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**NATIONAL CONFERENCE
ON
POLYCHLORINATED BIPHENYLS
(NOVEMBER 19-21, 1975, CHICAGO, ILLINOIS)**



**Sponsored by: Environmental Protection Agency
in cooperation with:**

**Department of Agriculture
Council on Environmental Quality
Department of Health,
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**CONFERENCE PROCEEDINGS
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF TOXIC SUBSTANCES
WASHINGTON, D.C. 20460**

**U.S. EPA Region III
Regional Center for Environmental
Information
1650 Arch Street (3PM52)
Philadelphia, PA 19103**

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Conference Proceedings

**NATIONAL CONFERENCE ON
POLYCHLORINATED BIPHENYLS**

(November 1975, Chicago, Illinois)

Sponsored by
ENVIRONMENTAL PROTECTION AGENCY

in cooperation with
**DEPARTMENT OF AGRICULTURE
COUNCIL ON ENVIRONMENTAL QUALITY
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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care and that special waste disposal is required; and reducing the number of pounds of inerteen per KVA in transformers and capacitors. Most of these measures were implemented prior to the enactment of the Federal Water Pollution Control Act amendments of 1972. It is significant to note that France has just enacted regulations on the use of PCB's which require actions that have been taken by Westinghouse since 1972.

Westinghouse recognized that these measures could not prevent the total elimination of inerteen escaping into the environment. Therefore, concurrent with the above measures, we have conducted extensive evaluation programs designed to utilize those mixtures of PCB's having low persistence and high biodegradability in the environment.

By February 1968, Westinghouse determined that a mixture of PCB's sold by Monsanto as Aroclor 1242 would be satisfactory as inerteen for transformers. Aroclor 1242 contains about 91 percent of the lower isomers, containing four chlorines or less that more readily biodegrade in the environment.

This material has been used by Westinghouse since that time, with the understanding that over 90 percent of the small amount that did enter into the environment would have relatively low persistence. Monsanto subsequently developed a new material from Aroclor 1242 which contains more of the lower chlorinated isomers and marketed this mate-

rial as Aroclor 1016. By the first quarter of 1972, this material was introduced by Westinghouse into the manufacture of all capacitors.

This material contains 99 percent of the lower biodegradable isomers, four chlorines or less, so that less than 1 percent of this material that might escape into the environment might be more resistant to biodegradation. The industry, Monsanto, our own research, scientific literature, and most of the papers presented at this conference have indicated that the lower chlorinated mixtures of polychlorinated biphenyls are more biodegradable and do not present the same long-term toxic environmental problems as those which contain the higher chlorinated isomers.

It is interesting to note, in this regard, that EPA researchers have found a significant difference between the effects of Aroclor 1242 and Aroclor 1016 on rats, confirming our position. But they published this information in Great Britain and did not make the information available during the toxic hearings of 1974. We believe the U.S. scientific community should determine the benefits and the environmental impact of the two or three askarels used by the electrical industry on a scientific basis and not let the desire to see a toxic substance bill passed stampede us into a selection of an alternate fluid which is more potentially dangerous to man and to his environment. Thank you.

STATEMENT RELATING TO POLYCHLORINATED BIPHENYLS ON BEHALF OF THE WISCONSIN PAPER COUNCIL

James S. Haney*

The Paper and Paper Recycling Industries in Wisconsin

I appear today on behalf of the Wisconsin Paper Council, the trade association for the pulp and paper industry within Wisconsin. I am chairman of the Wisconsin Paper Council's Government Relations Committee.

There are 49 pulp and paper mills in Wisconsin employing 46,000 people who produce in excess of 5 million tons of pulp and paper products annually. Wisconsin manufactures more than 11 percent of the

total production of pulp and paper products in the United States and is the number one paper-producing State in the country.

Not only do we lead the nation in *papermaking*, but we are also the number one State in *paper recycling*. At least 19 Wisconsin paper firms recycle fibers to some extent and several firms make a specialty of it. A *fifth* of Wisconsin's annual paper production, about 780,000 tons, is made from *recycled, post-consumer wastes*. Some Wisconsin papermakers, like my own company, have been producing recycled paper and paperboard since the turn of the century.

*Public Affairs Director, Bergstrom Paper Company, Neenah, Wisconsin.

What Has The Wisconsin Paper Industry Done For The Environment?

Manufacturing any product is not a clean, tidy process. Generally, it is noisy, usually it is dirty, and often it involves work with large machinery. It normally takes skilled labor, of which Wisconsin is fortunate to have an ample and sufficient supply. The point being, however, that in the manufacturing process certain natural resources are consumed and related byproducts are discharged or emitted as a part of the process itself.

Recognizing this impact on the environment upon which our industry depends, the Wisconsin paper industry had expended approximately \$126 million on water pollution abatement equipment prior to 1975. It is estimated by the industry that within the next 5 years an additional \$153 million, at a minimum, will be expended for a total investment of approximately \$280 million for water pollution abatement equipment alone, not one cent of which is attributable to new production equipment.

As to air pollution, prior to 1975, the Wisconsin paper industry had invested approximately \$34 million in air pollution abatement equipment and anticipates that between 1975 and 1980 it will invest minimally an additional sum in excess of \$60 million. In rough figures, therefore, the paper industry in Wisconsin alone will have spent approximately \$375 million by 1980 for air and water pollution abatement equipment—approximately \$8,200 per employee—on what is very environmentally necessary, but absolutely unproductive, equipment.

The Issue of Polychlorinated Biphenyls

In light of previous comments at this conference, I think I need spend little time in identifying polychlorinated biphenyls (PCB's) or their historical uses. One of the many varied uses of PCB's prior to 1971 had been in carbonless copy paper, which has accumulated in the files of many businesses and numerous governmental agencies. From time to time, some of this paper is discarded and becomes part of the solid waste chain.

At this time I wish to make one point very clear. *Wastepaper collectors and recyclers do not manufacture PCB's nor do they use them in their manufacturing process.* To the extent that recyclable wastepaper does contain traces of PCB's, this contaminant is introduced into the industrial system and becomes part of the industrial waste discharge of recycling facilities. The only other known PCB's on a paper mill's premises might be PCB-containing transformers or capacitors.

The Wisconsin Paper Council is vitally concerned that overly restrictive regulations of PCB's, both in finished paper or paperboard products or in effluent dis-

charges, could destroy the Nation's recycling efforts. We strongly urge that those who are drafting regulations concerning PCB's more fully analyze the impact of such regulations on recycling industries.

You must understand, for example, that a very small portion of the total amount of PCB's manufactured domestically by Monsanto Company were used for carbonless paper, which is the chief assumed source by which wastepaper contains the PCB contaminant. Aroclor 1242, by weight containing relatively lower amounts of chlorine than other domestically produced and sold PCB's, was used in the production of carbonless paper. Between 1958 and 1971, at which time the use of PCB's in the manufacture of carbonless paper was ceased, approximately 48 percent of Monsanto's PCB production was of Aroclor 1242. However, of its entire domestically sold production during those years, only about 22 percent was used for "plasticizer applications." Plasticizer applications include not only use for carbonless paper, but also for adhesives, textile and other surface coatings, inks, investment casting wax, and sealants. Therefore, we know that something considerably less than 10 percent of Monsanto's total PCB production between 1958 and 1971 was used in the manufacture of carbonless paper, all of it being of the Aroclor 1242 variety.

Aroclor 1242 has significantly different structural constituent characteristics, whereby its stability and persistence are less and its degradability appears to be significantly higher than its comparatively more highly chlorinated Aroclor relatives. At least 1,500 reports in scientific literature have been written relating to PCB's and, whereas most of these deal with only the question of reporting the presence of PCB's in the environment, invariably these reports describe and relate to Aroclor 1254 and 1260, the more highly chlorinated PCB's produced by Monsanto. In fact, a Monsanto spokesman has indicated that it was his opinion that "if we could just turn the clock back" and have produced only Aroclors 1221, 1232, 1242, and no others, we probably wouldn't be holding hearings today. We are told that the principal Aroclors being found in Wisconsin fish are Aroclor 1254 (Mississippi River) and Aroclor 1248 (lower Green Bay). Predominantly it is Aroclor 1254 that is found in the environment. In terms of degradation and degradability, there is a definite difference between Aroclors 1242 and 1254.

On the issue of bioconcentration, the EPA has stated that Aroclor 1242 bioaccumulates on the order of 8 times less than the more highly chlorinated Aroclors. On the issue of removal from effluent, the EPA has predicted that we can look forward to significant reductions in discharge concentrations as the program and

projected treatment systems required by the NPDES program become effectively operational.

All of the above can be restated concisely as follows. Only a small portion of total PCB's domestically produced were utilized for purposes of manufacturing carbonless paper and, as to those particular Aroclors, they are relatively less stable and persistent, appear to be more degradable, and are less susceptible to accumulation in fish than are their related, more highly chlorinated Aroclors. *As a result, the impact of the waste paper recycling industry on the issue of PCB's must be put into a more proper and positive perspective.*

Concluding Remarks

I think the time has come for us to recognize that we all know less than we would like to know about PCB's. Because of their persistence and because of uncertainties about their impact, the new production of this substance has all but been eliminated and is now used for only very specific purposes. *An inventory must be made of where PCB's are coming from; the type of Aroclors that are being discharged, emitted, and land-filled; the best methods of decreasing these discharges, emissions, and landfilling; and to put some proper perspective on the existence of this substance in our environment.* We know of no current practical method by which to separate out of the wastepaper mass that portion of paper that contains PCB's—particularly since PCB's have been recycled into paper products other than carbonless paper. *PCB's cannot be legislated out of the recycled paper system.* The whole concept of recycling wastepaper is at stake in considering the promulgation of regulations particularly at a time when, as a national industry, the pulp and paper industry is expanding its papermaking capacity at a faster rate than it is expanding its ability to produce pulp. It simply must be a national priority to encourage recycling.

The Wisconsin Paper Council recognizes that there is a potential problem with the introduction of PCB's into the environment. We strongly support strict controls on the manufacture, distribution, and use of PCB's and we favor a national ban on the importation of PCB's. But

the paper industry has not created this problem, it does not use PCB's in its processes, and it finds itself caught in the middle of this controversy merely because of its recycling efforts, which would be halted by the adoption of overly restrictive regulations.

For example, proposed regulations in Wisconsin place an incredible burden on our industry, requiring removal of PCB's to levels 1,000 times smaller than the Food & Drug Administration's temporary tolerances as applied to food.

Our industry has a history of cooperation with government agencies to reduce PCB levels in our finished products. We will continue to cooperate with the Food & Drug Administration, with the EPA, and with our own DNR to find solutions to the PCB problem in effluent. We concurred with Mr. Schweitzer when he testified in Wisconsin that "it is important to clarify the portion of the PCB contamination problem which can be attributed to specific discharges and the *practical feasibility of reducing the discharges.*" We hope that his Department recognizes that there is a difference in terms of environmental acceptance of various forms of PCB's and that this should be taken into account when dealing with any proposed regulations.

But we continue to appeal to you for reason. Let us admit together that we do not know enough, at least at this point, to promulgate reasonable regulations and that ill-conceived rules could mean economic catastrophe for a significant portion of Wisconsin's paper industry. The commitment of this industry is to Wisconsin and to its environmentally pure future. It has invested and will invest over \$300 million prior to 1980 to accomplish that goal. We only hope that realistic, reasonable, feasible, and responsible regulations will be proposed by the EPA which will bolster its reputation as a defender of the environment while at the same time not place it in a position of ridicule because it has suggested regulations so badly researched that they are either unenforceable or that they destroy recycling—one of the this country's most environmentally considerate industries.

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CHAIRMAN TIMM: Now for another change of pace, David Kotelchuck, followed by Lee Botts.

DR. DAVID KOTELCHUCK (United Electrical Workers Union, New York, New York): At present, several States are proposing new PCB standards while EPA is actively considering such a standard. New stand-

ards for PCB's are clearly in process. I would like to discuss a matter that is of great importance to electrical workers, the people first affected by PCB's in the environment and the people whose lives are most immediately affected by the changes in the standards, both in terms of the health and jobs.