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Project Title: Demonstration of ECDA Applicability and Reliability for Demanding Situations (Prj#195)
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This project includes the identification and demonstration of specific technologies to assess demanding pipeline situations (e.g., cased and non-cased crossings, pipe with no or shielded coatings, segments with stray currents or interferences from multiple pipes in right of ways). Demonstration of the capability and reliability of existing/proposed technology for these specific situations will result in a decision tree (protocol/recommend practice) of what direct assessment (DA) techniques and technologies are most effective for each situation.

The results will include expected reliability numbers for defect identification. Quantitative, reproducible assessment results will be stressed. These results and recommendations will be fed into industry standards and recommended practices (e.g., ASME and NACE) to ensure the fastest possible implementation of research benefits -- improved safety, ability to assess pipeline segments that have no alternate method available (i.e., expand DA applicability), and increased reliability of the DA method. This project will includes support from a group of 23 gas company participants that will contribute pipeline segments for assessment, pipe inspection resources, and excavation and examination costs to demonstrate the DA technologies.

During the seventh quarter of the project, completed the analysis of two additional Cased Crossings (Part of Task 5):

1. First a 300 foot casing below an expressway:
    a. Pipe installed 1948, and replaced by 24.00" diameter, 0.375” wall, Grade x60, with a 400 psig MAOP, coated with hot applied asphalt in 1985. The 30" diameter casing was not coated. The casing was installed in 1959 when the expressway was built. Initial testing with PCM and P/S and C/S voltage

measurements indicate a possible short between the carrier pipe and the casing.

2. Also conducted a case study on a pipe line segment with a 76 foot casing under abandoned and removed rail line:
    a. The line was installed in 1985, and is 24.00" diameter, coated with extruded PE backed mastic tape wrap.
    b. The 30" diameter casing is not coated and the casing is not filled with a corrosion mitigation material, and is vented. The only possible path for water intrusion is through the end seals.

Future project activities will include:

> Identifying and scheduling a possible fifth case study site.

> Continue refining the draft of the "GWUT Protocol" by expanding/adding to the current draft document. When this procedure is combined with the "Selection Matrix" it will form a two-part set to assist with the proper selection of tools for each demanding situation and the expected % Reliability of Prediction. Upon completion of the Demanding Situation "Procedure" & "Selection Matrix", a summary will be drafted for review by ASME and NACE for possible inclusion into their appropriate consensus standards.

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