

2nd Quarterly Report

Date of Report: *December 17, 2015*

Contract Number: DTPH5615T00014

Prepared for: *DOT PHMSA*

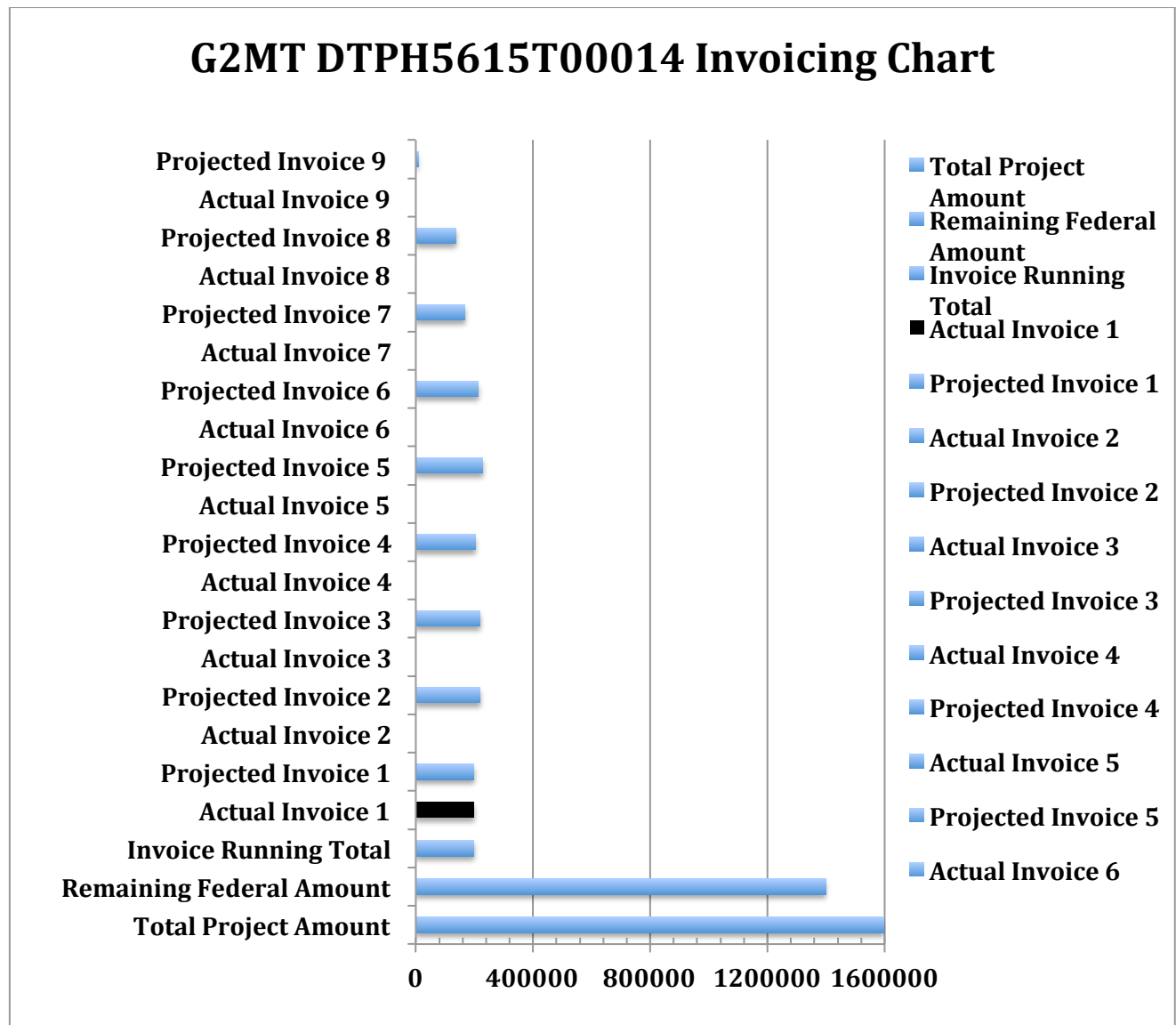
Project Title: "Use of Electromagnetic Sensors to Quantify Strength and Toughness in Steel Pipelines In and Out of Service"

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For quarterly period ending: *December 18, 2015*

Funds and Work Completed During this Quarterly Period



(a) Technical Status

The work performed during this first reporting period included having the kick-off meeting and working on Tasks 1-4 in Objective 1. Objective 1 consists of beginning calibration procedures to develop the electronic property to quantify strength and toughness on any steel pipeline located in the United States. The pipeline steels can have yield strengths potentially ranging from less than 40 ksi (past) to greater than 120 ksi (future). Task 1 includes collecting vintage pipe samples from cost share partners and pipe suppliers located across Texas. Task 2 includes performing measurement on pipes in the field and sections of pipe removed from the field for G2MT to perform full metallurgical analysis on the samples. Task 3 includes fully characterizing all of the new and vintage pipeline specimens collected that have not already been rigorously characterized. Task 4 includes characterizing the strength and toughness of the collected steel specimens. The microstructure and fracture characteristics to evaluate both the brittle and ductile fracture behavior are being characterized.

(b) Business Status

Since the project has started, G2MT has begun the first three activities which include: (1) Holding project discussions with industrial partners to seek additional input, set up agreements, and solidify the plans for collaboration; (2) Holding the kick-off team meeting and modifications to the research program if necessary. We did not make any changes to the research program during the kick-off meeting; and (3) Collect pipes and perform initial field visits to analyze the pipelines with the eProperty system and characterize the pipes through mechanical and metallurgical analysis. G2MT has completed the first of these two activities and is still completing the third activity. The third activity will be ongoing throughout the project as new pipe is found or collected for partners or new partners not yet found.

Through December 15, 2015, G2MT has accomplished the first interim milestones and the quarterly (interim) reporting is on track according to the budgeted expenditures. The total amount of cost-sharing for this period was \$824,000. The proposed budgeting for the first interim periods was \$198,400 and the actual expenditures for each period have equaled the budgeted amounts.

(c) Payable Milestones

The invoice associated with this quarter includes the budgeted \$198,400.00 payable for the 1st interim report period. The remaining funds following payment of the 1st invoice will be sufficient to complete the proposed testing and demonstration period on or ahead of the schedule described in the project proposal.