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Mr. Darren Dunker, PE
National Engineering Manager
THOMPSON PIPE GROUP
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SUBJECT: Use of PCCP and BWP in AC powerline ROW's; Effects of AC Powerlines on PCCP & BWP

Dear Mr. Dunker:

Prestressed concrete cylinder pipe (PCCP) and bar-wrapped pipe (BWP) have been installed in AC powerline right-of-way's (ROW's) for years and I am not aware of any AC corrosion interference issues to PCCP or BWP.

The issues with AC interference in the past decade have been on steel pipelines coated with the newer highly-electrically resistive organic coatings on the market. These pipelines are well-coated and have very few small pinholes or flaws in the coating. These small areas of coating imperfections provide a location for extremely high current densities from AC sources (such as AC powerlines) to develop which can initiate and produce corrosion at a rapid rate resulting in pinhole leaks through the pipe wall.

In contrast, high AC current densities do not develop on mortar-coated pipe because portland cement mortar and concrete is not a highly-resistive coating relative to the newer organic coatings. The current density on PCCP or BWP from nearby AC sources will be exceedingly lower than that required to cause AC interference concerns. This is because the current is spread over the entire steel surface (cylinder, rod, and wire) on PCCP and BWP and not just over a fraction to a few square centimeters of steel that may be exposed on an organically-coated (highly electrically resistive coated) steel pipeline.

As such, mortar coated ferrous pipe (PCCP, BWP, and mortar-coated steel pipe) are expected to perform better than polyurethane or polyethylene (PE) tape-wrapped steel pipe or PE-wrapped (baggies) ductile iron pipe (DIP) when exposed to AC interference sources unless other forms of protection are added.

In general, corrosion control recommendations for PCCP, BWP, steel pipe, and DIP are to bond the joints and monitor. Organically-coated steel pipe and DIP should also be cathodically protected.

Please let me know if you require additional information.

Sincerely,

Sylvia C. Hall

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