

CAAP Quarterly Report

Date of Report: 3/31/2023

Project Name: Performance Evaluation and Risk Assessment of Excessive Cathodic Protection on Vintage Pipeline Coatings

Contract Number: 693JK32250008CAAP

Prime University: The University of Akron

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Reporting Period: 1/1/2023-3/31/2023

Project Activities for Reporting Period:

- Task 1. Identification of vintage pipeline coatings and influencing factors in coating cathodic disbondment (University of Akron and Marquette University)

Task 1 is in progress this quarter. The PhD student, Yuhan Su, at The University of Akron is working on literature reviews to understand pipeline coatings and the influencing factors in coating cathodic disbondment.

- Task 2. Evaluation of coating cathodic disbondment considering key influencing factors through laboratory testing (University of Akron)

Task 2 will start on the 3rd quarter of this project.

- Task 3. Numerical simulation of pipeline coating disbondment behavior and CP system (Rutgers University)

Task 3 will start on the 5th quarter of this project.

- Task 4. Probabilistic degradation model of coated pipe wall due to excessive CP (Marquette University)

Task 4 will start on the 5th quarter of this project.

- Task 5. Determination of recoating time using reliability-based approach (Marquette University)

Task 5 will start on the 9th quarter of this project.

Project Financial Activities Incurred during the Reporting Period:

No financial activity in this reporting period. The award budget is just generated at The University of Akron. The paperwork for subcontracts will start next quarter.

Project Activities with Cost Share Partners:

No cost share activity during this reporting period.

Project Activities with External Partners:

Dr. Qixin Zhou and Dr. Qindan Huang (Sub-university) have bi-weekly meetings to update the progress of each other and discuss the work of this project. Dr. Huang is hiring graduate students to work on this project. Contact information of external partners has been collected.

Potential Project Risks:

No potential project risks during this reporting period.

Future Project Work:

The first objective of Task 1 will be completed in the next 30 days, which is to classify pipeline coatings.

The second objective of Task 1 will be completed in the next 60 days. That needs to answer some specific questions on pipeline coating properties and cathodic disbondment conditions as proposed.

The third objective of Task 1 will be completed in the next 90 days. That requires to understand the key influencing factors on the cathodic disbondment of the identified coating type.

Potential Impacts to Pipeline Safety:

From the literature reviews in Task 1, the types of coatings used on vintage pipelines that have issues with excessive cathodic protection are identified. This could provide potential guidelines to pipeline industry regarding vintage pipelines.