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Date of Report: Feb. 28, 2007
Contract Number: DTPH56-06-T-000001
Prepared for: DOT
Project Title: Demonstration of ECDA Applicability and Reliability for Demanding Situations (Prj#195)
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For quarterly period ending: February 28, 2007

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 include 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 third quarter of the project,

Continued with the analysis of the indirect inspection and direct exam data generated from the first four case studies conducted during the first three quarters of the project. The case studies were not originally scheduled to start until the current (3rd) quarter. Received comprehensive, ultrasonic inspection report for all the case/field studies completed during the first three quarters:

- City Gate
- Bare Pipe
- Casing under Highway
- Casing under Abandoned Railroad Line.

Continued work on the "Demanding ECDA Situations Comprehensive LRGW-UT Procedure" which will incorporate all the lessons learned from this and past in-kind project case studies regarding Guided Wave Technology. The first rough draft was submitted to DOT for review. Future revisions will include:

- Flow charts detailing major steps/actions.
- Examples with quantitative data
- Glossary and List of Acronyms
- References to the standard methodologies from applicable API, NACE, and ASME standards/practices for non-Guided Wave Tools (e.g., CIP, DCVG, PCM, cell-to-cell, side drain, soil resistivity, etc.).

Future project activities will include:

Continue analysis of inspection data generated during the first four case studies and complete up to two additional case studies in 2007. Each case study will be written up with tools used, what was predicted, and what was actually found (% Reliability of Prediction). This data will then be combined with in-kind (past) project data to form a comprehensive "Selection Matrix" with % Reliability numbers for each tool's (primarily guided wave technology) performance when used for a particular demanding situation (e.g. cased crossing).

Continue working on the "Demanding ECDA Situations Comprehensive Procedure" 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.

The procedure will incorporate all the lessons learned from this and past in-kind project case studies regarding Guided Wave Technology, as well as applicable references to NACE (and other) standards for non-Guided Wave Tools (e.g., CIP, DCVG, etc.).

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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