

# Upstream Storage Tanks Track Session Abstracts Thursday, April 16, 2020

**2:30pm – 5:30pm**

(see page 5 for the Upstream  
Storage Tank tracks)

# 22nd Annual International Aboveground Storage Tank Conference & Trade Show

The purpose of this new conference track is to open a new communication channel for parties interested in the future of the upstream onshore petroleum segment of the oil and gas business to discuss the broad changes which are and will be affecting the upstream industry segment and to communicate, network and discuss the important issues that this important industry segment faces. This track will give attendees an opportunity to learn what the key issues are, what API is doing to advance the efficiency, reputation, and regulatory relations for the upstream segment; also, to give the affected industry people a voice of influence in the direction that this important industry segment is taking.

**Session: 2:30 – 3:00 pm**

## **Title: API Upstream Tanks, Issues and Perspectives and API 12R1**

*Speakers: Dave Bryan (BoilerRock),  
and Phil Myers (PEMY Consulting)*

This segment will cover how API is organized, and how the control over the upstream tank 12 series tank standards has been transferred to the downstream API refining sector standards development committee. SCAST (Subcommittee on Aboveground Storage Tanks) has traditionally developed standards for downstream and midstream storage only. The reasons for this transfer of responsibility as well as the effectiveness and potential pitfalls for these changes will be covered. The segment will address how the revisions of all of the upstream standards is being impacted including:

- API 12D (list titles and provide very brief background on them)
- API 12F
- API 12B
- API 12P
- API 12R1
- etc

The session will talk about what is going on with these standards and the recent massive effort to update these standards as well as problems of participation, lack of synchronicity with the regulatory community and even other standards organizations like NFPA. It will also cover the issues and problems that arise even within API in terms of knowledge of practices, issues, and management and what the “fixes” are. More importantly, there will be discussion about how tank batteries, which are the biggest users of API 12 tanks, is only one particular component of the upstream sector separate and distinct from the upstream offshore segment. The session will discuss the big drivers for change such as the requirement to retrofit tank batteries with vapor

control or destruction devices and the general need to increase tank pressures significantly; it will touch on emergency venting (covered in detail later), and fire protection issues.

This session will outline the uniqueness of upstream facilities describing the remoteness of the facilities, the huge numbers of tanks involved, and the traditional practices that make it impractical to inspect upstream tanks under the 653 or SP001 rules. More importantly, this may help the regulators who attend get a sense for how change will not occur in just a year or two but may take many years. Even more importantly this talk will show them that the upstream sector is trying to become a “better citizen” and how it is acting to do this as well as how it will face the huge challenges ahead.

API 12R1 and its relationship to inspection and integrity will be discussed. It will be shown how API 12R1 is being aligned with the principles of API 653 from a structural integrity point of view to the extent possible. But this session will also discuss how upstream inspection varies significantly from midstream/downstream as well and how and why inspection and integrity must be dealt with differently from downstream and midstream practices.

Finally, this session will address how upstream is going to move forward facing the challenges from a badly outdated set of existing tank standards, to recently made changes and current changes, and what the plans hold for the future including the attempt to synchronize with other industry organizations like NFPA, the fiberglass institute and others as well.

**Session: 3:00 – 3:30 pm**

## **Title: New standard API 12F Shop Welded Tanks and Tank Batteries**

*Speaker: API Chair API 12F Tanks,  
John Slupsky (XTO Energy)*

Many upstream operators are considering how to move forward with ever

increasing requirements to control vapor emissions from API 12 tanks. Part of this process involves increasing the pressure in the tank so providing sufficient driving force to move vent gases to vapor control units without additional air moving equipment.

This increase can be considered somewhat like an industry wide MOC; that is, the significant increase in pressure has a ripple effect that starts with changing the API 12 Series standards which govern tank internal design pressure, all the way to the operator who must consider and design the venting systems and piping systems to accommodate the flow of vent gases.

This session will go into the details of what API has done and plans to do in terms of increasing tank pressures. Moreover, it will directly provide the upstream facility owners and operators about what they must do, consider, and design to successfully make the transition from current operating pressures to the new higher pressures that will inevitably be used in upstream. It will even touch on manufacturing issues associated with upstream welding and fabrication practices.

## Session: 3:45 – 4:15 pm

### **Title: Batteries – API 12B Bolted Tanks**

*Speakers: API Chair 12B Randy Kissell (Trinity Consultants) and Keith McGuire (CST Storage)*

API 12B specifications cover bolted tanks. Numerous types of coatings are used for bolted tanks including power coatings and glass linings that are virtually immune to corrosion. This session will cover how the recent revisions improve the safety and reliability of these tanks and under what conditions they may be used to store produced water, produced oil or other liquids and chemicals used by the upstream segment.

## Session 4:15 – 4 :45 pm

### **Title Upstream and NFPA Issues**

*Speakers: Yevgenie Kondratenko, PHD (BP) and Phil Myers (PEMY Consulting)*

Ownership of API 12 tanks is vastly different than midstream and downstream tanks typically built to API 650 or related standards. One of the key differences is that upstream tanks are “disposable” meaning that the life span and costs are such that major repairs are not warranted since the facility life is limited and the cost of repairs typically will exceed the cost of a new tank. Tank batteries have limited life since the produced oil tails off exponentially with time. The fraction of internal inspections conducted over a given time interval must be much smaller than it is for the midstream and downstream industries in order for upstream to remain viable and competitive. A key aspect of responsibly owning a population of API 12 tanks is the ability to use sampling methods to reduce the number of internal inspections required (when compared to the midstream and downstream segments). Also, because not all tanks can be inspected on a regular schedule, this session will show that the upstream sector is developing

and using the latest and best statistical and corrosion rate methods to implement a viable, legitimate program to address age related deterioration.

API 12R1 allows the development and use of a risk-based inspection program to be applied to populations of an upstream company's tanks. This option was intentionally included because of the nearly impossible task of individually inspecting each tank internally. This talk will cover sampling-based approaches that can reduce the likelihood of ground contamination or other kinds of incidents resulting from age related deterioration while at the same time providing reasonable margins of safety on potential incidents. For any upstream onshore managers responsible for regulatory compliance, this session will provide the know-how and rationale to be able to credibly show why these methods are sufficient to protect people and the environment as well as demonstrate comparable success when benchmarked against midstream and downstream standards.

Another critical difference between upstream storage and other petroleum industry segments is the trade-offs that must be dealt with. For example, in remote locations Emergency Venting is not typically used. While this may seem like an unsafe idea, this session will discuss how the choice is not between a good design and a bad design but between one risk and another and make the case for why tank batteries in remote locations may be better off without emergency venting.

## Session: 4:45 – 5:15 pm

### **Title: API 12P Fiberglass Tanks**

*Speakers: Doug Preston (LF Mfg) and Harold Ninemires (LF Mfg)*

Fiberglass tanks are widely used in the upstream industry. This section details the ways that FRP tanks are used. More importantly it will cover the different approaches to using them. It will address how and why some operators store produced oil in them (and some do not), how and why some operators store produced water tanks in separate batteries from produced oil, how and why some operators do not require produced water to be secondarily contained. Some discussion on the use of FRP tanks for corrosive services where steel and steel coated tanks do not work especially for chemical storage applications is in order. More importantly it will cover the pros and cons of all of these options from a safety and environmental perspective.



In addition to use considerations, this session will challenge the traditional approach to building and using FRP tanks with little formal inspection. Since FRP tanks will also have their design pressures increased the questions about what kind of inspections, if any, are need to ensure that these tanks are safe for use in these services.



**22<sup>nd</sup> ANNUAL INTERNATIONAL ABOVEGROUND STORAGE TANK CONFERENCE & TRADE SHOW**  
 Conference Agenda | April 15-17, 2020 | Orlando, Florida


TUESDAY, APRIL 14, 2020	
8:00am - 5:00pm	<b>EPA SPCC &amp; FRP Short Course</b> <i>Mark Howard, USEPA OEM-RPDD &amp; Troy Swackhammer, USEPA OEM-RPDD</i>
8:30am – 4:00pm	<b>Tanks 101 Course</b> <i>Phil Myers &amp; Andrew Yearwood, PEMY Consulting</i>
9:00am - 4:00pm	<b>AST Focused Short Courses</b> <i>Tank Venting and Blanketing (3hr) Tank Risk - RBI and Risk Screening (3hr) (see NISTM.org for Details)</i>
8:30pm	<b>WELCOME RECEPTION SPONSORED BY <u>A TEC STEEL LLC</u> AND <u>APEX DOMES</u></b>
WEDNESDAY, APRIL 15, 2020	
7:30am	<b>MORNING BREAKFAST SPONSORED BY <u>MATRIX SERVICE COMPANY</u></b>
8:30am	<b>TRADE SHOW OPENS</b>
8:30am	<b>Introduction</b> <i>Marshall Mott-Smith, National Institute for Storage Tank Management</i>
8:45am	<b>Decision and Risk in the Oil and Gas Industry</b> <i>Dan Brooks, ASU, Professor Emeritus, Decision and Risk Sciences</i>
9:15am	<b>National Oil Program Update</b> <i>Mark Howard, EPA Oil Center</i>
9:45am	<b>FRP Overview</b> <i>Troy Swackhammer, USEPA OEM-RPDD</i>
10:15am	<b>MID-MORNING BREAK SPONSORED BY <u>MATRIX SERVICE COMPANY</u></b>
12:15pm	<b>LUNCH SPONSORED BY <u>CST INDUSTRIES, INC.</u></b>
1:15pm	<b>Reflections from a Hazy Crystal Ball; Trends 2020 to 2030</b> <i>Earl J Crochet, P.E., Kinder Morgan Terminals</i>
2:00pm	<b>What Can NACE Do for You - Melanie Diaz, NACE International</b>
2:30pm	<b>The Oil Terminal Market - Sales, Income, Trends and The Impact of Higher Real Estate Taxes</b> <i>Gregg Manzione, Nationwide Consulting Company</i>
3:15pm	<b>AFTERNOON BREAK</b>
4:30pm	<b>Responsible Care - Responding to Challenges, Delivering Performance</b> <i>Greg Rhoads, The American Chemical Council</i>
5:00pm	<b>STI 2019 Product of the Year Awards – Wayne Geyer, Steel Tank Institute</b>
6:00pm	<b>CONFERENCE ADJOURNS &amp; TRADE SHOW CONCLUDES</b>
6:00pm	<b>COCKTAIL MIXER ON THE TRADE SHOW FLOOR</b> <b>SPONSORED BY <u>FISHER TANK COMPANY</u>, <u>J2 RESOURCES</u> AND <u>POND &amp; COMPANY</u></b>

**THURSDAY, APRIL 16, 2020**  
 ☞ MORNING SPLIT SESSIONS ☜

	AST OPERATIONS & TANK INTEGRITY	AST ENVIRONMENTAL		FIELD-CONSTRUCTED TANKS INSTALLATION 
<b>7:30am</b>	<b>MORNING BREAKFAST SPONSORED BY <u>JENSEN MIXERS INTERNATIONAL</u></b>			
<b>8:30am</b>	<b>TRADE SHOW OPENS</b>			
<b>8:30am</b>	<b>Hurricane Weather and Fixed Roofs – Senate Bill 1446</b> <i>Allie Alderson, HMT</i>	<b>What to Expect During a SPCC Inspection</b> <i>Mark Howard, EPA</i>	<b>Status Review and Revisions to NACE SP0193 and API 651 - Cathodic Protection of Soil Side AST Bottoms</b> <i>Lou Koszewski, US Tank Protectors</i>	<b>Integrated Tank Maintenance Program - How to Protect Tank Assets and Reduce Costs</b> <i>Jim Viale, Fisher Tank Company</i>
<b>9:15am</b>	<b>Emission Control Options for Aboveground Storage Tanks</b> <i>Adam Vance, Mesa Industries</i>	<b>A New Innovative Technology to Identify Fluids in Real-time and to Assist in Preventing Overfills</b> <i>Jim Heim, Perceptive Sensor Technologies, LLC &amp; Earl Crochet, Kinder Morgan</i>	<b>Coating in the Cold: Sometimes You Just Have to Do It</b> <i>David Cushman, West Virginia Paint, LLC</i>	<b>Overview of NFPA, API, and Other Important Large Tank Design Codes</b> <i>Andy Stetzler, Caldwell Tank</i>
<b>10:00am</b>	<b>MORNING BREAK SPONSORED BY <u>JENSEN MIXERS INTERNATIONAL</u></b>			
<b>11:30am</b>	<b>Allowable Nozzle Loads for Aboveground Storage Tanks</b> <i>Austin Pace, Consolidated Fabrication and Constructors, Inc.</i>	<b>API Aboveground Storage Tank Standards Update</b> <i>Jose Godoy, API</i>	<b>Coating Condition Assessments: What Is It, &amp; What Value Does It Bring</b> <i>David Hunter, Pond Company</i>	<b>Why Steel is Material of Choice for Large Terminal Storage Tanks</b> <i>David Stoddard, SSAB Americas</i>
<b>12:00pm</b>	<b>Breakthrough Innovations in Tank Floor Scanning</b> <i>Ryan Gane, Rosen USA</i>	<b>Overfill Prevention - API-2350 Update</b> <i>Rich Ireland, Emerson - Rosemount Tank Gauging North America</i>	<b>Tank Bottom CP Strategies: Review of Historical Results</b> <i>Casey Sprayberry, Corpro</i>	<b>When &amp; How to Successfully Waive Hydrotesting for API 650 Tanks</b> <i>Jeff Smith, Tarsco</i>
<b>12:30pm</b>	<b>MORNING TECHNICAL SESSIONS END</b>			
<b>1:00pm</b>	<b>LUNCH*</b>			
<b>1:00pm</b>	<b>TRADE SHOW CLOSSES</b>			

*\*Lunch is not provided on April 16, 2020*

THURSDAY, APRIL 16, 2020  
 AFTERNOON SPLIT SESSIONS

	AST OPERATIONS	AST ENVIRONMENTAL		UPSTREAM STORAGE TANKS
2:30pm	<b>Best Practices for Protecting Your Tanks Against Fires</b> <i>Mario Lopez, VFS Fire &amp; Security Services</i>	<b>Terminal Compliance and Internal Audit Program</b> <i>Joe Lovan, GP Energy</i>	<b>Stainless Steel Tanks and Tank Bottoms Providing Both Cost and Corrosion Control Advantages</b> <i>John Grocki, Industeel-ArceloMittal</i>	<b>API Upstream Tanks, Issues and Perspectives and API 12R1</b> <i>Dave Bryan/Philip Myers</i>
3:00pm	<b>The Impact of New Foam Technology in a Traditional Market</b> <i>Jaco Du Plessis, Protect-O-Burn</i>	<b>Incorporating New Inspection Technology into your Company</b> <i>Brock Trotter, PEMY Consulting</i>	<b>Non-Destructive Inspection Methods for Thermal Insulating Coatings Applied on a Tank</b> <i>Saboura Rokhsari, Mascoat</i>	<b>New Standard API 12F Shop Welded Tanks and Tank Batteries</b> <i>John Slupsky, XTO Energy Inc.</i>
3:30pm	AFTERNOON BREAK SPONSORED BY <a href="#">ATEC STEEL, LLC.</a>			
3:45pm	<b>Exploring the Potential of In-Field 3D Tank Analysis</b> <i>Josiah Lau, Novlum</i>	<b>A Comparison of API 653 to EEMUA 159</b> <i>Mark Baker, Baker Consulting Group Inc</i>	<b>AST Soil-Side Bottom Corrosion Due to Varying Oxygen Levels and Proper Mitigation Techniques</b> <i>Sujay Math, Zerust Oil &amp; Gas</i>	<b>Batteries – API 12B Bolted Tanks</b> <i>Randy Kissell, Trinity Consultants &amp; Keith McGuire, CST Storage</i>
4:15pm	<b>Cyber Security with Automation &amp; Beyond; Encrypted Automation - Reduce Risk &amp; Protect Your Assets</b> <i>Mark McComb &amp; Linda Searcy, Go Guard/Structure IS</i>	<b>Remote Sensing and Satellite Imagery for Facility Monitoring, Leak Detection and Compliance</b> <i>Peter Weaver, Orbital Sidekick</i>	<b>Opening Pandora’s Box Only to Find Gold Corrosion Case Study</b> <i>Warren Brand, Chicago Corrosion Group, LLC</i>	<b>Upstream and NFPA Issues</b> <i>Yevgenie Konratenko, BP &amp; Philip Myers, PEMY Consulting</i>
4:45pm	<b>3 Reasons to Rethink Your Tank Gauging Method</b> <i>Joel Hurt, Leica Geosystems</i>	<b>Non-Entry Tank Bottom Recovery</b> <i>Jack McLean, Hydrocarbon Solutions Inc.</i>	<b>Coating Condition Assessments to Fight AST Corrosion</b> <i>Adam Beers, KTA-Tator, Inc.</i>	<b>API 12P Fiberglass Tanks</b> <i>Doug Preston &amp; Harold Ninemires, LF Manufacturing</i>
5:30pm	ADJOURN			

FRIDAY, APRIL 17, 2020 <span style="font-size: small;">SPLIT SESSIONS</span>				
	AST SESSION ONE	AST SESSION TWO	SHOP FABRICATED TANKS	
8:30am	<b>Morning Breakfast</b>			
8:30am - 1:00 pm	<b>Tanks 102 Advanced Course</b> <i>Phil Myers &amp; Andrew Yearwood, PEMY Consulting</i>			
9:00am	<b>Robotic Inspection of In-Service Storage Tanks</b> <i>Clint Collins, Veritank</i>	<b>Implication of Conservation Vent Leakage</b> <i>David Lovein, Protego</i>	8:15am	<b>Shop-Fabricated AST System Components -</b> <i>Steve Allwein, Morrison Bros. Co.</i>
			8:45am	<b>Tank Explosions</b> <i>Wayne Geyer, STI/SPFA</i>
9:30am	<b>One of the Worlds' Largest Hot Taps</b> <i>Andrew Yearwood, PEMY Consulting</i>	<b>Leak Detection Lining System for Existing Storage Tanks</b> <i>Ian Rowell, International Paint LLC</i>	9:15am	<b>SP001 AST Inspections</b> <i>Joe Mentzer, STI/SPFA</i>
10:00am	<b>ROI for Aboveground Storage Tank Lightning Protection System</b> <i>Andrew Mui, Critical Facility Pte. Ltd, Singapore</i>	<b>Insulation as an Investment vs. Expense</b> <i>Beryl Billiot, ISO Services</i>	10:00am	<b>Versatility of Steel, as Tank Designs Get Larger and More Customized</b> <i>Steve Fort, Modern Welding</i>
10:30am	<b>Morning Break</b>			
10:45am	<b>Drones for Contact-based Nondestructive Ultrasonic Thickness and Corrosion Testing on Storage Tanks and Other Structures</b> <i>Rami Mattar, Amerapex Corporation</i>	<b>Vapor Recovery Systems on ASTs</b> <i>Bassey Udosen, Georgia Department of Natural Resources</i>	10:30am	<b>New UL 142A, and Performance Testing of Large Rectangular Tanks</b> <i>Steve Pollock, STI/SPFA</i>
11:15am	<b>Installing Cathodic Protection Under an Existing Tank Using HDD – Case Story from Kuwait</b> <i>Ted Huck, MATCOR</i>			
11:45am	<b>Value or Expense: How Inspection Relates to Contract Documents</b> <i>Rae Marie Mattis, Wadsworth Inspection Services</i>		11:15pm	<b>Missouri AST's</b> <i>John Albert, Missouri Department. of Agriculture</i>
12:15pm	<b>ADJOURN</b>			

The agenda is tentative and subject to change. Periodically visit [www.NISTM.org](http://www.NISTM.org) for an updated agenda



22<sup>nd</sup> ANNUAL INTERNATIONAL ABOVEGROUND STORAGE TANK CONFERENCE & TRADE SHOW  
Conference Agenda | April 15-17, 2020 | Orlando, Florida

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##### Corporate Plan (April 15-17, 2020)

- 1 Attendee is **\$495 per person**
- 2 Attendees is **\$450 per person**
- 3 Attendees is **\$400 per person**
- 4 Attendees is **\$375 per person**
- 5 Attendees is **\$350 per person**

##### Unlimited Plan (April 15-17, 2020)

- 6 or more attendees is **\$2,000 Total** for as many attendees you want to bring to the show.

#### April 15-17, 2020

##### Registration fee includes:

- o April 14<sup>th</sup> | Welcome Reception
- o April 15<sup>th</sup> | All conference sessions
- o April 15<sup>th</sup> | All conference breaks
- o April 15<sup>th</sup> | Full trade show access
- o April 15<sup>th</sup> | Luncheon
- o April 15<sup>th</sup> | Cocktail Mixer on the trade show floor
- o April 16<sup>th</sup> | All conference sessions
- o April 16<sup>th</sup> | All conference breaks
- o April 16<sup>th</sup> | Full trade show access
- o April 17<sup>th</sup> | Half Day - All conference sessions and morning breaks
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Name(s) & Title(s): \_\_\_\_\_  
\_\_\_\_\_  
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- Conference Attendee(s)
- Free EPA SPCC & FRP Short Course (April 14, 2020)
- Free Trade Show Entry (April 15-16, 2020)
- Course Materials Only \$75

#### PAYMENT INFORMATION:

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#### CONFERENCE & TRADE SHOW LOCATION:

Rosen Shingle Creek Hotel Phone: 866.996.9939 | Booking ID #62783  
9939 Universal Blvd Single/Double Rooms: \$219.00  
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To submit this registration form, you may either Fax it to **813.870.6824** or  
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#### CANCELLATION & REFUND POLICY

In the event of a cancellation, it is the registrant's responsibility to contact NISTM in writing by April 3, 2020 and receive a full refund (a \$50 processing fee will be charged). Another option is reserve your payment amount as a credit towards the next event(s) of your choice. After April 3, 2020, no refunds will be issued.