St. Louis - General Office

February 28, 1967

TECHNICAL SALES REPORT
SANGAMO ELECTRIC, PICKENS,
SOUTH CAROLINA - AROCLOR 1242
PLASTIC FILM CAPACITORS

H. S. Bergen - HBERG
G. R. Buchanan
R. C. Hamil - ATLANTA
Dr. R. Munch - SECOND STREET
Dr. W. R. Richard - WRICH
J. D. Wright - ATLANTA
J. Cresce - JCRES

Messrs: Paul Hoffman, C. Swinyer, R. McClosky
Monsanto Messrs: R. Hamil, P. G. Benignus

Sangamo has made some 150 KVAR power capacitors using polypropylene (Hercules B-500 film), Aroclor 1242 and paper.

Sangamo is convinced that polypropylene is the only film of commercial interest. Properties and cost dictate this, as we have known. They do not complain about the "offensiveness" of Aroclor 1242 against the PPL film.

There is confirmation at hand that General Electric is working on blowing their own PPL film. This readily understandable facet puts a very interesting slant on this capacitor business.

However, there is evidence that General Electric has had shrinkage problems with the film, and that the program is not moving ahead rapidly. It does not have to. The Seattle bank ordered as long ago as 1-1/2 years, is just now being installed. This is experimental and users are not pressuring General Electric competitors for similar apparatus. Only General Electric has the resources to introduce this development. They will time commercial aspects according to their wishes.

Data from several sources convinces me that the 150 KVAR, plastic film capacitor contains 30 to 32 pounds of Aroclor 1242. This is about $4.80 worth of Aroclor; a small factor in a piece of apparatus that costs near $128.00 to manufacture.

This brings up an interesting point about capacitor economics as related to the dielectric constant of the fluid.

It is known that full advantage of a higher dielectric constant Aroclor could not be realized in a paper system, because of relatively higher losses resulting in heat. However, as the plastic film capacitor provides significantly lower losses it should be possible to take greater advantage

STLCOPCB4058906

of a higher dielectric constant Aroclor in such a system.

General Electric's ("typical") appraisal of this was, "Give us a higher dielectric constant Aroclor at the same price as Aroclor 1242 or cut the price of the latter". Otherwise General Electric threatened to make their own by a simpler method than desribed in our patents. They said we missed our signal and were foolish to publish our patents because the signal is there. If there is anything to this, it is a Research problem, not a marketing matter.

Sangamo gave a more kindly appraisal by acknowledging that the higher dielectric constant Aroclor (as we know it to be) may be worth a premium price of 20 to 30 percent over Aroclor 1242 in the film system. This would approach the price we had asked for Aroclor HDK-1 in large quantity.

While this may open a Pandora's Box from a production point of view, it may be desirable to study and reevaluate this thing. The time may come when Monsanto will need to offer this to thwart competitive forces.

Sangamo gave me the temperature profiles for their film capacitor. This is confidential data that relates to their specific design, and is not for general distribution.

The use of dimethyl silicone oil for capacitors going into the large Paulo Alto lasser system was discussed. As an economic expedient we again developed Sangamo's interest in our OS-59 for this purpose, presumably at $15 per gallon.

The capacitor business is booming and Sangamo expect to use at least 10 percent more Aroclor 1242 this year vs 1966.

P. G. Benignus

/ecd

DSW 200843