January 29, 1971

Mr. R. F. Casey
Substation Operation & Maintenance Engineer
Ohio Edison Company
47 North Main Street
Akron, Ohio 44308

Dear Mr. Casey:

Your letter dated January 20, 1971 addressed to Mr. D. A. Olson was forwarded to me for response since I have been closely involved with the polychlorinated biphenyl environmental problem.

Since February, 1970 when Mr. Olson wrote his letter informing our customers of a potential problem, there has been increasing evidence that PCB's of chlorine content less than 54% have been found in the environment generally near the source of contamination. There is also increasing evidence that the PCB's being identified as Aroclor 1254 and Aroclor 1260 are probably the residues from lower chlorinated materials which had undergone degradation. Because of this limited information we have concluded that control of all PCB's is indicated.

A large percentage of our production has had a chlorine content of less than 54%. However since our Aroclor products are mixtures of many isomers, the higher chlorinated versions have been present in virtually every mixture in varying amounts. These higher chlorinated isomers are very resistant to degradation; therefore, will continue to build up in the environment unless controlled.

We have an active program for evaluating new materials for use in Askarel applications. The most promising material developed to date is a modified PCB from which the persistent higher chlorinated isomers have been virtually removed resulting in a fluid which has attractive dielectric properties but if it escapes into the environment is more biodegradable. Samples of this material, which we have designated as MCS 1016, are now being evaluated by many of

the capacitor manufacturers. If test results confirm that this material is an acceptable fluid we plan to produce it in commercial quantities by mid-year 1971.

An incinerator capable of destroying Askarels must operate at temperatures ranging from about 2000°F to 3000°F and must have facilities for scrubbing the stack gases to prevent hydrogen chloride gases from escaping to the atmosphere. This type of unit can be relatively costly to install and operate but it can be justified if the volume of material to be destroyed is great enough. It may be economically practical for several units of this type to be located throughout the country providing a service to the utilities nearby. We plan to operate our unit to gain experience to help evaluate the practicality for installing more units.

At present only one State, Pennsylvania, has objected to the disposal of Askarel contaminated solids in properly managed landfills. I recommend that landfills be used as long as they are authorized. Certainly if the liquid is drained from failed equipment the potential for migrating into the environment, already very small, is reduced considerably. In the meantime we are continuing our studies on the incineration of these solids and hope to have a unit in operation before the end of the year.

I recognize the many problems that the PCB environmental contamination problem has created; however, I am optimistic that Askarels with their many beneficial characteristics will continue to serve the industry if we all follow good housekeeping and disposal practices.

I recommend that you seriously consider participating in the NEMA-ANSI effort to coordinate the Askarel handling problem country-wide.

I hope this information is useful to you. If I can be of further service, please let me know.

Sincerely,

W. B. Papageorge
Manager
Environmental Control

WBP:ms