Public Quarterly Report

Date of Report: 3rd Quarterly Report – June 30, 2023

Contract Number: 693JK32210006POTA

Prepared for: The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (DOT-PHMSA)

Project Title: Accelerating Pipeline Leak Detection Quantification Solutions Through Transparent and Rigorous Scientific Validation

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For quarterly period ending: June 30, 2023

1: Items Completed During this Quarterly Period:

Item #	*Task #*	*Activity/Deliverable*	*Title*	*Federal Cost*	*Cost Share*
3	*2*	Survey existing and emerging LDAQ operational practices. Summary of current RPs from TAP members and other contributors	Report on leak detection method applicability in adverse conditions.	78,915	
4	*3*	Testing protocols for controlled and field testing. Reviewed by TAP and revised.	Testing protocols selected, reviewed and presented	39,458	
5	*xx*	2nd Quarterly Status Report	2rd Quarterly Status Report	2,000	
		2nd Payable Milestone		**$120,373**	

2: Items Not Completed During this Quarterly Period:

Task 4 Comprehensive experimental data sets from METEC test site is in progress and will be reported in the next quarterly report. The 3rd payable milestone will be invoiced at that time.

3: Project Technical Status

During this quarter, tasks 2.3 and 3.2 were reviewed and completed by the project team. The following section outlines the progress that was made during the quarter and modifications that were made for each deliverable. These deliverables will further assist with task 4.1: controlled tests at METEC in diverse operating conditions and 4.2: controlled tests leak field sites in diverse operating conditions.

Activity 6, Task 2.3 2 – Guidance document on leak detection method applicability in adverse conditions

During this task the team systematically reviews the applicability of existing and emerging LDAQ methods to underground NG pipeline leaks in diverse conditions based on peer-reviewed literature, industry and vendor publications, conversations with industry and solution providers, and field site observations. Additional review from the rest of the team was completed and necessary updates were made to enhance the holistic approach of the report.

The report can be found in **Appendix 1 (redacted in Public report)**.

Activity 7, Task 3.1– Draft testing protocols for controlled and field testing for TAP review/comments

During this task the TAP reviewed testing protocols that are going to be used for controlled and field testing. The team received feedback from the industry partners and updated protocols.

Testing protocols can be found in **Appendix 2 (redacted in Public report)**.

Presentations and Conferences

During this period the following presentations and conferences were attended.

1. Group members participated at the American Gas Association, Operations Conference & Biennial Exhibition and Spring Committee Meeting, Held on May 1-4, 2023, at Grapevine, Texas.
2. Dr. Smits presented the research study at the Texas Society of Professional Engineers.
3. Smits, K.M., GHG Reduction Opportunities through Detection and Quantification of Belowground Natural Gas Pipeline Leaks, Texas Society of Professional Engineers (TSPE) Annual Meeting, Dallas TX, May 11, 2023, Invited presentation.
4. Stuart Riddick presented to METECs IAB the preliminary findings from RPLUME/UPSIDE/APPLIED research on April 11, 2023.

Other activities during this quarter:
N/A

4. Project Schedule
Project is on schedule.

Appendix 1 and 2: Redacted for Public report

1. Applicability of Leak Detection and Quantification Methods to Underground Natural Gas Pipeline in Diverse Conditions: Analysis of Existing and Emerging Efforts

2. METEC Controlled Test Protocol: Belowground Pipeline Leak Detection and Quantification