

## DOT PHMSA Public Quarterly Report

**Date of Report:** *1<sup>st</sup> Quarter 2020 Report - March 31, 2020*

**Contract Number:** *693JK31910001POTA*

**Prepared for:** *USDOT – Pipeline and Hazardous Materials Safety Administration (PHMSA)*

**Project Title:** *Review the Intent and Safety Impact of Hoop Stress and Percentage of Specified Minimum Yield Stress Boundaries on Natural Gas Transmission and Distribution Pipelines*

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**For quarterly period ending:** *March 31, 2020 (Project Q2)*

### 1: Items Completed During this Quarterly Period:

<u>Item No.</u>	<u>Task No.</u>	<u>Activity/Deliverable</u>	<u>Payable Milestone</u>	<u>Federal Payment</u>	<u>Resource-Share</u>
5	2	Regulatory Definition Review	Task 2 Interim Report: Regulatory Definition Review	\$44,355	\$9,685
6	3	In-Depth Literature Search	Task 3 Interim Report: In-Depth Literature Search (w/Draft Knowledge Database Summary)	\$73,960	\$20,426
7	4	In-service and Incident History Analysis	Task 4 Interim Report: In-service/Incident History Analysis (w/Draft Pipeline Information Database Summary)	\$65,042	\$17,462
8	8	2nd Quarterly Status Report	Submit 2nd quarterly report	\$7,620	\$2,619
		<b>Second Payable Milestone</b>	<b>SUBTOTAL</b>	<b>\$190,977</b>	<b>\$50,192</b>

### 2: Items Not-Completed During this Quarterly Period:

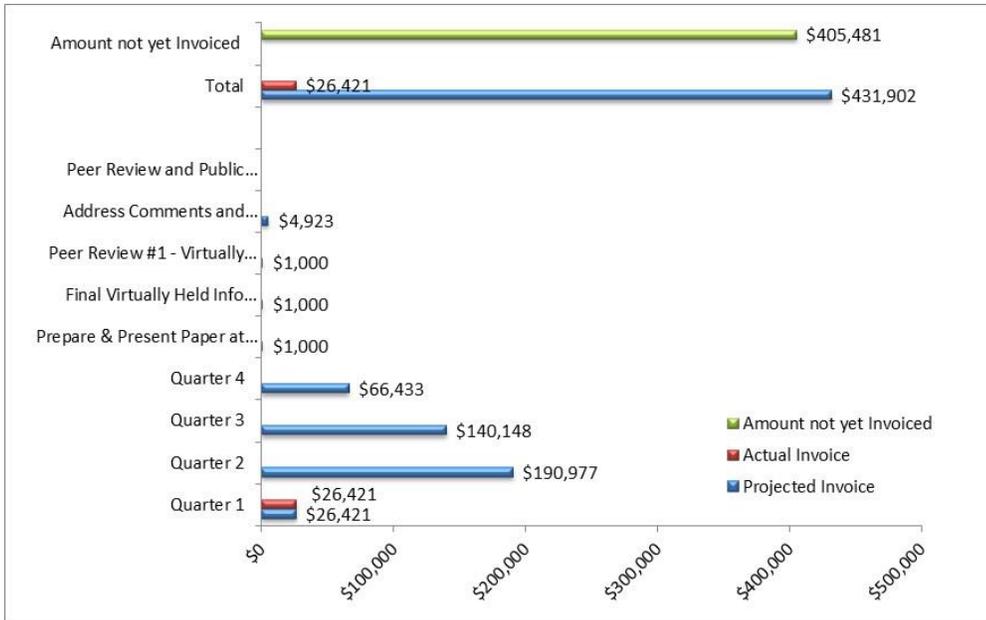
- None

### 3: Project Financial Tracking During this Quarterly Period:

The nature of the contract for this research effort is fixed price, with clearly defined milestone/deliverable payments.

**Figure 1** outlines projected invoicing, as well the invoice submitted upon delivery of the second quarter payable milestone.

**Figure 1. Quarterly Payable Milestones/Invoices (Federal Costs)**



**4: Project Technical Status**

<b>Task #</b>	<b>Activity</b>	<b>Milestone / Deliverable</b>	<b>Cost</b>
1	Kickoff, Contracting, and TAP	Task 1 Interim Report: Kickoff Meeting Minutes, TAP Scope Review and confirmation, Subcontract statement of Work (SOW) in place.	<b>Completed</b>
<i>This task was completed and invoiced for in a prior project quarter.</i>			
2	Regulatory Definition Review	Task 2 Interim Report: Regulatory Definition Review	
The regulatory definition review made significant progress during the project quarter, and all the regulations and supporting standards reviewed through the 2 <sup>nd</sup> project quarter have been summarized in <i>Attachment #1</i> to this report.			

3	In-Depth Literature Search	Task 3 Interim Report: In-Depth Literature Search (with Draft Knowledge Database Summary)																															
<p>The in-depth literature search made significant progress during the project quarter, and the literature reviewed through the 2<sup>nd</sup> project quarter have been summarized in <i>Attachment #1</i> to this report.</p>																																	
4	In-Service and Incident History Analysis	Task 4 Interim Report: In-service/Incident History Analysis (with Draft Pipeline Information Database Summary)																															
<p>The in-service and incident history analysis made significant progress during the project quarter. A detailed summary of the progress completed and the remaining analysis for this task is summarized in <i>Attachment #1</i> to this report with a summary of the datasets and work activities presented in the table directly below.</p> <p style="text-align: center;"><b>Table: Datasets and Work Activities of Task 4</b></p> <table border="1" data-bbox="217 739 1338 1014"> <thead> <tr> <th>Dataset</th> <th>Data Processing (Sorting &amp; cleaning)</th> <th>Data Harmonization</th> <th>Data Analysis (Power BI)</th> <th>Statistical Analysis</th> </tr> </thead> <tbody> <tr> <td>NTSB Incidents records</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✗</td> </tr> <tr> <td>GT&amp;G Pipeline Inventory</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✗</td> </tr> <tr> <td>HL Pipeline Inventory</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> </tr> <tr> <td>GT&amp;G Incidents</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✗</td> </tr> <tr> <td>HL Incidents</td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> </tr> </tbody> </table> <p>✗ Not started    ✓ Complete</p>				Dataset	Data Processing (Sorting & cleaning)	Data Harmonization	Data Analysis (Power BI)	Statistical Analysis	NTSB Incidents records	✓	✓	✓	✗	GT&G Pipeline Inventory	✓	✓	✓	✗	HL Pipeline Inventory	✓	✗	✗	✗	GT&G Incidents	✓	✓	✓	✗	HL Incidents	✗	✗	✗	✗
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GT&G Incidents	✓	✓	✓	✗																													
HL Incidents	✗	✗	✗	✗																													
5	Sensitivity Study of Pipeline Features/Parameters	Task 5 Interim Report: Sensitivity Study of Pipeline Features/Parameters																															
<p>The sensitivity study task made significant progress during the project quarter. A detailed summary of the progress completed and the remaining analysis for this task is summarized in <i>Attachment #1</i> to this report.</p>																																	
6	Safety Considerations for Segment Classifications	Task 6 Interim Report: Safety Considerations for Segment Classifications																															
<p>The safety considerations for segment classifications task made significant progress during the project quarter. A detailed summary of the progress completed and the remaining analysis for this task is summarized in <i>Attachment #1</i> to this report.</p>																																	

7	Summary Report	Task 7 Draft Final Report (with Final Task 3 and 4 Databases)	
<i>This task is scheduled to start in a future quarter.</i>			
8	Project Management	Ongoing: Monthly Updates, Quarterly Reports, Peer Review, Virtual Final Meeting, Public Presentation/Paper, Final Revision of Task 7 Summary Report	
<p>Monthly Updates were submitted.</p> <p>Project Schedule: As noted in the prior quarterly report, it took nearly 3 months to complete all five contracts/subcontracts for the project. This slowed the initial project progress and a 3-month extension was formally requested during the 2<sup>nd</sup> project quarter for Tasks 2 through 7 - as shown in the project schedule in the section below. This will provide the time allocated to complete each task per the original proposal/SOW.</p>			

## 5: Project Schedule

Project Task	Start	Finish	% Complete	2019		2020				
				Q3	Q4	Q1	Q2	Q3	Q4	
1 - Kickoff, Contracting, and TAP	10/1/2019	12/31/2019	100%							
2 - Regulatory Definition Review	11/1/2019	3/31/2020	60%							
3 - In-Depth Literature Search	11/1/2019	3/31/2020	60%							
4 - In-service and Incident History Analysis	10/1/2019	3/31/2020	70%							
5 - Sensitivity Study of Pipeline Features/Parameters	1/1/2020	6/30/2020	25%							
6- Safety Considerations for Segment Classifications	1/1/2020	6/30/2020	25%							
7 - Summary Report	4/1/2020	9/30/2020	0%							
8 - Project Management	10/1/2019	9/30/2020	35%							

## Attachment #1 - Combined Interim Task Reports for Tasks 2 to 6

The attached internal 73-page report contains four interim task reports for the project:

- Task 2 Interim Report: Regulatory Review
- Task 3 Interim Report: Literature Search (Historical Technology and Trends)
- Task 4 Interim Report: Incident Data Bases
- Task 5 and 6 Interim Report: Sensitivity Study and Safety Classifications

These tasks are still ongoing and additional work will be completed prior to the final report.

The Task 5 and Task 6 combined interim report was added to this compendium even though it was not required. It was felt that a very detailed technical plan was necessary as early as possible in the project and it was developed in parallel as Tasks 1 to 4 have been underway.

Additionally, over two dozen references are included at the back of this report and cited throughout the sections.