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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 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 second quarter of the project,

GTI and volunteer pipeline operators completed the field portion of three of six planned case studies for the project. This included a segment of 16" diameter bare (uncoated) ~400ft long section of pipeline. The Indirect Inspection was completed with Guided Wave Technology the week of 04-Sep-2006. The project also conducted a Magnetic Tomography inspection of the same pipe section in October 2006. The entire ~400ft was excavated and underwent external and internal direct examination (week of 06-Nov-2006) to validate the indirect inspection results. Two independent cased pipe sections were also assessed during the 2nd Quarter. The third case study (week of 02-Oct-2006) on a 24" diameter cased (hot asphalt coating) ~300ft long section of pipeline which crossed a major, multilane highway. Three independent long range ultrasonic inspection

crews each performed inspections at three dig locations on the line. Two different LRUT technologies were used. After the casing was removed, direct examination of 75ft of pipe was conducted a week later (week of 09-Oct-2006). The east 225 feet of casing will not be removed, but will have a tethered pig inspection early next year (2007) for validation of the guided wave inspections and incorporation into the case study write-up. A fourth project case study was commenced the week of 02-Oct-2006 on a 24" diameter cased (mastic backed, extruded PE tape coating) ~76ft long section of pipeline. This section crossed an abandoned rail line. Direct examination of a portion of the accessible line was conducted a week later (week of 09-Oct-2006) after part of the casing was removed. GTI is currently analyzing all data from the first four case studies and aligning indirect inspection results with direct exam findings. Data to be presented in a future report.

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