

## Quarterly Report

### Public Page

Date of Report: *September 30, 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*

Prepared by: *Center for Reliable Energy Systems (CRES), C-FER, NIST, and CANMET*

Contact Information: *Ming Liu (mliu@cres-americas.com, 614-376-0767) and Yong-Yi Wang (yywang@cres-americas.com, 614-376-0765)*

For quarterly period ending: *September 30, 2016*

### 1 Work Completed in this Quarter

The assessment equations for the compressive strain capacity of pipes with transition welds were finalized. The guideline document for corruptions were drafted and being reviewed internally. The document for dents and transition welds are being drafted.

The small-scale compression tests of the pipe materials used in the full-scale tests were completed. The Charpy impact tests of the girth weld materials used for the CWP tests were completed. The CTOD and SET tests of the girth weld materials used for the CWP tests are underway. The CWP specimens are ready for testing.

Monthly reports were submitted online. One review meeting was held on 9/21/2016.

### 2 Work Planned for the next Quarter

The work planned for the next quarter includes: (1) small-scale tests (CTOD and SET), (2) curved-wide plate tests, (3) evaluation and refinement of the tensile strain models for transition welds, (4) development of the guideline document, and (5) project management, monthly and final reports, and meetings.



Natural Resources  
Canada

Ressources naturelles  
Canada