

External Quarterly Report**Date of Report:** 4th Quarterly Report -September 30th, 2025**Contract Number:** 693JK32410008POTA**Prepared for:** DOT PHMSA**Project Title:** A Non-Destructive Toughness Measurement**Prepared by:** GTI (Gas Technology Institute)**Contact Information:** Ernest Lever, elever@gti.energy , 847-544-3415**For quarterly period ending:** September 30th, 2025

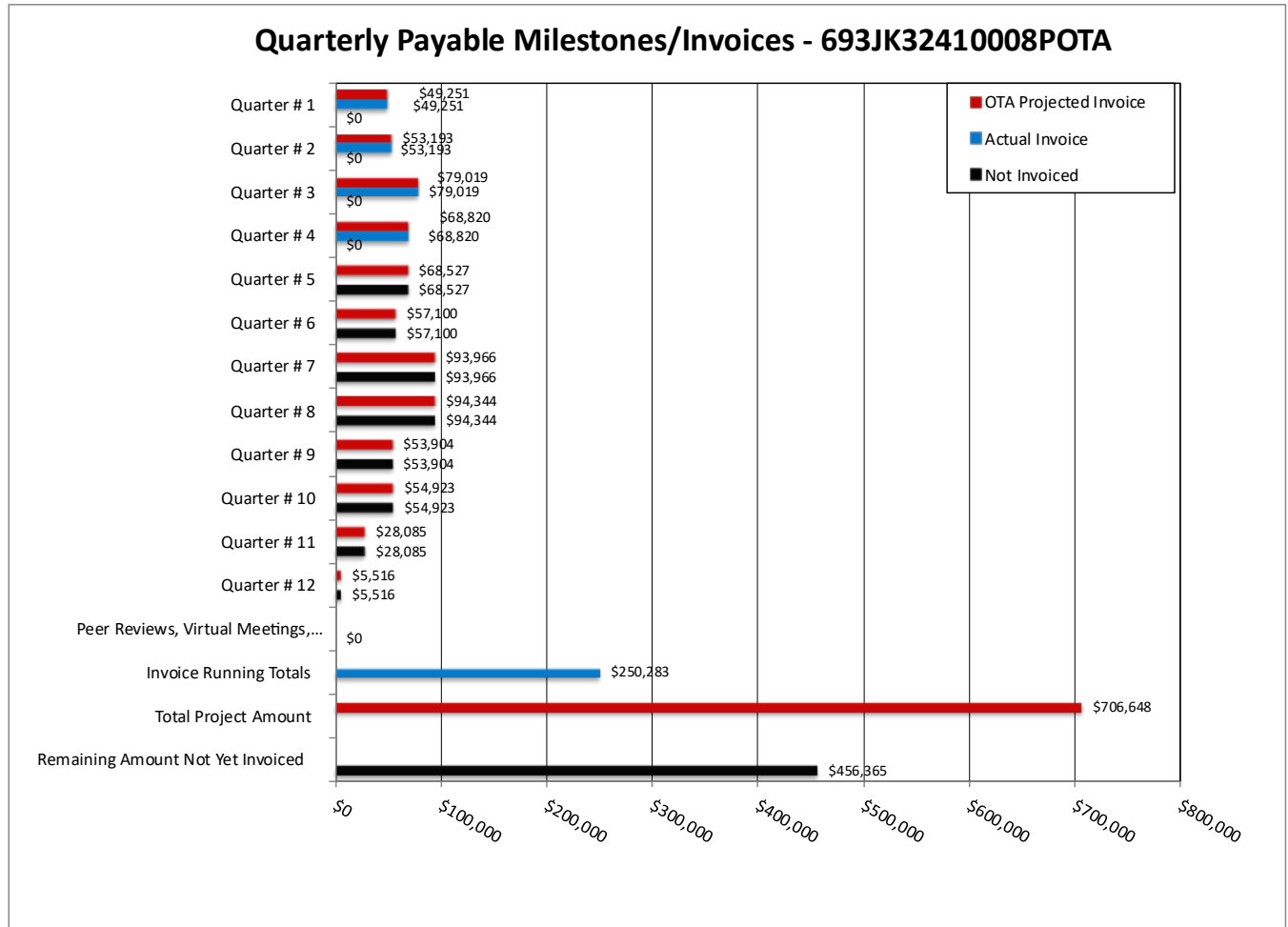
1: Items Completed During this Quarterly Period:

<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>	<i>Federal Cost</i>	<i>Cost Share</i>
13	3	Database Design and Data Ingestion	Second Interim Database Report	27,949.00	92,932.00
14	8	Data Analysis and Toughness Prediction Model Refinement	First Interim Data Analysis and Prediction Model Refinement Report	35,772.00	42,125.00
15	10	4 th Quarterly Status Report	Submit 4 th quarterly report	5,099.00	7,206.00

2: Items Not Completed During this Quarterly Period:

1. No outstanding Q4 deliverables.

3: Project Financial Tracking During this Quarterly Period:



4: Project Technical Status

The project is progressing to plan and budget with no outstanding deliverables. There are two deliverables due this quarter:

1st. Appendix 1: Second Interim Database Report

- Tables for the various categories of data were created in accordance with the data scheme reported on in the Quarter 2 report.
- Raw data collected in the tests performed have been post processed to properly populate the project data tables.
- Scripts are being prepared to generate specific reports using data connectors to extract the relevant data required by the reports.
- Examples of outputs are shown in Appendix 1: Second interim Database Report

2nd. Appendix 2: First Interim Data Analysis and Prediction Model Refinement Report

The following report presents the experimental details and the results of instrumented Charpy testing of 10 pipeline steels conducted at GTI energy. The impact energy versus temperature data is used to estimate the fracture toughness of pipeline steels based on empirical relationships from the literature, BS 7910 “Guide to methods for assessing the acceptability of flaws in metallic structures” and WRC 265 “Interpretive report on small scale test correlations with KIC data.”.

Work completed not related to current quarterly deliverables

Further, collaborations with non-destructive technology providers, Frontics North America and MP Machinery are progressing as planned. Additionally, we will be working with InnerSpec Technologies Inc on correlating magnetic coercivity measurements of pipeline steels with fracture/impact toughness for development of their ILI/NDT tool. The progress of on-going collaborations is in the internal quarterly report..

End of report