

## 7th Quarterly Report – Public Page

Date of Report: June 1, 2015

Contract Number: DTPH56-13-T-000011

Prepared for: DOT Pipeline and Hazardous Material Safety Administration

Project Title: Above-Ground Detection Tools Including Disbondment and Metal Loss for all Metals Including Cast-Iron Graphitization

Prepared by: Gas Technology Institute

Contact Information: Dr. Kiran Kothari; kiran.kothari@gastechnology.org; 847-768-0893

For quarterly period ending: May 31, 2015

**Results and Conclusions:** GTI has initiated activities to determine the applicability of this technology for the determination of graphitization in cast iron. One goal of this activity is the construction of an in-ground facility for graphitized cast iron (CI) testing. A series of tests to characterize the cast iron samples and to calibrate the response of the Spar on these samples is first being carried out above ground. The Broadband Electromagnetic (BEM) technology was applied to non-destructively evaluate the degree of graphitization in three cast iron sample at GTI. Several tests were carried out during this quarter in an above ground setting to determine the response of the system to the graphitized CI. An indoor test procedure was developed that provides accurate location data without the need for GPS. The initial data indicates there is a response to the presence of the graphitized cast iron.

**Plans for Future Activity:** During the next quarter the following activities are planned:

- Complete the Task 2 interim report on the testing of coated steel lines in Chicago
- Execute field tests with two additional utilities
- Complete above ground testing of cast iron samples using Spar sensors
- Perform a critical design review on the above ground cast iron test data
- Determine the go/no-go status of the cast iron effort
- Construct in-ground test strings to baseline Spar performance on graphitized cast iron
- Continue monthly conference calls with the PHMSA representatives
- Write the next milestone, monthly, and quarterly reports.