

**4<sup>TH</sup> QUARTERLY REPORT – PUBLIC**  
GTI PROJECT NUMBER 21873

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**Project Title: Statistical Review and Gap  
Analysis of LNG Failure Rate Table**

**Contract Number: DTPH56-15-T-00008**

**Date of Report:** 4<sup>th</sup> Quarterly Report – Sept. 30, 2016

**For Quarterly Period Ending:** Sept. 30, 2016

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## **Funds and Work Completed this Quarterly Period**

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The following work was performed during this quarterly period.

**Task 6. Revisit/Finalize Framework, Protocols, and Data Analysis** – The project team began Task 6 during this quarter, as highlighted by these accomplishments:

- We reviewed the project’s Preliminary Results resulting from Task 5 with PHMSA and others on July 28. Additional input and comments were received regarding failure rate data sets, prior analysis, and potential additional SMEs that could be contacted to seek additional relevant equipment failure rate data.
- We continued to pursue identifying additional relevant equipment failure rate data sources. Specific activities completed during this quarter included additional telephone conversations and in-person meetings with SMEs that could suggest additional potential relevant data sources, such as:
  - we followed-up and contacted the additional individuals and contacts identified during the July 28 review of the Preliminary Results;
  - we continued additional follow-up efforts with some of the SMEs contacted during Task 4; and
  - we pursued additional new contacts to other SMEs.
- We modified the project database to increase the ability to perform sensitivity analysis within specific datasets.
- We performed a statistical analysis of PHMSA’s natural gas transmission incident database, in order to refine the application of this data to the specific piping size categories in PHMSA’s current LNG Failure Rate Table and to confirm the results of a previously-identified analysis.
- We performed additional analysis of the UK HCRD data set, in order to try to further identify opportunities to assess leakage rate data on particular components, and in comparison to a commercial analysis based on this data set.
- We gathered and reviewed additional information relevant to the analysis of the 3E-5 threshold criteria.

**Task 7. Develop Gap Analysis and Summarize Gap Analysis** – The project team began Task 7 during this quarter.

**Task 8. Prepare and Submit Draft Final Report** – The project began Task 8 during this quarter. Activities included developing new ways to graphically illustrate the findings.

**Task 9. Program Management** – GTI continued Task 9 during this quarter, as summarized by these accomplishments:

- We submitted an abstract to speak about this project at the American Gas Association Operations Conference to be held in May 2017, in support of the contract requirement to disseminate the project results.
- We prepared and submitted Monthly Reports and this Quarterly Report.

- We communicated with DOT/PHMSA's AOR, subcontractor CH-IV International Inc., and performed other Project Management activities.
- During this quarter PHMSA issued modification #0001 to this contract to update the milestone deliverable schedule.

No payable milestones were completed during this quarter. The deliverable completed was:

1. Quarterly Report #4. Due to DOT within twelve (12) months of the effective date of the Agreement. Completed on Sept. 30, 2016.

## **Results and Conclusions**

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The Preliminary Results from the project were submitted to PHMSA on June 30, 2016 and are summarized in this project's 3<sup>rd</sup> Quarterly Report submitted on June 30, 2016; the reader is referred to that document for that summary.

The Preliminary Results are being further refined and developed during the current Tasks, and the project's final results and conclusions will be available when those Tasks are completed.

## **Plans for Future Activity**

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Planned activities for the next quarter include:

- Conduct next call with PHMSA and the project TAP.
- Complete Task 6 – Revisit/Finalize Framework, Protocols, and Data Analysis.
- Complete Task 7 – Develop Gap Analysis and Summarize Process Results
- Complete Task 8 – Develop Final Report with Recommendations
- Submit monthly reports and final quarterly report.