February 23, 1976

Mr. Cesar DeLeon
Acting Director
Office of Pipeline Safety
Department of Transportation
Washington, DC

Dear Mr. DeLeon:

I would like to have the question clarified of limiting thermoplastic materials to 100°F when used in natural gas distribution. Having worked on the AGA, ASTM, and PPI technical committees for a good many years I understand the reason for the limitation, but I would like an interpretation from you.

The prime reason for limiting the use of thermoplastic materials to 100°F, as I understand it, is because it looses its hoop and longitudinal strength as the temperature increases, especially over 100°F.

My question is, "If the thermoplastic material is completely encased (especially in a service riser situation) in a material, such as fiber glass reinforces epoxy pipe to maintain its hoop and longitudinal strength at 140°F, is it then suitable to bring it above ground?"

It has been demonstrated that the currently used polyethylene material in the gas distribution systems have the ability to expand at higher temperatures and act as a liner in the higher hoop strength materials and still maintain their gas tight integrity. Thus, it seems a logical solution to utilize the hoop strength of a higher temperature material to withstand pressure at higher temperature.

Respectfully,

Eldon W. Morain, P.E.
Manager of Plastic Division

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