5th Public Page Quarterly Report

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Contract Number: DTPH5615T00009
Prepared for: Pipeline and Hazardous Materials Safety Administration
Project Title: Development of Comprehensive Pressure Test Design Guidelines
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Objective

The objective of this project is to develop comprehensive guidelines for the design of pressure tests that could be incorporated into industry standards. A goal of this project is to provide guidance on how to plan for, execute and evaluate pressure tests based on the most current knowledge and industry needs. The work will draw heavily on what has been learned by pipeline operators and pressure-testing contractors who have performed pressure tests on thousands of miles of pipelines. As well, the work will take into account the significant amount of research on pressure testing that has been carried out from the 1960s through the present by government, private and public organizations.

Results and Conclusions

Efforts related to the development of guidelines for pressure test planning (Task 4) and pressure test execution (Task 5) continued this fifth quarter. An interim report providing guidelines for pressure test planning was delivered to PHMSA on December 20, 2016 (Task 4). An interim report providing guidelines for pressure test execution is scheduled to be submitted to PHMSA by February 2017 (Task 5). An interim report providing guidelines for pressure test evaluation is scheduled to be submitted to PHMSA by the end of March 2017 (Task 6).

The goals of Task 4 were originally outlined in the proposal for work and were further developed by Task 2 and Task 3. The Task 4 report covers a broad range of material related to pressure test planning; however, recommendations for the following key design aspects were provided:

- Effectiveness of pressure testing
- Test pressure to operating pressure ratios - minimum and maximum test limits
- Spike testing - when spike testing is advisable, inadvisable, or discretionary as well as providing guidance on appropriate pressure levels
- Effect of known defect types on pressure testing and planning
- Test media comparisons and selection considerations
- Effect of biaxial loads

Plans for Future Activity

Work will continue on Tasks 5 and 6 in the next quarter (6th Quarter). Tasks 5 and 6 are scheduled to be completed in the 6th Quarter. Work will initiate for the development of other guidelines (Task 7) in the 6th Quarter. Task 7 is scheduled to be completed in the 6th Quarter.