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Quarterly Report – Public Page

For Period Ending: September 30, 2008

Contract Number: DTPH56-07-T-000006

Prepared for: United States Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety

Project Title: “Validation of Assessment Methods for Production Scale Girth Welding
of High Strength Pipelines with Multiple Pipe Sources, #275”

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Project Summary

This project addresses gaps in the understanding of girth welding of X100 grade high strength steel pipelines. The objectives of the project are:

1. To test a large set of girth welds produced under realistic conditions by a state of the art high productivity GMAW system;
2. To demonstrate the effect of material variability between pipes, between heats and between pipe manufacturers; and
3. To validate current and proposed new weld defect assessment methods against the performance of a large set of welds made under field production conditions.

The project will test girth welds made during the construction of the BP X100 Operational Trial to determine their properties and defect tolerance. The activities will include: a) Review of construction records and selection of welds for examination; b) Test program design; c) Weld testing and examination; d) Evaluation of defect tolerance of welds using fitness for purpose assessment criteria; and e) Reporting and dissemination of results.

Technical Status

Pressure cycling of the Operational Trial has continued satisfactorily. As of 26 September 2008, a total of 10,900 pressure cycles have been accumulated.

A technical report has been issued to the project team identifying candidate girth welds for mechanical testing. The selection was focused on those welds from Section B, as requested by the Client of the Operational Trial as additional testing outside the scope of this project is being considered for Section A.

Mechanical testing of the girth welds selected from section B will enable the following factors to be investigated:

- Weld strength mismatch
- Variation in parent pipe properties due to adjoined pipes being from:
 - the same supplier, same heat,
 - the same supplier, different mill, and
 - a different supplier.
- Weld defects: deliberate defects and natural welding defects.

Work has also been undertaken to plan out the mechanical test program. This is work in progress.

Plans for Future Activity

Continue pressure cycling of X100 Operational Trial (estimated completion February 2009) and other activity as per project plan.

Confirm the type and number of tests to be undertaken for the mechanical test program and confirm the test schedule.