



2nd QUARTERLY REPORT – PUBLIC
GTI PROJECT NUMBER 22647

Evaluation of the Efficacy and Treatment of Hazard Mitigation Measures for LNG Facilities

Report Issued:

March 31, 2020

Prepared For:

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety
DOT PHMSA Agreement #693JK31910003POTA

GTI Team Project Manager:

Rich Kooy, P.E.
Senior Institute Engineer
847-768-0512
rkooy@gti.energy

In Coordination With:

Blue Engineering and Consulting Co.



1700 S. Mount Prospect Rd.
Des Plaines, Illinois 60018
www.gti.energy

Legal Notice

This information was prepared by Gas Technology Institute (“GTI”) for DOT PHMSA under Agreement Number 693JK31910003POTA.

Neither GTI, the members of GTI, the Sponsor(s), nor any person acting on behalf of any of them:

a. Makes any warranty or representation, express or implied with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately-owned rights. Inasmuch as this project is experimental in nature, the technical information, results, or conclusions cannot be predicted. Conclusions and analysis of results by GTI represent GTI's opinion based on inferences from measurements and empirical relationships, which inferences and assumptions are not infallible, and with respect to which competent specialists may differ.

b. Assumes any liability with respect to the use of, or for any and all damages resulting from the use of, any information, apparatus, method, or process disclosed in this report; any other use of, or reliance on, this report by any third party is at the third party's sole risk.

c. The results within this report relate only to the items tested.

Table of Contents

Legal Notice	i
Table of Contents.....	ii
1: Items Completed During this Quarterly Period	1
2: Items Not Completed During this Quarterly Period.....	1
3: Project Financial Tracking During this Quarterly Period	1
4: Project Technical Status	3
Activity: Task 2 – Identify Mitigation Measures to be Evaluated	3
Activity: Task 3 – Summary of Baseline Effectiveness of Mitigation Measures to be Evaluated	3
Activity: Task 4 – Summary of Uncertainty of Effectiveness of Mitigation Measures.....	3
Activity: Task 9 – Project Management.....	3
5: Project Schedule.....	3

1: Items Completed During this Quarterly Period

Table 1 shows the items and deliverables (from Attachment #3 of Agreement) that were completed during this Quarter.

Item #	Task #	Activity/Deliverable	Payable Milestone Title	Federal Cost	Cost Share
4	2	Identify Mitigation Measures to be Evaluated	Summary of Mitigation Measures to be Evaluated	\$20,122	\$0
5	9	Project Management Activities	2nd Quarterly Report	\$4,737	\$1,863

Table 1 – Items Completed During this Quarterly Period

2: Items Not Completed During this Quarterly Period

There were no items and deliverables that were scheduled to be completed during this Quarter that were not completed during this Quarter.

3: Project Financial Tracking During this Quarterly Period

The contract for this research effort is fixed price, with milestone/deliverable payments. **Figure 1** shows the projected invoicing upon delivery of this quarter's invoice, which reflects Quarterly Payable Milestones in Table 1 for this quarter.

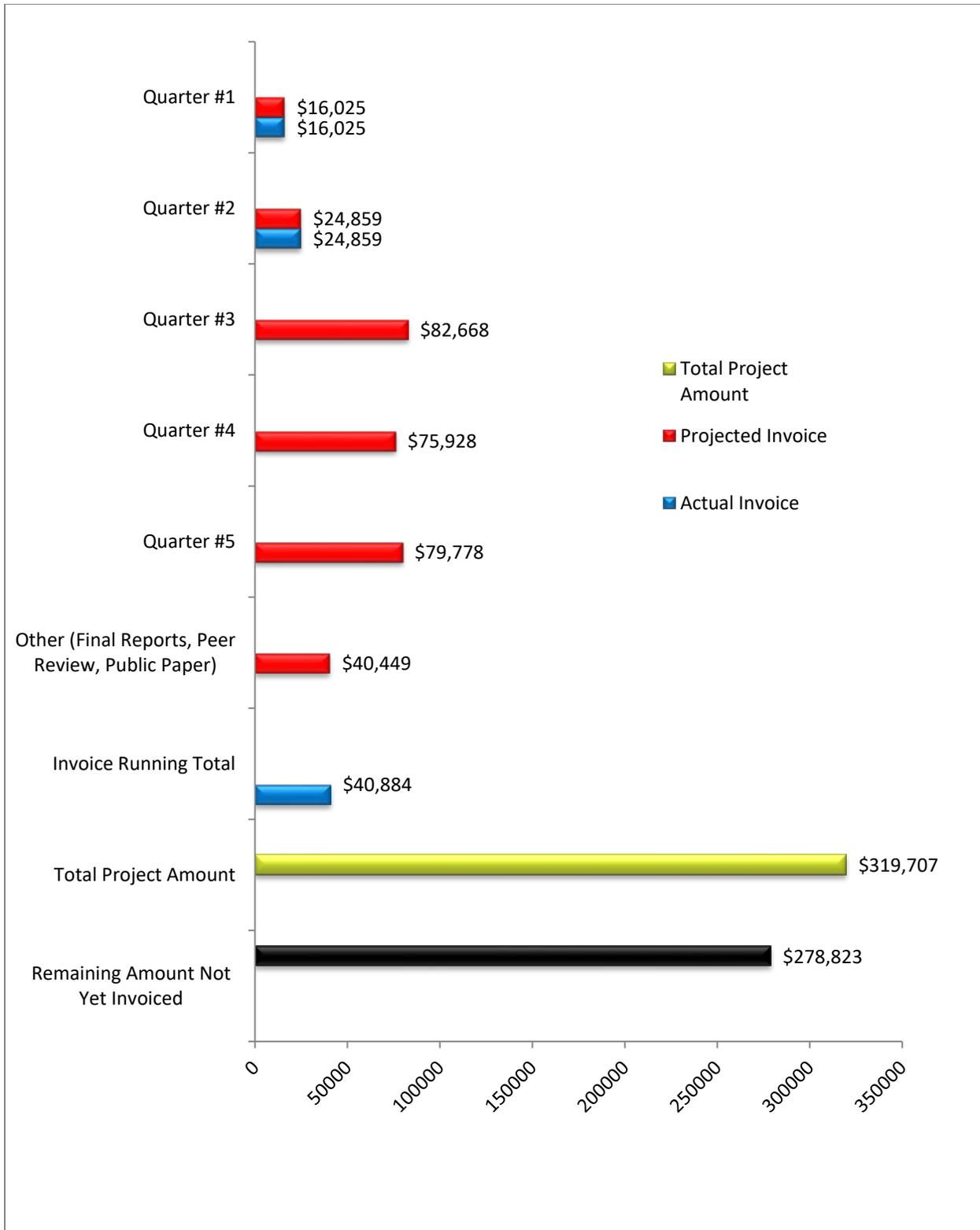


Figure 1. Quarterly Payable Milestones/Invoices

4: Project Technical Status

Activity: Task 2 – Identify Mitigation Measures to be Evaluated

The project team completed Task 2 and submitted the project deliverable entitled *Summary of Mitigation Measures to be Evaluated* on the date due to PHMSA. The six mitigation measures to be evaluated in this project will be:

- Water Curtains
- High Expansion Foam
- Insulating Polymer Concrete
- Insulating Floating Foam Blocks
- Minimizing Release Duration (i.e. control system enhancements)
- Vapor Barriers

Activity: Task 3 – Summary of Baseline Effectiveness of Mitigation Measures to be Evaluated

The project team began working on and preparing the project deliverable entitled *Summary of Baseline Effectiveness of Mitigation Measures* to result from Task 3. The project team's efforts included communications with a leading manufacturer of insulating floating foam blocks and with a leading US university, to help ensure that the project team's review had not missed any key experimental test results.

Activity: Task 4 – Summary of Uncertainty of Effectiveness of Mitigation Measures

The project team began more in-depth analysis of the references and information that will be used to develop the subsequent project deliverable entitled *Summary of Baseline Effectiveness of Mitigation Measures*.

Activity: Task 9 – Project Management

The project team continued working on Task 9:

- Submitted second quarterly report.

5: Project Schedule

The project is on track and no changes in the project schedule are anticipated. The project schedule is shown in Figure 2, which contains no revisions or changes from the prior version.

The project team remains highly engaged. Mr. Claudio Marsegan, PE, CFEI, joined other existing participants from Blue on the project team.

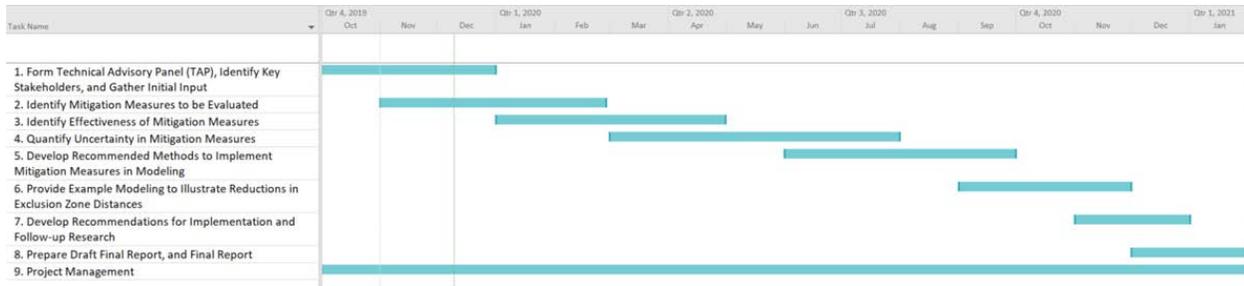


Figure 2. Project Schedule

END OF REPORT