

CAAP Quarterly Report

Date of Report: July 8, 2016

Contract Number: DTPH56-15-H-CAP05

Prepared for: U.S. Department of Transportation

Project Title: Application of Amorphous Metals for Plastic Pipeline Detection

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For Quarterly Period Ending: June 30, 2016

Business and Activity Section

(a) Generated Commitments

None to report.

(b) Status Update of Past Quarter Activities

- Magnetic field distortion experiments have been executed to understand and utilize the unique properties of amorphous metals for magnetic detection. The student researcher has developed a test fixture and measurement method for comparing various tag material compositions and geometry. Preliminary conclusions about tag composition have been made, and a path forward will be determined during a scheduled July 25, 2016, meeting with the project's industrial partner, Metglas.
- Investigation into the use of plastic pipes has started in order to identify typical applications, size ranges, and locations. Pipeline suppliers have been contacted to gain information and obtain a variety of sized plastic pipes for current and future testing.
- Project progress has been monitored with daily updates among the EERC team and through regular contact with Dr. Eric Theisen of Metglas. Progress was also reviewed this reporting period by Thomas Finch of the Pipeline and Hazardous Materials Safety Administration, who visited the EERC on June 22, 2016.

(c) Description of any Problems/Challenges

None to report.

(d) Planned Activities for the Next Quarter

- The magnetic field distortion experiments will be completed, and a preferred material and tag geometry will be identified. Prototypes of this configuration will be produced with support from Metglas and subsequently evaluated for performance.
- A business case study will also be developed to evaluate the feasibility of introducing an amorphous-based locating system to the market.