Dow Corning offers substitute for PCB's

Dow Corning is ready to market a new silicone transformer fluid that it expects will replace existing fluids containing polychlorinated biphenyls (PCB's). The new fluid is a dimethyl siloxane polymer that is similar to materials now being used in antifoam agents in a variety of applications, including foods. It will be marketed as Type 561 silicone transformer liquid.

In cooperation with transformer manufacturers and customers, Dow Corning has begun a commercial service life test program aimed at accumulating and disseminating operating data on the new fluid. Dow Corning electrical insulation specialist Tor Orbeck says that the program is necessary to inspire confidence in the alternative to PCB-containing oils, which have been used for more than 40 years. The intention with the data program is to monitor 1000 transformers for two or three years. Assuming that no unanticipated difficulties develop, Dow Corning then will begin general marketing. The company says that it now is capable of producing 14 million lb per year of the new fluid. Current selling price is $14 per gallon in quantity.

PCB's have been under attack from the Environmental Protection Agency and a number of environmentalist groups since 1970 because they are toxic to humans. Monsanto, the only producer of PCB's in the U.S., already has announced that it will cease manufacture of them as soon as an acceptable substitute has been found.

Even though a replacement for PCB's now has apparently arrived, it still will be some time before they can be phased out of use. Retrofitting old transformers is difficult because of some possible incompatibilities with the new fluid. There also is the problem of retrofitting older units equipped with silicone gaskets and seals, which tend to swell in contact with silicone liquids. Probably the most vexing problem is what to do with the old PCB-containing oils. Orbeck says that there are only a half-dozen incinerators in the U.S.

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