



THE DOW CHEMICAL COMPANY

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July 25, 1966



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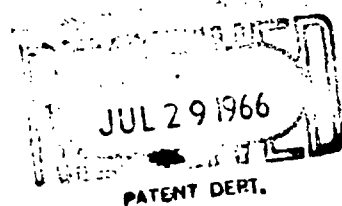
Dear Mr. Kelly:

Re: Your Letter of May 27 on Irradiated Plastic Pipe Proposal

First of all, I wish to apologize for my delay in replying to your letter which got into a wrong file basket on my desk. I will now attempt to supplement the answers given to you by Mr. Rudy in his letter of June 9. The numbers will refer to your paragraphs.

1. I have discussed with some of the people here in the Plastics Department the question of broadening out the agreement to cover things other than pipe. We are agreed in principle that other fabricated products could indeed be included, although we would ultimately have to know something of your intentions in order to define the terms of the proposed agreement.
6. Actually the copies of physical data which I left with you pretty much represent the limits of our current knowledge. We have spent time on this project in the interim studying new chemical systems, such as additional monomers and additives, rather than in trying to obtain more physical data on the styrene-PVC system.
7. Dr. Harmer would be happy to cooperate with you in radiating samples of pipe which you have prepared. The two-foot lengths will be easy for him to handle. You will probably realize that a 25% styrene formulation will be rather flexible and resemble a plasticized polyvinyl chloride. It may tend to deform under its own weight unless it has some actual physical support. Dr. Harmer feels that such pieces might be stiff enough if stood on end in a bundle.

MTC 017266



July 25, 1966

8, 9, 10 -- These three questions relating to our economics involve a rather detailed study which we do not currently have available. As I indicated to you last fall, we have never operated a pilot plant in connection with this process. Therefore, we do not have some of the detailed information which you would like to know. We are not even certain of the exact physical methods by which the pipe should go through the Cobalt source nor details on the curing oven. Hence, it is difficult for us at this time to make accurate cost estimates.

Furthermore, the actual amount of radiation, and therefore the amount of Cobalt needed, will depend on the exact styrene content, being higher the more styrene there is present. It will further depend on how the source is arrayed geometrically and also on the final efficiency in using the radiation which, in turn, depends on the exact geometry.

Mr. Jack Mighton of the Plastics Department and Dr. Harmer are attempting to rough out some preliminary costs to give you a rough idea of what might be involved. If you still continue to be interested, then we should try to home in on a specific composition and set up conditions and attempt a more rigorous cost calculation. Even the efficiency, for example, depends on diameter of pipe and therefore would be different for 2" pipe than for 4" pipe. Trying to calculate through a large number of cases like this will be a rather timely procedure. We estimate that we will have the rough calculations ready for you sometime late in August. Vacation schedules preclude finishing such calculations before this time.

I trust that this will allow you to assess further your interest in our PVC proposal. It almost appears to be a prerequisite that some of our technical people should get together and try to resolve a number of these detailed questions face-to-face around a conference table.

Sincerely yours,



R. F. Boyer
Director of Plastics Research

RFB/bp

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