



American
Petroleum
Institute

Preliminary Program

2023 API Storage Tank Conference & Expo

October 11-12, 2023 | Hilton Denver City Center | Denver, Colorado, USA | www.api.org/storage tank

*As of September 7, 2023 | Agenda subject to change

Wednesday, October 11, 2023

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|---------------------|---|
| 7:00 am – 8:00 am | Registration, Continental Breakfast, & Exhibit Viewing |
| 8:00 am – 8:15 am | Welcome: Opening Remarks and Safety Moment 2023 Conference Co-Chairs: Dave Cushman, West Virginia Paint, LLC Earl Crochet, Crochet Midstream Consulting |
| 8:15 am – 9:00 am | Session K1: TBD <i>Keynote Description Here</i> Speaker: Matt Most, Vice President, Government Relations – Ovintiv |
| 9:00 am – 9:20 am | Morning Refreshment Break & Exhibit Viewing |
| 9:20 am – 10:30 am | SESSION 1A: The Future for LNG and Cryogenic Tank Inspection Standards Moderator: Mark Howard, US EPA <i>PHMSA has reached out to industry to develop inspection guidelines applicable to LNG and Cryogenic tanks. This work could later evolve into an adjunct component of API 653 or a new tank inspection standard (most likely case). While much of API 653 is applicable, much of it is not. This presentation will show what the cryogenic industry consensus is on best practices for maintaining the integrity of LNG tanks through inspection practices.</i> Speaker: Phil Myers, PEMY Consulting, LLC |
| | SESSION 1B: Typical Upgrades and Modifications for Refrigerated Liquefied Gas (RLG) Tanks Moderator: Mark Jordan, CB&IS <i>Many tanks for storing refrigerated liquefied gases (RLGs) have been built since the 1960s. Existing RLG tanks followed regulations effective at the time of construction. However, changes in the design standards, safety and emission regulations, and an owner's desire to improve tank operating efficiency often require the owners to undertake certain actions. Some of these actions may be performed without interruptions in the tank operation. This presentation outlines issues often seen on existing RLG tanks and the modifications/upgrades required to bring them up to current industry practices to continue successful operation.</i> Speaker: Alexander Cooperman, CB&I |
| 10:30 am – 10:50 am | Morning Refreshment Break & Exhibit Viewing |
| 10:50 am – 12:00 pm | SESSION 2A: Safety Considerations for Ammonia Storage Tanks Moderator: Mike Brockway, Consultant <i>Ammonia storage is a critical component in a number of industries. Low temperature refrigerated Above Ground Storage Tanks are used for storing large volumes of Ammonia. This presentation covers the challenges inherent in Ammonia storage from safety perspectives and provides methods to mitigate them including engineered controls using Pressure, Vacuum and Level management. A</i> |



discussion will be made on the miscellaneous hazard detection and mitigation systems will be covered as well.

Speaker: Rama Challa, Matrix Engineering

SESSION 2B: Storage Tank Thermal Inbreathing due to Extreme Weather: Application to Power-to-X (P2X)

Moderator: Amy Baxter, Enbridge

P2X technology is promising to address climate change. The liquid fuels produced with P2X technology, like ethanol or methanol, are usually very volatile and susceptible to condensation during storage tank cooling. API 2000 presents no guidance how to account for condensation in storage tanks. The present work highlights most recent findings about the nature of condensation in storage tanks and its impact in thermal inbreathing, including first experimental work with full-size process tanks.

Speaker: Davide Moncalvo, Braunschweiger Flammenfilter GmbH (PROTEGO)

12:00 pm – 12:40 pm

Lunch

12:40 pm – 1:10 pm

Exhibit Viewing

1:10 pm – 1:55 pm

SESSION 3A: API Standards Update

Moderator: Joe Mentzer, STI

Will introduce myself, discuss my background, and discuss API standards program overview. Will provide detail on each SCAST standard status, and standards up for revision in the near future.

Speaker: Nick Montebello, American Petroleum Institute

SESSION 3B: Increased Seismic Counterbalance

Moderator: Andrew Yearwood, PEMY Consulting

In the last 15 to 20 years, many seismic codes have increased loads with large vertical components. Both changes greatly increase the need to mechanically anchor storage tanks and to review the flexibility of attached piping. Large derating of the tank liquid level is a common result short of reinforcing the foundation and anchoring the tank. By incorporating FEA, the location of annular ring lift can be determined as well as the actual extent of increased seismic resistance.

Speaker: David Nadel, Chevron Technical Center

1:55 pm – 2:15 pm

Afternoon Refreshment Break & Exhibit Viewing

2:15: pm – 3:25 pm

Session 4A: Temperature Rerate of an Existing Tank with an El Segundo Floor Case Study

Moderator: Jerry Kolek, Consolidated Inc.

Existing tanks that have been in service for many decades typically have had many repairs and alterations over its life. One such repair is adding a new floor on top of an existing floor that required significant repair sometimes referred to as an "el segundo" floor. In this case study these modifications along with the tools and methods that were used to analyze the thermal stress and thermal expansion will be discussed in detail.

Speaker: Colin Davis, Becht

SESSION 4B: What's in Your Tank Program (And Is It Enough?)

Moderator: Marilyn Shores, Consultant

When you hear the term "tank program" do you immediately think apply inspection and repair processes per API 653? Is that all a tank program should consider or is there something more? What about the operation of the tank itself, reducing the operational risk, or maximizing the tank's useful life? Whether you have a new or mature program, this presentation can be a litmus test to evaluate the current state of your tank program.



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Speaker: Mark Kachelmyer, Plains All American

3:25 pm – 3:45 pm

Afternoon Refreshment Break

3:45 pm – 5:00 pm

SESSION 5A: Review of new AMMP SP21474-2023: External Corrosion Control of On-Grade Carbon Steel Storage Tank Bottoms

Moderator: Kathy Hawks, Colonial Pipeline

AMPP (formerly NACE) published standard practice SP21474 in June of 2023. The SP is titled "External Corrosion Control of On-Grade Carbon Steel Storage Tank Bottoms". The presentation will be provided by the SP21474 Document Project Manager. It is designed to inform the attendees of the content and guidance incorporated in the (10) sections of SP21474. This will include an emphasis on VCI and undertank corrosion monitoring guidance beneficial for PHMSA, other regulators and AST Operators.

Speaker: Tim Whited, Consultant

SESSION 5B: VCI Technology as an Alternative Method for Cathodic Protection (CP) System Rejuvenation

Moderator: Ingrid Pederson, Enbridge Pipeline

Utilizing VCI technology as alternative to rejuvenate the existing Cathodic Protection (CP) system protection. A first VCI field validation in Southeast Asia (SEA), Malaysia and PETRONAS. A successful pilot project of installing VCI as an alternative for CP system rejuvenation. A greener approach in solving the corrosion protection problem as compared to CP system.

Speaker: Rohaiza Morshaid, PETRONAS

SESSION 5C: Tank Bottom Plate Soil Side Corrosion Mitigation

Moderator: Rafael Rengifo, Becht

The presentation introduces a case study of application of VCI to mitigate the soil-side corrosion of several tanks bottom plate. It will also presents the enhancement of the VCI application by including online monitoring systems for corrosion and inhibitor.

Speaker: Hussain Almahamedh, SABIC

5:00 pm – 5:05 pm

Wrap Up of Day One

2023 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 DJA Inspection Services, Fisher Tank Company, HMT, TANCO Engineering, and Roundtable Engineering.

Thursday, October 12, 2023

8:00 am – 8:15 am

Opening Remarks and Safety Moment



8:15 am – 9:00 am

Session K2: Sto Lat – May it Live One Hundred Years

In the Polish language and culture, when you wish someone a happy birthday, you say “sto lat”, literally one hundred years. It is a wish and expression of hope that the person will live one hundred years. This presentation looks how the combination of near miss and properly applied engineering assessment followed by a novel approach to repair, enabled a ninety-nine-year-old riveted tank live to see its hundredth birthday in service.

**Speaker: Dave Cushman, West Virginia Paint
Earl Crochet, Crochet Midstream Consulting**

Moderator: Mark Howard, US EPA

9:00 am – 9:20 am

Morning Refreshment Break & Exhibit Viewing

9:20 am – 10:30 am

SESSION 1A: Tank Erection Utilizing Modular Fabrication

Moderator: Nick Montebello, American Petroleum Institute

Aboveground Storage Tank erection methodologies, focused on decreasing duration and onsite exposure hours for accelerated projects, have received minimal modernization in recent years. Modular fabrication strategies of storage tanks have proven to serve this purpose by providing cost savings, condensing duration, and reducing exposure hours. Modularized erection of aboveground storage tanks provides countless benefits to an ever accelerating and risk adverse industry.

Speaker: William Smith, PALA Interstate LLC

SESSION 1B: Evolution of Project Management Tools

Moderator: Rama Challa, Matrix PDM Engineering

Project management tools and software has come a long way over the last decade. The evolution of technology has provided the industry with an invaluable means to advance the controls and management of midstream terminaling projects.

Speaker: Christopher Commander, North Side Energy Services

10:30 am – 10:50 am

Morning Refreshment Break & Exhibit Viewing

10:50 am – 12:00 pm

SESSION 2A: My Storage Tank Has No Emergency Vent for Fire – Does it Need One?

Moderator: George Morovich, TETI

It is common to find operating storage tanks that do not have an emergency vent installed for the fire scenario. In this presentation, we will review the requirements in the standards and present when a tank may not require an emergency vent.

Speaker: Waheed Wakil, Smith & Burgess, LLC

SESSION 2B: Robotic In-Service Tank Inspection of Gasoline and other Volatile Products

Moderator: Mark Kachelmyer, Plains All American

Key Learning Objectives Learn how Aboveground Storage Tank (AST) side-entry is safely achieved Learn how robotic in-service inspection in low flashpoint materials is safely achieved ESG Impact on gasoline storage tanks through in-service inspections.

Speaker: Brian Kinsey, Square Robot

12:00 pm – 12:40 pm

Lunch

12:40 pm – 1:10 pm

Exhibit Viewing



1:10 pm – 1:55 pm

SESSION 3A: Enhancing Safety and Environmental Sustainability in Robotic Inspection of Aboveground Storage Tanks

Moderator: Peter Williams, Concord Tank

Join us to discover how Applied Impact Robotics revolutionizes storage tank inspections, prioritizing safety and sustainability. Our groundbreaking robotic solution eliminates human entry into confined spaces, mitigating risks and ensuring personnel well-being. By removing the need for tank drainage and manual cleaning, we significantly reduce volatile organic compound (VOC) emissions, promoting environmental responsibility. Experience the future of tank inspections, featuring cost savings, operational efficiency, and improved data quality. Don't miss this session on enhancing safety and sustainability in the oil industry.

Speaker: Joel Poe, Applied Impact Robotics

SESSION 3B: Summary of Updates for SP001 Standard for the Inspection of Aboveground Tanks and SP031 Repair Standard

Moderator: Larry Foster, Marathon Petroleum

Storage tank inspection and repair is a critical element for safe operation and regulatory compliance. The STI SP001 tank inspection standard and the SP031 tank repair and modification standard are options used by many tank owners. Both standards are being updated as part of their normal process and this presentation should help summarize any changes that can affect users.

Speaker: Joe Mentzer, STI/SPFA

1:55 pm – 2:15 pm

Afternoon Refreshment Break & Exhibit Viewing

2:15 pm – 3:25 pm

SESSION 4A: Phase II of Renewable Fuel Testing: The Challenges in a Similar but Subtly Different Environment

Moderator: Matt Van Alsburg, Advance Tank

This presentation will demonstrate that the performance of proven linings, in petrochemical storage, cannot be assumed with the switch to alternative, renewable, feedstocks. We will review the different limitations, in terms of maximum storage temperatures, which have been demonstrated in long term immersion testing - we will also try to explain these differences in terms of chemical analysis we have undertaken.

Speaker: Michael Harrison, Sherwin Williams

SESSION 4B: Surface Preparation and the Effects of Microbiological Influenced Corrosion (MIC)

Moderator: Justin Hair, Sherwin Williams

Bacteria has proven to grow in every environment on the planet, and the metabolic byproduct of the biofilm that the bacteria produces in the form of MIC has shown to be the main culprit of corrosion. Up until this point, the industry has focused on using brute force to give the substrate a clean and sterile appearance with very little thought as to what is going on at the microscopic level. With new technologies and equipment you can take out the brute force of standard cleanliness and replace cleaning the substrate with sheer science. You now have the ability to completely eradicate every mechanism of corrosion at the atomic level from the substrate.

Speaker: Loren Hatle, Corrosion Exchange

3:25 pm – 3:45 pm

Afternoon Refreshment Break & Exhibit Viewing

3:45 pm – 4:55 pm

SESSION 5A: Ultrasonic Mode Imaging – An Advanced AST Assessment and Life Cycle Management Tool

Moderator: Earl Crochet, Crochet Midstream Consulting

Ultrasonic Mode Imaging (UMI) is an advanced, patent pending, noninvasive NDT&E technology that effectively gathers data without taking the AST out of service and promises to establish new standards for AST leak detection, bottom plate assessment and sludge gauging. UMI has the potential to significantly reduce AST out of service time and overall life cycle management cost.



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Speaker: Dr. Steve Ziola, Antech Systems, Inc.

SESSION 5B: A Novel Approach for the In-Service Inspection of Aboveground Storage Tank Floors

Moderator: Andy Wong, PEMY Consulting

The integrity assessment of aboveground storage tank floors is a critical task in the oil & gas industry. The most common method to inspect a tank floor in-service is using robotic tools. However, these tools are very invasive, poses safety risks and cannot be performed for all tank configurations. The goal of the presentation is to present a new innovative solution for the in-service inspection of storage tank floors.

Speaker: Timothé Falardeau, Nucleom Inc.

4:55 pm – 5:00 pm

Closing Remarks

2023 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 DJA Inspection Services, Fisher Tank Company, HMT, TANCO Engineering, and Roundtable Engineering.