Internal Report – Public Page

Date of Report: *4th Quarterly Report – September 30, 2022*

Contract Number: *693JK3211RA0001*
Prepared for: *DOT PHMSA*
Project Title: ***Using Alternative-Steel and Composite Material in Gas and Hazardous Liquid Pipeline Systems***

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For quarterly period ending: *September 30, 2022*

1: Work Performed During this Quarterly Period

Task 2 – Evaluate Material Properties and Testing Procedures:

Key work activities in this task were identification of required material properties and setting testing procedures and sample sizes for planned tests. Work in this quarter included:

- Submitted testing procedures for proposed bending, impact loading, and stepped loading pressure tests. Proposed the loading setup and samples sizes.
- Performed web-conferences with the manufacturers participating in the Technical Advisory Panel (TAP). Evaluated the proposed testing procedures. Assessed existing load frame and laboratory resources to ensure suitability of the testing modifications.
- Negotiated Non-Disclosure Agreements (NDA) with two manufacturers to initial samples delivery and testing.

Task 3: Design for Maximum Allowable Operating Pressure:

- Reviewed available literature and standards to identify gaps in the existing qualification procedures for determining maximum allowable operating pressure in composite pipes
- Developed a complementary testing procedure based on identified gaps. Discussed the procedure with the TAP members.
- The Appendix shows C-FER task report.

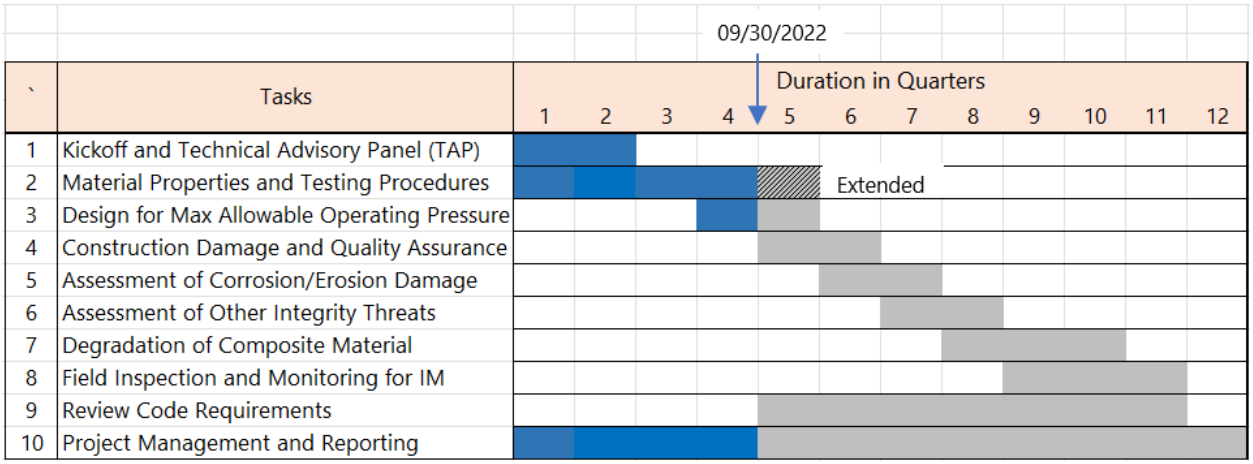
Task 9: Review of Code Requirements: Worked on the review of the special permits requirements and provisions provided by PHMSA in the last 15 years.

2: Future Work

- Complete consultation with the technical advisory panel to finalize the choice of test to perform. Receive test samples.
- Perform full-scale evaluation of selected composite pipes for prominent failure mechanisms that have been identified.

3: Project Schedule

Figure 1 shows the project schedule and progress as of the end of this quarter. Task-2 work is extended to the following quarter. This extension is not expected to result in project delay.



`	Tasks
1	Kickoff and Technical Advisory Panel (TAP)
2	Material Properties and Testing Procedures
3	Design for Max Allowable Operating Pressure
4	Construction Damage and Quality Assurance
5	Assessment of Corrosion/Erosion Damage
6	Assessment of Other Integrity Threats
7	Degradation of Composite Material
8	Field Inspection and Monitoring for IM
9	Review Code Requirements
10	Project Management and Reporting

Figure 1 - Project time schedule