Internal Corrosion Direct Assessment Detection of Water DTPH56-06-T-000010

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 a method to use with the Internal Corrosion Direct Assessment (ICDA) process to detect water in non-piggable lines. This method goal is to be low cost and will entail introduction of small, wireless sensors capable of detecting water inside pipelines that flow with the gas stream. Determining the presence and corrosivity of water is an important component of internal corrosion direct assessment of pipelines. The currently available inspection techniques are limited because some cannot be applied to all pipelines and others require prior knowledge of sensors locations and costly pipeline excavation.

PHMSA Funding: $ 352,000

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NET Improvement

This effort designed, developed and validated the Sentinel Aqua wireless sensor system that can detect the presence and location of water in gas pipelines. The sensor system is in the form of a 1.5" diameter sphere that can roll along the pipe propelled by gas flow. This technology compliments the ICDA process and will help improve pipeline integrity and reduce the threats of internal corrosion for both piggable and unpiggable lines by enabling operators to determine if a line has any water accumulation and where it the accumulation sites are located.

US Patent under DOT Contract:
N/A

Commercial Partner

Aginova
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