



2018 API Storage Tank Conference & Expo

October 17-18, 2018 | Hyatt Regency Austin | Austin, Texas | www.api.org/storage tank

**as of September 21, 2018 | Agenda subject to change*

Wednesday, October 17, 2018

7:30am – 8:30am

Registration and Continental Breakfast

8:30am – 8:50am

Welcome: Opening Remarks

2018 Conference Co-Chairs: Earl Crochet, Director of Engineering, Kinder Morgan, Dave Cushman, General Manager, West Virginia Paint, LLC

8:50am – 9:30am

Keynote Session—The Consequences of Not Knowing What You Don’t Know... On Steroids

Moderator: Earl Crochet, Kinder Morgan

The catastrophic consequences of lacking technical and toxicological information for chemical substances is clearly demonstrated by this incident. And Not Knowing What You Don’t Know is a serious risk for companies, workers and their communities.

Speaker: Manny Ehrlich, United States Chemical Safety Board

9:30am – 9:50am

Morning Refreshment Break

9:50am – 10:30am

“Who Wrote That?!” – A Look Behind the Scenes of the Inspector Certification Program

Moderator: Matt Van Alsborg, Advance Tank & Construction Company

For almost 30 years, API’s Individual Certification Program (ICP) have provided the petroleum and petrochemical industries with an unbiased third-party assessment of personnel’s skills. But what goes into building a viable certification program? When applicants see the final product, the exam, few consider everything that went in to developing it.

Speakers: Andri Orphanides, American Petroleum Institute & Dave Cushman, West Virginia Paint LLC

10:30am – 10:50am

Morning Refreshment Break

10:50am – 12:00pm

API Upstream to Downstream Tank Standards – Looking Forward (with a Quick Look Back)

Moderator: Dave Cushman, West Virginia Paint LLC

A look at changes in the API tank standards including approaches and application when encountering different tank designs. Also, a retrospective look at the evolution of the various documents used for AST’s over the past 90 years.

Speakers: George Morovich, Tank and Environmental Technologies, Inc.; Nate Wall, American Petroleum Institute; & Art Szaradzinski, Bechtel, Inc.

How Much Product in Tanks Do you Need to Manage Hurricane and Storm Risk

Moderator: Nelson Acosta, HMT Inspection

Prepare your tanks for storms and hurricanes by knowing what risk tolerance they should be assigned, by knowing how much product to fill them with, even if there is not enough product to go around, and what the basic damage and failure mechanisms are and how to cope with them. We will show how to screen all your tanks for storm vulnerability in a one-shot process.

Speaker: Andrew Yearwood, PEMY Consulting

12:00pm – 1:10pm

Lunch – Sponsored by McDermott

1:10pm – 1:55pm

Non-Invasive Monitoring of Floor Condition of Aboveground Storage Tanks using Ultrasonic Guided Waves

Moderator: Nelson Acosta, HMT Inspection

Removing tanks from service for internal inspection and repair is costly. A non-invasive monitoring method has been developed that allows the condition of the floor to be checked without emptying or entering the tank. This allows decisions to be made concerning intervention in the tank if corrosion is detected before a leak might occur, or provides evidence for extending the interval between internal inspections if no degradation is reported.

Speaker: Peter Mudge, Plant Integrity Ltd.

Development of a Wall-Sticking Drone for Non-Destructive Ultrasonic Thickness Testing

Moderator: Brock Trotter, PEMY Consulting, LLC

A video will be presented of a real-world inspection demonstration on a local crude oil storage tank (nominal thickness = 0.2 inches) at an oil well site. The authors have demonstrated the automation of relatively low-skilled manual process that usually requires building scaffolds and/or rope access only to reach higher altitudes and hard-to-reach areas.

Speaker: Rami Mattar, Amerapex Corporation

1:55pm – 2:10pm

Afternoon Refreshment Break

2:10pm – 3:20pm

Non-Metallic Repair of Storage Tanks & Sparks & the Need for Static Dissipation

Moderator: Amy Baxter, Enbridge Energy Company

Storage tanks holding flammable liquids and combustibles are required to comply with NFPA 30. Storage tanks repaired with non-metallic systems such as Carbon Fiber Reinforced Polymer (CFRP) must be given special consideration to prevent electrostatic ignitions. This presentation provides an overview of the special considerations for the design, the installation, and the quality control & quality assurances required for non-metallic repairs made on storage tanks governed by NFPA 30.

Speaker: Olley Scholer, HJ3

An Inspired Approach to Inspection Methodology for Upstream Production Tanks

Moderator: Dana Schmidt, STI/SPFA

Storage tank inspection and reporting requirements are mandated by regulators in Canada. Diversity in characteristics amongst tanks and their systems means various tank installations have different inspection components to ensure integrity and minimize spill events. Tank owners are challenged by inefficient processes and outmoded systems. Following analysis of extensive tank data from varied sources, a mobile application was developed that reduces field time in capturing data while improving its accuracy.

Speaker: Elizabeth Brueckner, G.K. Hills Consulting Ltd.

3:20pm – 3:35pm

Afternoon Refreshment Break

3:35pm – 5:00pm

Vapor Corrosion Inhibitor for the Underside of Tank Bottoms: Regulatory Status & Data

Moderator: Peter Williams, Concord Tank Corporation

Vapor Corrosion Inhibitors are now included in some API and NACE documents as options for owners to consider in their corrosion mitigation strategies. This presentation will discuss the progress of State and Federal regulatory and standards organization acceptance of the use of VCIs, both as a standalone system or in conjunction with Cathodic Protection.

Speaker: – Kelly Baker, Zerust

CP After Installation: Retrofit, Replacement, and other Options to Extend Tank Life

Moderator: Andrew Yearwood, PEMY Consulting

This presentation will review retrofit options for ongoing tank bottom protection even after CP failure or if no original CP is installed, including which are PHMSA-accepted. Recommendations for new installations to reduce risk and provide options in the future. Current technologies (active and passive) will also be reviewed and the advantages and disadvantages of each explained.

Speaker: Sasan Hosein, Pond & Company

5:00pm – 6:00pm

Opening Reception - *Sponsored by Amerapex*

Thursday, October 18, 2018

7:30am – 8:30am **Registration and Continental Breakfast**

8:30am – 8:45am **Welcome: Opening Remarks**

8:45am – 9:30am **Keynote Session – Common Sense Safety: Not So Common Anymore**

Moderator: Morris Kline, Caldwell Tanks, Inc.

This presentation provides real world examples of how in our efforts to be 'safer' we often make projects less safe, costlier, and take longer to complete. All case studies presented will include details on what happened and will also show possible common-sense solutions.

Speaker: Earl Crochet, Kinder Morgan

9:30am – 9:50am **Morning Refreshment Break**

9:50am – 10:30am **A Fresh Look Behavior Based Safety Management Processes**

Moderator: Larry Foster, Marathon Petroleum

In theory, behavior-based safety programs have become the standard for most of the industry. In practice, most of these programs stray far away from the core ideas of behavior-based safety. This talk will look at the core ideas of behavior-based management and explore how a properly implemented behavior-based management program can improve the safety, quality, and productivity on our projects.

Speaker: Peter Williams, Concord Tank Corporation

10:30am – 10:50am **Morning Refreshment Break**

10:50am – 12:00pm **Corrosion of Fire Water Tanks – An International Approach**

Moderator: Rama Challa, Matrix PDM Engineering

This presentation discusses the aspects involved with the corrosion of the bottom plate. An attempt has been made to discuss the inspection methodology, the causes for corrosion, and methods of repair and refurbishment of the tanks. It also describes the suitable cathodic protection system for corrosion protection of tank bottom plate.

Speaker: Hatam Mehraz, Saudi Aramco

Accuracy of Storage Tank Calibration? Importance, Concerns and Solutions

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

Accurate tank calibration is the cornerstone for safe and responsible tank management. This presentation will expand on the following best practices and techniques:

- *High & Low Damage, Overfill, Environmental & Alarm Levels*
- *Maximizing capacity with accurate safe fill heights*
- *Inventory Control through precise capacity tables*
- *Proposed changes to frequency of calibration - Annex A of API MPMS 2.2 A*
- *3D high-definition scanning*
- *3D modeling in a rich visual format for Facility, Terminal, Tank Integrity, Safety and Environmental Managers*

Speaker: D'Arcy Trask, Gauge Point Calibration, Inc.

12:00pm – 1:10pm

Lunch – *Sponsored by Tank Builders Inc.*

1:10pm – 1:55pm

Estimating Tank Emissions – What's Up with Tanks 4.09d and AP-42

Moderator: Jeff Eickhoff, HMT, LLC

EPA has posted warnings on their website about the use of their TANKS 4.09d software and has cautioned that AP-42 should be used to estimate storage tank emissions rather than relying on TANKS 4.09d. This presentation will review the problems with TANKS 4.09d, as well as preview changes to AP-42 that are currently under consideration by the EPA.

Speaker: Rob Ferry, Trinity Consultants, Inc.

1:55pm – 2:10pm

Afternoon Refreshment Break

2:10pm – 3:20pm

External Floating Roof Drain Sizing and Maintenance – Fundamentals and Pitfalls

Moderator: Iain Gomme, TENG Inc.

In recent years, the increase in number and severity of storms has brought the sizing and design of external floating roof drain systems into light. This session will provide an overview of the key design and sizing considerations to ensure your floating roof weathers a severe storm. Also addressed will be design pitfalls, maintenance guidelines and storm preparedness.

Speaker: Allie Alderson, HMT, Inc.

Composition Dependent Vapor Cloud Explosion Methodology by PEMY Consulting

Moderator: Vonda Lawson-Rosa, CST Industries, Inc.

Vapor cloud explosions have plagued terminal and refining facilities since the dawn of the petroleum industry. The PEMY Consulting team has developed a methodology and software program that allows for simple and accurate prediction of the radius of explosion for petroleum overfill events. This novel method includes fuel composition dependence, making it industry leading and more accurate than previous VCE models.

Speaker: Brock Trotter, PEMY Consulting LLC

3:20pm – 3:35pm

Afternoon Refreshment Break

3:35pm – 4:50pm

Modular Storage Alternatives Offer Value to Growing North American Cryogenic Energy Markets

Moderator: Brian Hattori, Bechtel

This presentation conveys the theme that optimizing storage technology is critical to ensuring the development of cleaner fuel markets to contribute to the reduction of global emissions.

Speaker: Greg Denton, GTT North America



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Preliminary Program

Introduction to Brittle Fracture and Storage Tank Assessment using Fitness for Services Rules

Moderator: Ron Santelik, Howard Energy Partners

Have you ever wondered about the basis for the rules in API 650 and API 653 for prevention of brittle fracture in storage tanks? This presentation will introduce you to the brittle fracture concepts, and tie to the rules that govern brittle fracture and introduces you to Storage Tank Assessment using Fitness for Service rules.

Speaker: Rama Challa, Matrix PDM Engineering

5:00pm – 6:00pm

Closing Reception - *Sponsored by Consolidated Fabrications & Constructors, Inc.*