

Produce Document
Q & A SHEET FOR RESPONSE TO EAGLE QUESTIONS ON PCB'S

Q. Why does GE use PCB's?

A. Because PCBs (polychlorinated biphenyls) are non-flammable, electrical manufacturers utilize them as an insulating fluid in capacitors and in certain kinds of transformers to eliminate fire hazards that may endanger human life.

Q. In what kinds of transformers are PCBs used?

A. PCBs are one of the ingredients of an insulating fluid, which has a GE trade-name of Pyranol, used in certain types of distribution transformers and railroad transformers (made in Pittsfield), medium transformers (produced in Rome, Ga.) and capacitors (made in Hudson Falls, N.Y.).

Q. When did the question of the potential hazard of PCBs first arise?

A. Only since the late 1960s was evidence discovered that PCBs tend to persist in the environment. Studies were conducted in recent years to measure the potential toxic and biological effects of PCBs on people, animals and the environment. There appears to be a difference of opinion as the seriousness of the threat to the environment.

Q. Has Pittsfield GE experienced any adverse impact from use of PCBs?

A. Our experience in nearly 40 years of use here in Pittsfield is similar to medical records over the country during the same period. This record shows that the only adverse health effects experienced by workers exposed to PCBs have been limited to occasional skin irritations which clear up quick.)

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Q. What are the environmental hazards of PCBs?

A. The very properties that make PCBs so useful in transformers and capacitors -- their stability and non-flammability -- also make PCBs persistent in the environment. They have been found in the tissues of fish and other wild life.

PCB-filled transformers and capacitors are delivered to customers as sealed units from which there is no escape under normal operation.

Q. Since the potential hazards of PCBs have become known, what steps has GE taken to protect the environment from their escape?

A. PCB transformers are delivered to customers as sealed units from which there is no escape of PCBs in normal operation.

In addition, since the late 1960s, Pittsfield GE has undertaken expensive system changes and rigorous control measures to prevent the escape of PCBs to the environment during manufacture, delivery, use, maintenance, repair and disposal of transformers or exposed parts. This has included such in-plant actions as use of specially-built diked handling areas, special storage areas, and use of the 2000-degree Fahrenheit thermal-oxidizer for destruction of waste Pyranol. These Pittsfield efforts have received recognition from the Massachusetts Division of Water Pollution Control, U.S. EPA, Associated Industries of Massachusetts, and the Audobon Society.

Q. Where are PCBs produced?

A. Commercially available PCBs are manufactured and sold in the U.S. exclusively by the Monsanto Company under the trade name, "Aroclor." GE uses PCBs as an ingredient in mixing the Pyranol insulating fluid.

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Since 1969, Monsanto has discontinued supplying PCBs for all uses other than "closed system" applications, such as insulating fluid in transformers and capacitors. The federal Food and Drug Administration, too, recognized the need for PCBs in appropriate applications. In 1973 they exempted "the safe use of PCBs in electrical capacitors and transformers" from a then-new requirement that PCBs no longer be permitted in food-related establishments.

Q. What are other applications for PCBs?

A. PCBs have also been used in paints, specialty inks, papercoatings, plastics, and hydraulic and heat transfer fluids. Loss of PCBs from these applications -- unlike sealed electrical equipment -- is difficult to prevent. Monsanto no longer sells PCBs for such applications. However, it is our understanding that such applications may continue, with PCBs from foreign suppliers.

Q. Is GE in compliance with existing federal regulations on the use and discharge of PCBs?

A. Yes on both counts. Recent samples by government and GE inspectors has shown that less than one-quarter pound per day of PCBs reaches the East Branch of the Housatonic River, which eventually receives the treated waste water from the Pittsfield plants. Virtually all of this amount is a residual from 40 years of use -- accumulated in pipes, drains and the ground. Little, if any, is from current transformer operations.

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Q. If PCBs are suspect, why does GE still use this material?

A. GE and other transformer manufacturers began using PCB-insulated transformers back in the 1930s for reasons of safety. Because PCBs are non-flammable, fire insurance underwriters and some federal regulations require transformers be protected with this material in the insulating liquid in or near public, commercial or industrial buildings where oil-insulated transformers would present a potential fire hazard and consequent danger to human life and property. They also are required in transformers on passenger trains, such as the commuter cars recently put into service on the Penn Central Railroad's New Haven Division. It was for this very reason of safety that the Federal Interdepartmental Task Force on PCBs approved their use in sealed electrical equipment in 1972.

Q. Are there available fluids that may be used in place of PCBs for the manufacture of transformers and capacitors?

A. There are alternative fluids, currently being marketed, for some applications. In no case, however, do the present alternatives offer the characteristics of non-flammability that seem mandatory for certain applications. For example, the case of a transformer under a commuter railroad car. Would it be prudent to use a flammable liquid in such a product?

Q. What is GE doing to find alternative fluids that are both safe and environmentally acceptable.

A. GE has conducted research over the last 30 years to find improved fluids. That research continues today. Given the high cost of PCBs, the company has every economic incentive to find acceptable alternatives. Recent studies with one possible

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alternative, silicones, have shown that the material is not as fire-resistant as PCBs, and would require redesigning and enlarging transformers to accommodate it.

Summary statement: General Electric does not feel that the use of PCBs in sealed transformers constitutes a serious danger to people or the environment. We have taken major steps to prevent the inadvertent loss of PCBs to the environment at all stages, from equipment manufacture through ultimate disposal.

More precisely, here in Pittsfield:

- (1) The inadvertent losses of PCBs to the environment are miniscule.
- (2) PCBs are contained in sealed transformers.
- (3) Accidental losses in transit by truck are controllable.
- (4) The Company offers controlled repair service through our service shops for PCB transformers throughout their life.
- (5) Waste PCBs are safely destroyed here in our 2000-degree Fahrenheit thermal-oxidizer.

Any proposal to ban the use of all PCBs -- even in sealed transformers -- could lead to other more severe impact on society (fire hazard) than the pollutant eliminated.

Jack Batty
8/7/75

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