

## Quarterly Report

### Public Page

Date of Report: *March 31, 2016*

Contract Number: *DTPH56-14-H-00003*

Prepared for: *Government Agency: DOT*

Project Title: *Strain-based design and assessment in critical areas of pipeline systems with realistic anomalies*

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For quarterly period ending: *March 31, 2016*

### 1 Work Completed in this Quarter

All pipes needed for the project were received and all girth welds were made.

The focus of the model development work in this quarter was on (1) model evaluation with testing data and (2) model refinement. The models for assessing the burst pressure of pipes with corrosion anomalies under high longitudinal compressive strain was evaluated with testing data and refined models were developed. The guidelines for assessing the compressive strain capacity of pipes with dents were evaluated with testing data and refined guidelines were developed.

The small-scale tensile tests and characterization tests (including chemical analysis, metallography, and microhardness) of the pipe and weld materials used in the full-scale tests were completed. The small-scale compression tests are underway. The small-scale tests of the pipe and weld materials used in the curved wide plate tests are underway.

Three full-scale bend testing (for pipes with transition welds) and one additional full scale bending/burst test for pipes with corrosion anomalies were completed. All full scale tests of this project were completed.

Six of eight CWP specimens were fabricated and four of the six completed specimens were shipped to NIST for testing.

Monthly reports were submitted online. One review meeting was held on 1/12/2016.



## 2 Work Planned for the next Quarter

The work planned for the next quarter includes: (1) small-scale tests, (2) curved-wide plate tests, (3) evaluation and refinement of assessment models for transition welds, and (4) project management, monthly and quarterly reports, and meetings.

