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Managing the Integrity of Early Pipelines
Agreement DTRS56-03-T-0003
4th Quarterly Status Report (Payable Milestone 3)
Period January 1, 2004 to March 31, 2004

Contractor: Battelle

The focus of this project is developing technology and trending the results to help manage the condition and integrity of vintage pipelines. The first five milestones have been met – an overview of the work products developed to meet the most recent milestone directed at quantifying and trending threats and related degradation in pipelines follows.

Work in this reporting period completed the analysis of relative defect severity. The models formulated in meeting the requirements of the prior milestones were used to evaluate possible presentation formats to characterize pipeline serviceability in simple terms that are field applicable. This work considered parametric variations in line-pipe properties, defect characteristics, and failure mode via plastic collapse versus fracture, to explore trends in serviceability. These analyses considered kinetics reflecting a range of degradation mechanisms and evaluated the significance of initiation thresholds. This work scope considered the major degradation modes including corrosion, fatigue, SCC, and hydrogen cracking.

Work continues directed at mapping re-inspection interval and such concerns to facilitate direct analysis of threat severity.

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