



American
Petroleum
Institute

Preliminary Program

2024 API Storage Tank Conference & Expo

October 9-10, 2024 | The Westin Fort Lauderdale Beach Resort, Fort Lauderdale, Florida | www.api.org/storage tank

*As of August 19, 2024 | Agenda subject to change

Wednesday, October 9, 2024

7:00 am – 8:00 am

Registration, Continental Breakfast, & Exhibit Viewing

8:00 am – 8:15 am

Welcome: Opening Remarks and Safety Moment

2024 Conference Co-Chairs:
Dave Cushman, West Virginia Paint, LLC
Earl Crochet, Crochet Midstream Consulting

8:15 am – 9:00 am

Session K1: “The Power of Relationships”

You see it everywhere. People are always on their phones, even while eating. Nobody talks to each other anymore. People are texting to their co-worker at the adjacent desk. Our ability to communicate is deteriorating. In many ways, the Covid years have caused us to regress with meaningful conversations. Successful businesses rely on personal communication, trust, and relationships. We need to restore the power in relationships to succeed. The people we trust the most are our friends and that has never been more important in both our personal and business worlds.

Speaker: Joe Sauger, COO, Buckeye Partners

9:00 am – 9:20 am

Morning Refreshment Break & Exhibit Viewing

9:20 am – 10:30 am

SESSION 1A: Cascading Failure

Moderator: Mike Brockway, Consultant

Join the U.S. Chemical Safety Board for a discussion on cascading failure. This session will use two case studies based on incidents involving aboveground storage tanks to illustrate the concept of cascading failure. The focus of the discussion will be lessons learned from these incidents geared towards preventing future incidents.

Speaker: Adam Henson, US Chemical Safety Board

SESSION 1B: PHMSA/PRCI co-funded R&D projects on tank soil-side corrosion mitigation

Moderator: Rebecca Broussard, US EPA

PRCI R&D Program has four tank projects in progress, co-funded and executed by Pipeline Research Council International (PRCI). This research is focusing on tank corrosion monitoring, long term interaction between vapor corrosion inhibitors (VCI) and cathodic protection and alternative tank bottom designs for corrosion control. This presentation is for anyone looking for additional tools to mitigate tank soil-side corrosion and whether VCI has a place in your tank integrity program.

Speaker: Ingrid Pederson, Enbridge Pipeline

10:30 am – 10:50 am

Morning Refreshment Break & Exhibit Viewing

10:50 am – 12:00 pm

SESSION 2A: Failures of Overfill Prevention

Moderator: Jerry Kolek, Consolidated Fabricators

The U.S. Environmental Protection Agency (EPA) will provide an overview of a recently developed Technical Alert. This Technical Alert as part of its ongoing effort to protect human health and the environment. The alert describes the regulatory requirements and industry codes, standards, recommended practices, and/or



guidelines that address adequately designed, implemented and maintained overfill prevention systems, while also focusing on other oil discharge prevention elements.

Speaker: Mark Howard, US EPA

SESSION 2B: UV cure - Novel way to get your tank back to service in Minutes rather than days

Moderator: David Cushman, West Virginia Paint LLC

We all know that empty tanks don't make money so how do you minimize the amount of downtime that your tank remains out of service? Select a technology which has the fastest return to service. UV cure technology opens up the door to have your asset back in service today rather than tomorrow. UV cured linings are the future of chemical resistance.

Speaker: Surojit Mukherjee, AKZONOBEL

12:00 pm – 12:40 pm

Lunch

12:40 pm – 1:10 pm

Exhibit Viewing

1:10 pm – 1:55 pm

SESSION 3A: Spiral Welding of Vertical storage Tanks

Moderator: Mark Kachelmyer, Plains All American

Spiral welding tanks, a novel construction method for making vertical storage tanks. Using 11-ton coils, fully welded tanks can be spiral weld in workshop or in the field. Spiral welded tanks have single continuous circumferential weld and no vertical or longitudinal welds. This is not theory, Spiral welded machines are in service now making tanks form 6' to 60' diameter.

Speaker: Cliff Ellery, Tira Stainless Inc.

SESSION 3B: Project Pitfalls by Owner/Operators

Moderator: Amy Baxter, Enbridge Pipeline

Contractors run into many owner/operator pitfalls when bidding and executing tank projects in the oil and gas industry. Many customers ask the question "why do we run over budget and schedule on major projects."

Speaker: Jerry Kolek, Consolidated Fabrication and Constructors, Inc.

1:55 pm – 2:15 pm

Afternoon Refreshment Break & Exhibit Viewing

2:15: pm – 3:25 pm

Session 4A: From Inspection to Assessment – Maximizing Your Tank's Operation

Moderator: Andy Wong, PEMY Consulting

The purpose of this presentation will provide an insight for tank owners and operators into extending the life of their tank operation through the use of new inspection techniques and fitness-for-service assessments.

Speaker: Siji Abraham, Quest Integrity

SESSION 4B: Advanced Analysis Solutions for Unconventional Repairs to Atmospheric Storage Tanks

Moderator: Lyle Smith, Dow Chemical

Tank repair or alteration plans may need to be customized to unique situations through use of engineering evaluation. This presentation will discuss tank repairs and alterations that require engineering evaluation and provide an overview of the advanced analysis methods that can be leveraged to perform those evaluations. Case studies of advanced analysis of storage tank repairs will be provided to highlight the benefits that engineering evaluation can provide to major repairs.

Speaker: Kate Gustoff, The Equity Engineering Group, Inc.



3:25 pm – 3:45 pm

Afternoon Refreshment Break

3:45 pm – 5:00 pm

SESSION 5A: UTILIZING INLINE PARTICLE COUNTING TEST METHODS TO REDUCE TANK SETTLING PERIODS

Moderator: Rafael Rengifo, Becht

Discover how our field-tested procedure accurately determines the precise release time for settled tanks, aligning with ASTM D6304, ISO codes, and API 1640 standards. Real-time particulate and water counting replace the current estimated timeframes, resulting in significant reductions in settling periods. Join us to learn about the cost savings, ensure product quality and enhance the supply chain through this innovative approach..

Speaker: Abdullah Aldahlan, Saudi Aramco

SESSION 5B: Integrating LDAR and Quantitative VOC Measurement for Enhanced Risk Based Maintenance.

Moderator: Madison Hart, Square Robot

Discover an innovative yet simple approach to managing fire risks in external floating roof tanks. Our integration of LDAR, quantitative VOC measurement tools and Risk Based Inspection and maintenance enhances leak detection and quantification and prioritizes maintenance, reducing the risk of tank fires and minimizing VOC emissions. Join us to explore how this strategy improves safety and supports environmental sustainability in tank terminals and refineries.

Speaker: Noor Hisyam Muhamad, Petronas Penapisan (Terengganu) SDN BHD

SESSION 5C: API Standards Update

Hear a brief update on what tank-related API standards are recently published, nearing publication or currently under subcommittee revision. Additionally, as time and technology permit get an update on the API Individual Certification Program (ICP) Statics.

Speaker: Nick Montebello, API Staff

5:00 pm – 5:05 pm

Wrap Up of Day One

2024 Conference Co-Chairs:
Dave Cushman, WV Paint
Earl Crochet, Crochet Midstream Consulting

5:005pm – 6:30 pm

Welcome Reception, Exhibit Viewing, & Networking – Presented by our Platinum Sponsors

Thursday, October 10, 2024

8:00 am – 8:15 am

Opening Remarks and Safety Moment

8:15 am – 9:00 am

Session K2: True Vapor Pressure Limits of Floating Roofs

Increasingly, owners of petrochemical facilities are specifying the use of floating roofs on products with true vapor pressures higher than what is either legally allowed in some jurisdictions or that can be safely handled by floating roofs designed and constructed to API 650. The record of the industry trying to store high vapor product pressure in floating roof tanks is filled with damaged and sunken floating roofs from the attempt. The petrochemical industry needs to relearn this lesson before the errors of the past are repeated.

Speaker: Greg Soules, CB&I Storage Solutions

Moderator: Matt Van Alsburg, Advance Tank & Construction

9:00 am – 9:20 am

Morning Refreshment Break & Exhibit Viewing



9:20 am – 10:30 am

SESSION 1A: Analysis of Double Deck Roof Crude Storage Tank Failure under External Rainwater Load; A Case Study

Moderator: Mark Howard, US EPA

Minor factors such as the location of roof drains and the height of Pontoon Manways can lead to the failure of double-deck floating roofs, resulting in the entire tank being out of service. The case study presents a rare occurrence of double-deck floating roof failure under rainwater loading. It provides detailed information on the failure incident, Root Cause Analysis (RCA) study findings, and the utilization of Management of Change (MOC) to implement recommendations. Among the 18 newly constructed tanks, only two experienced failure. The presentation offers a comprehensive overview of the tanks' performance post-implementation of recommendations.

Speaker: Shreenivas Kshatriya, Kuwait Oil Company

SESSION 1B: Corrosion of Aluminum Floating Roofs During Hydrostatic Testing

Moderator: Peter Williams, Concord Tank

This presentation seeks to address the problems of floating roof damage faced by the storage tank industry. Failure analysis case studies are referenced, and lab experiments which were designed to replicate these conditions have been performed. Some of these failures may have resulted from poor water quality during hydrostatic standup tests. Results from the lab work and the field observations have been reconciled, and compiled in this presentation. The end goal is to add to the knowledge base within the storage tank community and beyond.

Speaker: Sudhakar Mahajanam, Mistras Group, Inc.

10:30 am – 10:50 am

Morning Refreshment Break & Exhibit Viewing

10:50 am – 12:00 pm

SESSION 2A: How Long Should It Last? An Operations Experience with Full Contact Floating Roofs

Moderator: George Morovich, Tank and Environmental Technologies, Inc.

Join us for a comprehensive review of decades of operational experiences with full-contact floating roofs in crude oil tanks. Discover insights on integrity inspections, maintenance, and failure patterns. Learn about the challenges of in-service repairs, the importance of collaboration with manufacturers, and strategies to enhance reliability and lifespan. This session offers crucial guidance for optimizing tank and roof integrity programs.

Speaker: Sandeep Sra, Trans Mountain

SESSION 2B: Code Compliant EFR Repairs

Moderator: Larry Foster, Marathon Petroleum

API-653 has limited guidance on inspection and repairs for EFRs. This presentation will discuss some of the common wear, tear, and corrosion issues, how to inspect them, and how to make repairs to extend service life, reduce unplanned downtime, and minimize EFR failures. It will also cover options for in-service repairs to EFRs.

Speaker: Daniel Fleck, Becht, et. al.

12:00 pm – 12:40 pm

Lunch

12:40 pm – 1:10 pm

Exhibit Viewing

1:10 pm – 1:55 pm

SESSION 3A: Clean Water Act Hazardous Substance Facility Response Plans Overview

Moderator: Joe Mentzer, STI/SPFA

EPA's new Clean Water Act Hazardous Substance Facility Response Plan regulations apply to facilities that could reasonably be expected to cause substantial harm to the environment, based on their location. This session will cover the recent rulemaking and implementation progress.



Speaker: Rebecca Broussard, US EPA

1:55 pm – 2:15 pm

Afternoon Refreshment Break & Exhibit Viewing

2:15 pm – 3:25 pm

SESSION 4A: Evaluation of Advanced Submerged Robotic Inspection Technologies for In-Service Internal Inspections

Moderator: Austin Pace, RAPT Engineering

To accelerate industry innovation of robotic inspection tools for crude oil storage tanks, Enbridge has constructed a test tank environment which is a small-scale version of a large API 650 storage tank with prefabricated floor defects for vendors to test and evaluate their robotic inspection tools. This presentation will describe different stages and preliminary results of the project where various robotic tools have been tested for accuracy in different product environments.

Speaker: Touqeer Sohail, Enbridge Pipeline

SESSION 4B: New Settlement Analysis Options in API 653

Moderator: Earl Crochet, Crochet Midstream Consulting

New settlement method recently approved in API 653 for handling laser scan data for differential settlement analysis. Inspectors, listen up! This is an analysis that will become more common as more and more tanks apply laser scanning to tanks either inside or outside. We will show resources for getting this added to your API 653 program calculations.

Speaker: Phillip Myers, PEMY Consulting, LLC.

3:25 pm – 3:45 pm

Afternoon Refreshment Break & Exhibit Viewing

3:45 pm – 4:55 pm

SESSION 5A: Storm Surge Induced Failures of Storage Tanks

Moderator: Daniel Fleck, Becht

This session will explore common failure modes of above-ground storage tanks during storm surge events, focusing on flotation failures. The presentation will include results from analytical and finite element modeling to identify key failure points and propose innovative mitigation strategy which allows tanks to float to prevent failures in the bottom plate.

Speaker: Saberethinam Kameshwar, PhD, Assistant Professor, LSU.

SESSION 5B: Seismic Evaluation of Storage Tanks under New State Regulations

Moderator: Kenneth Esplin, Washington State

Modern storage tanks and piping designed to current codes perform well in earthquakes. However, older tanks and systems, designed without considering seismic loads and weakened by decades of corrosion, may not meet today's standards. New regulations in some states require proof that these legacy tanks can withstand seismic loads per current codes. Advanced analysis techniques are needed to assess their performance under these conditions. This presentation will introduce such a new methodology.

Speaker: Brian Lewis, Roundtable Engineering Solutions, LLC.

4:55 pm – 5:00 pm

Closing Remarks

2024 Conference Co-Chairs:
Dave Cushman, West Virginia Paint LLC
Earl Crochet, Crochet Midstream Consulting

5:00 pm – 6:00 pm

Closing Reception and Networking - Presented by our Platinum Sponsors