Copy

GENERAL ELECTRIC COMPANY

100 Woodlawn Ave.
Pittsfield, Mass.

March 13, 1944

Mr. R. S. Weatherly
Monsanto Chemical Company
1700 South Second Street
St. Louis, Missouri

Dear Mr. Weatherly:

This letter refers to yours of February 29th in which you ask for equipment necessary to make the impregnation test.

The electrical equipment concerned would be a bridge for measuring the 60 cycle power factors. We use a Wein bridge. Such a bridge having a capacity reading between .1 and 10 microfarad and a test voltage range from 100 to 1,000 volts would be satisfactory. A bridge having an accuracy of ± .02% power factor would give you sufficient accuracyfor the purpose. I am not in a position to give you the cost of such a bridge, but I am taking it up with our laboratory department in order that you may obtain a cost estimate through regular channels.

In addition to the power factor bridge, you would need a series of vacuum tanks and a testing bath in order to get the temperature from room temperature to 100°C. I believe, however, that you could set these up in your own laboratory. A vacuum dessicator of suitable size can be adapted. You would also need a vacuum pump. If you use a small impregnation tank such as a vacuum dessicator, one of Cenco high vacuum pumps would be sufficient. I assume that you have McLeod gauges or their equivalent for reading low pressures in the laboratory. The treating tank would have to be equipped with heaters in order to give a temperature in the range from 100 to 125°C. Of course, suitable control equipment, such as temperature recorders and temperature control, would have to be obtained. These are standard equipment and I have no cost figures immediately available. In testing the power factor of the treated capacitors, we take tests at 25, 50, 75 and 100°C. Of course, if desired, the capacitors after impregnation could be put in an air oven or in a temporary bath to give the desired temperatures. In addition, you would need to obtain from us unimpregnated capacitors.

After my associates have given you the cost of the bridge, if there is any way in which we can be of assistance to you, please let us know.

Yours very truly

F. M. Clark
PITTSFIELD WORKS LABORATORY

FMC:cs

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