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J Carey
RH Munich

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THE CAPACITOR PEOPLE
..FOR 40 YEARS

Subject: PHASE-OUT OF PCB IN CAPACITORS

You are probably aware that the most commonly used fluid to impregnate capacitors, Polychlorinated Biphenyl (PCB), has been the subject of environmental concern since 1968.

The sole manufacturer of PCB in the western hemisphere, Monsanto, voluntarily restricted its use in 1971 to capacitors and transformers which are closed systems. Monsanto also introduced a type of PCB that degrades more rapidly than older PCB's, and which - to the best of my knowledge - has not yet been found in the environment.

Because of growing environmental concern, a National Conference was held in Chicago during November of 1975 to discuss the "PCB Problem". No adverse health effects were reported in humans except the Japanese "Yusho" incident involving ingestion of PCB contaminated rice oil. PCB's do seem to be causing problems for certain species of marine and wildlife. The Food and Drug Administration reported that PCB concentration in food has dropped to virtually zero except in fish.

The man who originally identified the "PCB" problem, reported that the harm was probably caused by trichlorinated dibenzofuran (TCDF), and not PCB. TCDF was a contaminant in the Japanese PCB. Further investigations were suggested in Chicago to determine whether or not TCDF can be formed from PCB through a metabolic process. Most speakers at the Chicago conference recommended continued use of PCB in capacitors and transformers.

Unfortunately, only the negative reports seem to have influenced the press and the EPA. Monsanto announced on January 14, 1976, that they feel compelled to cease manufacturing PCB. Monsanto deserves a "well done" for the voluntary restrictions they imposed on themselves, and for their willingness to manufacture PCB for specific uses in the face of poorly informed but loud public criticism.

No timetable for the PCB phase-out has yet been set. A task group of industry and EPA officials has been established, and will probably discuss acceptable timetables. I am a task group member and will keep you informed.

ELECTRICAL UTILITIES COMPANY • LA SALLE, ILLINOIS 61301 • TELEPHONE 815-223-1732

In my opinion, the biggest issue the PCB phase-out raises is flammability. All known substitutes possess a fire hazard unknown to PCB capacitor users. The flash and fire points of the substitutes are above the normal capacitor operating temperatures, but these fluids are not as safe as PCB if electric arcs are encountered during capacitor failure.

Because of the possibility PCB could eventually be eliminated as a capacitor dielectric, EUC began testing non-PCB fluids in November of 1973 to gain experience.

I have enclosed a Product Development Bulletin announcing EUC's non-PCB dielectric, EUCANON-4, because it is a functional substitute; e.g. similar electrical characteristics and no increase in capacitor size. You may already have seen our bulletin which was first circulated in January of 1975. I encourage you to allow us to provide you with samples. We can even supply fairly large production quantities. I must caution you, however, that these non-PCB capacitors pose a fire hazard which the industry has not yet been able to quantify. Please exercise great care if these samples are released in consumer application tests wherein the fire hazard is not completely understood.

I will write you again when I know more about the details of the PCB phase-out. Contact us if you have any questions.

Very truly yours,

ELECTRICAL UTILITIES COMPANY

Richard L. Hauser

Richard L. Hauser
President

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