

Quarterly Report – Public Page

Date of Report: 3rd Quarterly Report, June 29, 2023

Contract Number: 693JK32210001POTA

Prepared for: Government Agency: DOT and Co-funders

Project Title: Developing Corrosion Control Monitoring Technology for Hazardous Liquid Breakout Tanks

Prepared by: Pipeline Research Council International, Inc.

Contact Information: Dorothy Lam, email: dlam@prci.org

For quarterly period ending: June 30, 2023

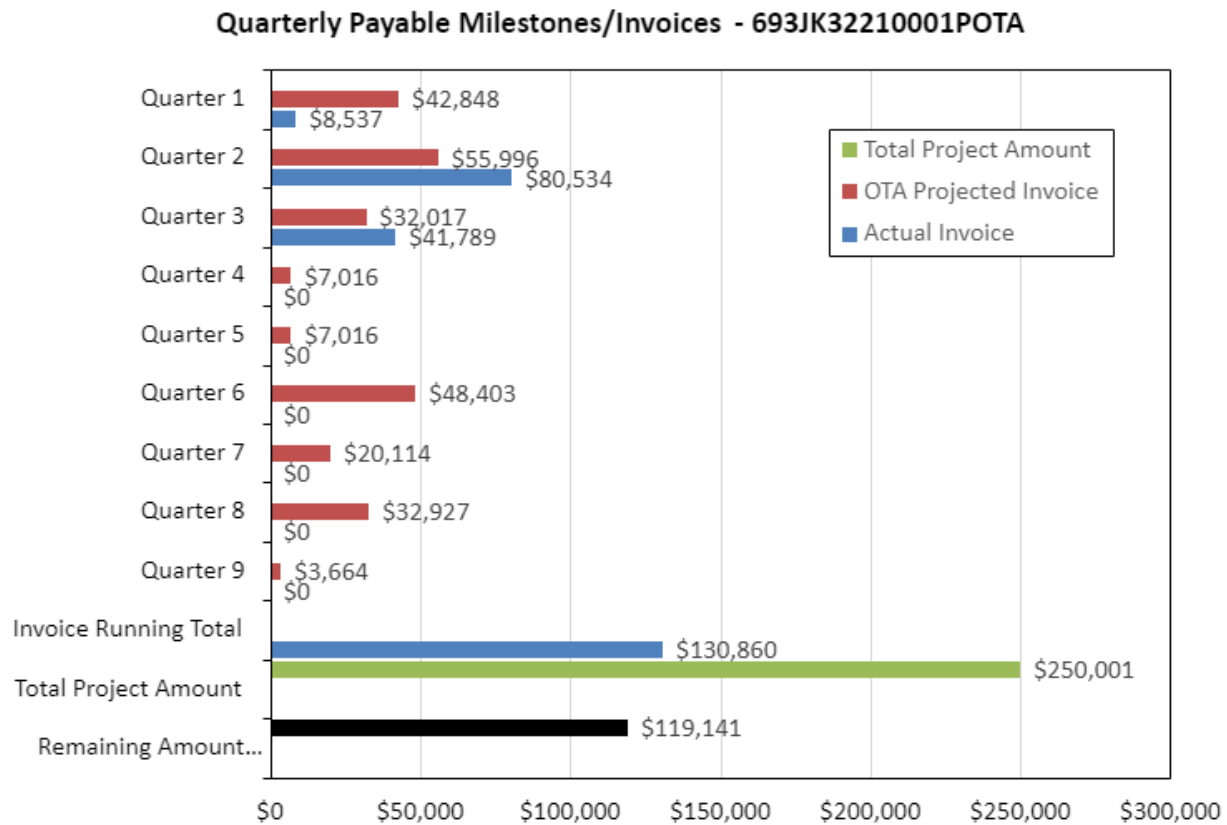
1: Items Completed During this Quarterly Period:

<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>	<i>Federal Cost</i>	<i>Cost Share</i>
7	3	Evaluating Effect of CP on Tank Bottom Corrosion	Summary of the API 653 inspection report data for approximately 150 tanks with CP systems included in the quarterly report	\$9,772	\$9,772
11	2	Continuation of the field testing including collection of the in-situ monitoring data	Updates to be included in the quarterly report	\$12,500	\$12,500
12	4	Continuation of the laboratory testing including collection of the in-situ monitoring data	Updates to be included in the quarterly report	\$12,500	\$12,500
13	5	Quarterly Project Management & Status Update Reporting	Submit 3rd quarterly report	\$7,017	\$7,017

2: Items Not Completed During this Quarterly Period: None.

3: Project Financial Tracking During this Quarterly Period:

Note that this chart reflects Federal share only.



4: Project Technical Status:

The following activities were undertaken:

Item 7, Task 3 — Evaluating Effect of CP on Tank Bottom Corrosion, Summary of the API 653 inspection report data for approximately 150 tanks with CP systems included in the quarterly report: The data for 29 additional tanks have been analyzed. The summary of the analysis is following:

Tank Number	Number of Soil Side Indications	CP System Output	Effectiveness of the CP System
114	0	Meeting 100 mV polarized potential criterion	Yes
115	6	ibid	Yes
116-118	0	ibid	Yes
119	146	Meeting -850 mV instant off and 100 mV polarized potential criteria	Yes, only two indications corrosion rates are above 5 mpy.

Tank Number	Number of Soil Side Indications	CP System Output	Effectiveness of the CP System
120	3	Meeting 100 mV polarized potential criterion	Yes
121	0	Meeting 100 mV polarized potential criterion	Yes
122	16	ibid	Questionable, all indications' corrosion rates are above 5 mpy.
123	282	ibid	Questionable, all indications' corrosion rates are above 5 mpy.
124	3	ibid	Yes
125	5	ibid	Yes
126	4	ibid	Yes
127-128	0	ibid	Yes
129	6	ibid	Yes
130-140	0	ibid	Yes
141	6	Meeting -850 mV instant off and 100 mV polarized potential criteria	Yes
142	0	Meeting 100 mV polarized potential criterion	Yes

The PRCI Phase 2 (Shukla et al., 2022) study analyzed 113 tanks; of those, CP performance for 44 tanks was found to be questionable. Combining data from the PRCI Phase 2 and in the above table, a total of 142 tanks have been considered, of these, CP performance is judged to be questionable in 44 tanks. This item has been completed, and satisfied item 5 in Attachment 2 Project Deliverables. This item also links to item 6 in Attachment 1 Team Project Activities.

Reference: P. Shukla, A. Nordquist, R. Fuentes, B. Wiersma, "Vapor Corrosion Inhibitors Effectiveness for Tank Bottom Plate Corrosion Control – Phase 2," Report Catalog Number PR644-183611-R01, PRCI, Chantilly, Virginia, 2022.

Item 11, Task 2 — Continuation of the field-testing including collection of the in-situ monitoring data, Updates to be included in the quarterly report. The field coupons for the nine tanks have been extracted are being analyzed. In addition, the electrical resistance probe data for the nine tanks have been collected. This item has been completed, and satisfied item 7 in Attachment 2 Project Deliverables. This item also links to item 9(a) in Attachment 1 Team Project Activities.

Item 12, Task 4 — Continuation of the laboratory testing including collection of the in-situ monitoring data, Updates to be included in the quarterly report. The electrical resistance (ER) probe data is continued to be collected. Recent analysis of the ER probe data indicated that the ER probe corrosion rates are approximately 5 mpy. Additional amount of water was added to each experimental unit; this is expected to increase the corrosion rate. This item has been completed, and satisfied item 7 in Attachment 2 Project Deliverables. This item also links to item 8 in Attachment 1 Team Project Activities.

Item 13, Task 5 —Quarterly Project Management & Status Update Reporting, Submit 3rd quarterly report: The 3rd quarter project meeting was held on June 22, 2023. This item has been completed. The above links to item 12 as listed in Attachment 1 Project Team Activities. This item also links to item 10 in Attachment 2 Project Deliverables.

5: Project Schedule:

The project is on schedule.