.

Summary: This committee met to discuss PCB legislation as outlined in the Getty bill, HB 3566, and the Pierce Proposal (not yet introduced as a bill). Testimony was heard from Region V, U.S.-EPA; Illinois Department of Conservation; J. D. Griffith, PCB Gone Committee; Dr. Briceland, Administrator of Illinois EPA; and R. L. Hauser, EUC and EIA. The matter was referred to a subcommittee headed by Representative Getty and is scheduled to be heard May 11, 1976.

Attachments: Getty Bill, Pierce Proposal, Synopsis of Bremer (Region V U.S. EPA) testimony, Synopsis of Illinois Department of Conservation testimony, Synopsis Sheet handed out by Griffith of PCB Gone Committee, Synopsis of Briceland testimony(Illinois EPA), and copy of R. L. Hauser testimony.

Action Required: Please give any comments or written statements to me at ad hoc committee meeting on May 10, 1976, which you wish me to introduce at subcommittee meeting in Springfield which I am attending on May 11, 1976.

R. L. Hauser
President
Electrical Utilities Company

MONS 207589

Gifford - Lake Mich Federation
Tom Murphy - Depaul University

POLYCHLORINATED BIPHENYLS (PCBs)

What are they:

They are 209 different hydrocarbons containing from one to 10 chlorine atoms per molecule.

They are insoluble in water, very stable to heat with most of the mixtures or individual compounds showing little or no tendency to burn.

Health and Environmental Hazards:

Health hazards to humans associated with the manufacture and use of PCBs were reported as early as 1936

Almost 1300 people in Japan were affected by PCB contaminated rice oil in 1968. As a result, a number died and many more were seriously affected.

Studies on rhesus monkeys fed 2.5 to 5.0 parts per million (ppm) PCB in their diet showed serious reproductive effects, facial lesions, loss of hair and enlarged livers.

It is estimated that half of all Americans carry a body burden of from 1 to 3 ppm PCBs in their tissues.

Japan has banned all uses of PCBs since 1972.

The limit on the PCB concentration in fish for human consumption in Canada is 2 ppm.

PCBs behave in the environment similarly to DDT. They are absorbed from the water by organisms and stored in fatty tissue. Excessive residues were found in Great Lakes fish in 1969.

Concentration factors for PCBs in tissue over that present in the water can be 100,000.

Many of the individual PCB compounds have half-lives of tens to hundreds of years in the environment.

The U. S. FDA limit for PCBs in the edible portion of fish is 5 ppm. The concentration of PCBs in lake trout in Lake Michigan is 1974 was 23 ppm.

Following the ban of the use of DDT in the early 70's, the DDT levels in Lake Michigan fish has dropped by 50 to 87%. The concentration of PCBs in those fish is as high or higher than in 1972.

PCB levels ranging from 47 to 81 ppm have been found in carp in 17 public and private lakes throughout Illinois. These carp were caught in Green Bay, Wisconsin, from Lake Michigan, which is thought to be the source of the PCBs in the fish.

It is thought that high PCB levels may be the reason for the failure of natural reproduction in lake trout in Lake Michigan.

Uses:

Because of their physical and electrical properties, they have found numerous industrial and manufacturing uses.

Since 1971, the sole U. S. manufacturer has voluntarily limited sales except for use in electrical transformers and capacitors. An important use of the capacitors is in fluorescent light fixtures.

Economic Factors:

The high concentration of PCBs in fish in Lake Michigan and the other Great Lakes jeopardizes the salmon program in Illinois and the entire $350 million, Great Lakes sports fishery industry.

Substitutes:

Other products, one or more of which can satisfactorily substitute for the different applications of PCBs, are available from five different U. S. and foreign suppliers.

Solid state electronic devices are being developed to replace the ballasts used on fluorescent light fixtures, a major use of PCB filled capacitors.

Other Legislation:

Bills to ban the sale, manufacture and, in some cases, the disposal of PCBs have been passed in Indiana and Michigan, and are pending in Wisconsin and Minnesota.

The Indiana law recites that, "Because an emergency exists, this act takes effect on May 1, 1976."

Sponsoring Organizations: "PCB Gore" Commission

Illinois Wildlife Federation
American Association of University Women
Lake County (Ind.) Fish and Game Preservation Association
Izaak Walton League
Lake Michigan Interleague Group of the League of Women Voters
National Council of Jewish Women, Area 14
Independent Voters of Illinois
Business and Professional People for Public Interest
Lake Michigan Federation

Summary of the Illinois Bill:

This bill sets a timetable for the orderly phase out of the use of PCBs in materials manufactured, sold used or disposed of in Illinois after July 1, 1975. A certificate of use and an annual report will be required for products containing more than 100 ppm of PCBs. The Illinois Pollution Control Board will set rules for the disposal of PCBs or materials containing PCBs. The [illegible]

MONS 207590

SYNOPSIS OF TESTIMONY OF KARL BREMER, US EPA, BEFORE
HOUSE COMMITTEE ON ENVIRONMENT,ENERGY & NATURAL RESOURCES
April 27, 1976

I) Review of EPA's position on PCB's
   A) History of PCB
   B) Typical applications, e.g. "open-ended", "nominally closed" and "closed electrical systems".
      1) Interpartmental Task Force recommended uses only in closed electrical systems.
      2) Monsanto voluntarily limited sales,'72.
      3) What has occurred since '72.
         a) Toxic Substances Act still pending.
         b) Import of PCB reported.
         c) PCB found in fish in coastal, rivers and Great Lakes waters especially through Illinois EPA (IEPA) fish monitoring program in Lake Michigan.
      4) Health Hazards
         a) PCB's produce chloracne, and skin lesions in workers exposed to PCB.
         b) Reported "Yusho" incendent.
         c) Allen studies show "loss of hair, acne, lesions, loss of weight, irregularities in menstrual cycles, impaired ability to maintain pregnancy, and undersize infants.
         d) Human PCB residue are 1ppm or more in 40.3% of adipose tissue, plus PCB residue in human milk.
         e) Rats tolerate 100ppm; subhuman primates show 100ppm is lethal and effect level is 2.5-5ppm.
      5) Pathways of PCB's to the environment.
         a) "Improper disposal of transpower oil".
         b) Vaporization from plasticizers and during improper incineration.
         c) Region V EPA stack sampling showed ambient air ranged from 140-170 ng/m^3. Stack concentration at Northwest Incinerator was 32,880ng/m^3. "Possible source include cardboards and small electrical components reaching incinerators".

d) "Paper recycling industry has detected high PCB concentration in discharges".
e) Waste oil recycling of hydraulic fluids.
f) IEPA currently working with OMC, Waukegan because hydraulic fluids (oil) containing PCB's caused discharge to range from 4.1ppm to 11ppm in December 1975.
g) Expect to deal with this problem for next 10-15 years.

II) Current action by EPA
A) Chicago conference report forthcoming in April.
B) Administration led to two conclusions:
1) Phase out PCB production & Importation.
2) Be certain PCB's don't enter environment.
C) General industry position was cooperative at January meeting with Train. "A specific timetable for phase-out was not set at that meeting, however, a meeting during May will discuss that schedule".
D) All the steps US EPA announced on January 27, 1976 were recited.
E) "Today's consideration of PCB legislation (by Illinois General Assembly) demonstrates the foresight of this committee- Michigan, Minnesota, and Indiana have passed legislation to phase-out use of PCB's. Wisconsin is anticipating their Governor's signature in a similar bill (see table 2).

III)Alternatives.
"With respect to the electrical industry, alternative replacement fluids as well as dry transformers are available."

IV) Conclusions:
BREMER gave pitch for the Toxic Substances Act and said "On a State basis, it seems that legislation to regulate and phase-out use of PCB's is a practical front-end approach to dealing with the PCB problem."

Richard L. Hauser
President
Electrical Utilities Company

STATUS AND COMPARISON OF CURRENT STATE LEGISLATION TO REGULATE POLYCHLORINATED BIPHENYLS

STATE	MICHIGAN	INDIANA	MINNESOTA	WISCONSIN	ILLINOIS
Regulation provided ; bill no.	Prohibits sale, manufacture and use H.B. 5619	Prohibits sale, disposal, manufacture or use H.B. 1353	Prohibits use, disposal, sale, purchase or manufacture without certificate of exemption from Pollution Control Agency. H.B 2492	Prohibits manufacture, sale, purchase or use after 2/1/77 Assembly Bill 1362	Prohibits manufacture, sale, use and disposal; requires certificate of use for more than 100 ppm and annual reports not yet assigned no.
Means of regulation	Joint rules to be set by DNR, Dept. of Commerce and Public Health committee. Written notice of use required after 7/1/76	Rules by Environmental Management Board; written notice of use required after 7/1/77, annual report required and labels for more than 100 ppm	Labels and certificate of exemption from PCA	Multidisciplinary advisory council for D.N.R. to determine availability of substitutes and exemptions	Pollution Control Board to set rules, can require even lower concentrations for public health and safety
Exemptions	Can use in closed systems unless reasonable substitute is available; exemption available from DNR, with mandatory exemptions for incidental residues with change of materials	Can be used in closed systems; exemptions obtained from board	PCA to promulgate rules for exemptions provided for consumer goods such as TV and lights bought prior to act.	Electric, paper and electromagnet industry exempted. Otherwise DNR can make exemptions in terms of public health, safety or welfare.	Manufactured, Transformer one year exemption certificates can be given by Pollution Control Board for other uses
Penalties	Misdemeanor with fine not less than $2500 nor more than $25,000	Misdemeanor with up to 30 days sentence and fine of not more than $10,000	None specified	None specified	Class B misdemeanor, one charge for each day
Deadlines	Prohibition for 250,000 ppm after 7/1/76; for 1000 ppm after 1/1/77; for 100 ppm after 1/1/78	Prohibition for 250,000 ppm after 7/1/77; 1000 ppm after 1/1/78; 100 ppm after 1/1/79	1/1/78 for prohibition; 7/1/77 for exemption rules.	Rules to be adopted by 7/1/77 for disposal, sampling and monitoring	Prohibition for 1000 ppm by 7/1/77, for 100 ppm by 7/1/78, 5 ppm by 7/1/78
Disposal	Must conform to rules set by DNR-Commerce-Public Health committee	Must conform to rules of Environmental Management Board after 7/1/77	Changes to include disposal expected	Rules to be set by PCB advisory council	Must conform to rules of Pollution Control Board after 7/1/76
Status on 4/26/76	Signed by Governor,	Signed by Governor	Signed by Governor	Passed by Senate and House; expect Governor's signature	House committee consideration expected 4/27/76

MONS 207593

SYNOPSIS OF TESTIMONY OF ILL. DEPT. OF CONSERVATION 4-27-76

HOUSE COMMITTEE ON ENVIRONMENT, ENERGY, & NATURAL RESOURCES

1.) "PCB's are prominent in Lake Michigan only." (he included undated table of PCB concentration in Lake Michigan fish.)

2.) "Downstate fish samples from major river basins and reservoirs have shown concentrations in flesh far below the US FDA tolerance level of 5.0ppm."
(he included 9 pages of data on PCB concentration in rivers and reservoirs and PCB analysis procedure in fish flesh.)

3.) One significant confirmed discharge source to Lake Michigan (O.M.C.).

4.) Downstate effluent sampling program (25% complete) on 75 sources with 19 showing very low, but confirmed levels of PCB's.

5.) US EPA has undertaken investigation of approximately 25 industries to determine present and past users of PCB, including Monsanto.

6.) "Our experience thus far indicates that there are a few concentrated discharges and many very low level discharges."

Richard L. Hauser
President
April 28, 1976

SYNOPSIS OF TESTIMONY OF DR. RICHARD BRICELAND
HEAD OF ILLINOIS, EPA
BEFORE HOUSE COMMITTEE ON
ENVIRONMENT, ENERGY & NATURAL RESOURCES 4/27/76

1.) Had assistant available to testify on PCB concentrations within the state, but gave only brief statement similar in content to Bremer of Region V US EPA.

2.) A Committee member asked if this legislation was "piecemeal approach" and was existing legislation capable of handling "the PCB problem". Briceland agreed and indicated that legislation on each individual chemical should be avoided.

3.) Briceland also noted that they were unsure of what PCB concentration levels were harmful and this was another reason why this legislation was questionable.

4.) Briceland noted that administrator of law, i.e. controlling, labelling, reporting, would be expensive and Illinois EPA does not have the money available for entire procedure.

5.) During questioning of Briceland, a committee member indicated that it was his opinion that "the PCB problem" was more properly the jurisdiction of the Federal Government.

R. L. Hauser
President
Electrical Utilities Company

MONS 207595

STATEMENT ON LEGISLATION REGARDING POLYCHLORINATED BIPHENYLS

ON BEHALF OF

ELECTRICAL UTILITIES COMPANY, LA SALLE, ILLINOIS

AND

ELECTRONIC INDUSTRIES ASSOCIATION, WASHINGTON, D.C.

TO

HOUSE COMMITTEE ON ENVIRONMENT, ENERGY, AND NATURAL RESOURCES

OF THE

ILLINOIS GENERAL ASSEMBLY

APRIL 27, 1976

BY

RICHARD L. HAUSER, PRESIDENT
ELECTRICAL UTILITIES COMPANY

MONS 207596

Ladies and gentlemen I am Richard Hauser, President of the Electrical Utilities Company in La Salle, Illinois. Our company was formed in 1934 in Chicago and moved to La Salle in 1943. Our employment varies from 225 to 325 depending on the economy.

I appreciate the opportunity to discuss my views regarding the proposed legislation on polychlorinated biphenyl (PCB). I understand from Monsanto Chemical Company, the only producer of PCB in the western hemisphere, that our company is the largest user of PCB in the State of Illinois.

I am, of course, representing our company's viewpoint, but I am also representing the viewpoints of a number of other capacitor manufacturers who are all members of the Electronic Industries Association ad hoc committee on PCB's.

Capacitors are electrical components which are the only products of our company. Capacitors are consumer products found in fluorescent lights, air-conditioners, television sets, welders, and many other home appliances. There are a number of reasons for their uses, but the largest is to increase the efficiency of our utilization of electrical energy.

PCB's as used in capacitors are liquids that have unique properties which make them very desirable. They are extremely stable which is an advantage in equipment where heat and electrical arcs occur. This stability seems to be a major disadvantage in the environment. because the stability causes these materials to persist without being quickly bio-degraded. PCB's also are excellent insulators, because they do not conduct electricity. PCB's also have the ability to serve as a dielectric material; that is a material which will store energy which is the major function of a capacitor. The stability of PCB is critical to the safe operation of a capacitor. PCB's do not have a flash point below the boiling point of the fluid. That is, if the vapors are in the presence of a flame or electric arc, flame will not be supported by the fluid. Capacitors are used in electrical circuits where electric arcs can be present during component failure. Capacitors are also used in appliances where electric arcs or fire occur for other reasons. It is therefore very necessary for us to exercise care before we give up the fire resistant capabilities of PCB.

My understanding of the environmental problems with PCB are as follows:

As of this date, we know of no adverse health effect which PCB's has caused in humans except those associated with the "Yusho" incident in Japan. In the 1968 "Yusho" incident, approximately 1000 persons ingested large amounts of PCB contaminated rice oil. PCB leaked from a heat exchanger into the rice oil, an occurrence which certainly supports Monsanto's ban in the use of this material in heat exchangers. Although severe acneform, dermatitis, and loss of weight resulted, no deaths were reported. Dr. Kuratsune, who has observed these patients for a number of years, reported his findings at the National Conference on PCB's held in November, 1975, in Chicago. It is my interpretation of his findings that long term carcinogenic studies are inconclusive.

While effects on man are apparently not serious or not yet completely understood, PCB's can be harmful to certain marine and wildlife species.

The Council on Environmental Quality claims the "PCB threat to wildlife was first discovered in 1966 when residues were detected in fish from the Baltic Sea. Then a disconcerting degree of bioaccumulation was found in many other organisms. In two simple food chains, fish and freshwater mussels contained fractions of one-tenth parts per million of PCB's. But these low levels were magnified to much higher levels in animals that eat fish and mussels. PCB's appeared at 5 to 21 parts per million in seal blubber and up to 240 parts per million in the muscle of the white-tailed eagle.

Some aquatic species suffer toxic effects at very low exposure levels. Water containing PCB's at 0.1 parts per million was fatal to juvenile pink shrimp after a 48-hour exposure.

PCB's have also been correlated with lethal effects in game birds; with reduced reproductive capacity of fish-eating mammals, mink and seals; and with reduced resistance to viral infections in experimental animals."

These dangers are what caused Monsanto in 1971 to ban sales of PCB to anyone except capacitor and transformer manufacturers.

Data, which the Council calls "still too sparse for indicating trends," seems to show a"disconcerting pattern of static or rising PCB levels (in the Great Lakes)." "Several Lake Michigan fish shipments were seized by FDA this year, because PCB residues in chubs, coho salmon, and lake trout exceed the current guideline of 5 parts per million..."

"In 1971 the accidental contamination of poultry feed with PCB's forced the slaughter of thousands of chickens and turkeys. No such incidents have occurred since the FDA strictly limited PCB use in 1973. In 1974, only 7 of nearly 4,000 meat and poultry samples analyzed by the USDA contained detectable quantities of PCB."

The capacitor industry has shown its willingness to solve the PCB problem by voluntairly reducing PCB discharges and controlling disposal procedures.

We subscribe to and follow the American National Standards Institute procedure for controlling disposal of PCB; ANSI specification C-107. The Electronic Industries Association has developed a 24 hour per day Spill Control Plan that we endorse and follow. My company has implemented procedures and purchased equipment which has reduced the PCB in our water effluent to .03 pounds per day in 1975.

Unfortunately, the voluntary restrictions have not been accepted by the public, the press, or the U.S. EPA. Pressure mounted until Monsanto announced on January 14, 1976, that they felt compelled to phase-out the manufacture of PCB. Although many manufacturers feel that PCB should be used in "closed system" applications such as capacitors and transformers, the Monsanto decision to phase-out of PCB takes this out of our hands.

In our opinion, the biggest issue the PCB phase-out raises is flammability. All known substitutes pose a fire hazard to capacitor users. The substitutes identified by Monsanto, Dow Chemical, Dow Corning, and Exxon are all fluids which are considered combustible. They posses flash points which allow these materials to support fire. The Electrical Utilities Company has tested a number of the alternatives in an attempt to find an environmentally suitable fluid for capacitor manufacture. The material that we and many of our competitors find acceptable for capacitors is a fluid which has a flash point which will support fire and can be dangerous. In August of 1975, we had a fire in our factory with this material which, fortunately, was not serious. This did emphasize the potential problems of manufacture or use of PCB substitutes. Some of the substitutes may pose as severe environmental problems as does PCB.

The U.S. Consumer Product Safety Commission, Underwriter's Laboratories, and the U.S. Department of Commerce have all expressed much concern about the fire hazard we may be creating in home appliances.

We don't believe they can marshall their concern soon enough or with sufficient strength to prevail on the U.S. EPA to allow regulated use of PCB in certain applications. We also don't believe Monsanto would look favorably on a reversal of their position to phase-out PCB.

The Electrical Utilities Company is therefore proceeding to develop one or more substitutes even though they are combustible. We believe it will require 24 to 30 months to do this properly. This time is needed for life testing to be sure our customers receive a reliable product. Time is also needed for testing of the potential fire hazard which will begin next month when the industry meets at Underwriter's Laboratories in Chicago to witness the first tests on capacitors filled with a combustible fluid.

This review brings us up to the present. I would like now to give you my views on the two proposals before your committee; the Getty Bill, H.B. 3566, and the Pierce Proposal.

Our industry is willing to accept the general principle of regulation as outlined in both of these proposals. I would therefore like to address only those portions of each that I believe should be changed or improved.

In my opinion, the Getty Bill is preferable, because it contains an exemption for capacitors. The Pierce proposal contains an exemption only for "incidental concentrations" which would prevent the Electrical Utilities Company from manufacturing capacitors. In either case, the Monsanto decision to phase out PCB's or the PCB Amendment the U.S. Senate recently approved along with the Toxic Substances Act, will put a "closed end" on the exemption for PCB in capacitors and transformers. Our company must have time, though, to develop the substitutes. The Getty bill provisions in Section 4d would allow this, and I urge you to adopt them.

I am concerned about the second sentence of Section 4d in the Getty bill. This language would appear to place the Agency in the position of having to approve substitutes. I think it would be very unwise to do this.

I believe the portions of both proposals that deal with permitted sale, filing of notices of intent, attaching of labels, and the filing of annual reports should be changed. "Any person" where sales or use of capacitors is concerned could be a manufacturer, a distributor, a wholesaler, or retailer. This would be very burdensome, and I suggest that if you must do this you impose these requirements only on those of us that manufacturer capacitors and sell in the State of Illinois. The industry is not composed of many and control would not be difficult. I would appreciate as little governmental control and paper work as possible.

I would definitely suggest that you consider requiring the labeling only for those capacitors that use more than 2 pounds of PCB. This would simplify the manufacture of many small capacitors, but control the larger capacitors that have greater quantities of PCB.

Thank you for your kind attention and for the opportunity to give you my views. I would be happy to try to answer questions or get information for your committee that might help you.