



Enhancement of the Long-Range Ultrasonic method for the Detection of Degradation in Buried, Unpiggable Pipelines

DTRS56-02-T-0007

PHMSA ACCOMPLISHMENTS

Pipeline and Hazardous Materials Safety Administration

Pipeline Safety Research and Development

Technology Development for Improved Corrosion Mitigation

Project Abstract

The project aimed to develop better technologies for detecting degradation in buried, unpiggable, pipelines. It will include these tasks:

1. Benchmark existing technology for metrics;
2. Compare lamb waves vs. shear horizontal waves;
3. Conduct finite-element modeling of ultrasonic guided wave responses from defects;
4. Develop hardware and software for frequency tuning and time delay profiling;
5. Develop simplified signal interpretation;
6. Improve instrumentation of sensors.

PHMSA Funding: \$ 655,564

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NET Improvement

Improvements were integrated in the TeleTest operating software that facilitates the new sound beam focusing technique. It improves the sensitivity and range of inspection and identifies which quadrant of the pipe circumference contains the defect measured in cross sectional area. Hardware improvements were also made to support the multi wave focusing.

US Patent under DOT Contract:
N/A

Commercial Partner

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