



# CONFERENCE SESSIONS

## Operations & Engineering Track

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### SESSION 1A

● 6/13/2022 | 10:20 a.m. – 10:50 a.m. (Texas Ballroom A)

#### Multiple Approaches to Engineering Execution

In our industry, engineering project execution is not “one size fits all.” Factors such as project schedule and cost, the complexity and scope of the design, and the ultimate delivery method should all help determine which approach is right for your project. This presentation will explore the multiple approaches to engineering projects and describe the pluses and minuses of each model, from the rigorous stage-gate approach to a speed to market approach. Participants will learn about how the design process can impact contract strategy and delivery methods—engineering, engineering and procurement, engineer-procure-construct (EPC), engineer, procure and construction management at risk (EPCm).

Our expert speakers will discuss how to:

- Evaluate different delivery methods and the benefits and drawbacks of each
  - Identify drivers that determine the best engineering approach and how to choose the right one
  - Manage clients with different expectations and communication styles
  - Incorporate outside factors as environmental permitting, rail, or customer requirements
  - How your desired detailed engineering, procurement and construction contracting strategy can impact your preliminary engineering approach.
- **Pratt Summers, Colonial Terminals (Moderator)**
  - **Jason Hetherington, Burns & McDonnell**
  - **Brian Highfield, PE, Burns & McDonnell**

### SESSION 1B

● 6/13/2022 | 10:55 a.m. – 11:25 a.m. (Texas Ballroom A)

#### Moving from Data-Overload to Digital Insight: Leveraging Inspection Record Data to Increase Accuracy and Productivity

More and more, operators are facing the need to handle massive amounts of inspection information collected over past years, or even decades. Many objectives can be achieved by data mining these records. Past inspection data can be pivotal in improving internal productivity, capturing operating knowledge, reducing equipment downtime, or memorializing growing sets of procedural requirements. Even in the face of limitations—like data gaps, lack of manpower, or the costs of entering historic data—data mining is a powerful, worthwhile tool that can allow us to move into the future of inspection data management.

Participants in this session will learn the right way to start a data mining project, starting with proper project planning. Our expert speaker will explain the steps involved in setting up the inspection, capturing quality data, ensuring consistent reporting, and finally performing detailed data mining. Participants will learn how, using these steps, they will be able to identify issues before they occur – reducing downtime and preventing failures and catastrophic events through digital inspection methods.

- **Pratt Summers, Colonial Terminals (Moderator)**
- **Brian Smith, Project Management Professional, Qi2 Elements**

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### SESSION 2A

● 6/13/2022 | 11:30 a.m. – 12:00 p.m. (Texas Ballroom A)

#### Novel Robot Technology for In-Service Crude Oil Tank Inspections

Traditional out-of-service inspections cost asset owners millions in direct and lost opportunity costs. With over a hundred thousand tanks in service globally and inspection intervals of ten to fifteen years per asset, this imposes massive costs on the industry overall. There are currently robots capable of providing in-service inspections for clean product tanks, however, robots have previously been unable to penetrate and operate within the sludge present at the bottom of many crude tanks.

In Nov. 2019, Applied Impact Robotics (AIR) won the HeroX Innovation Challenge to fund disruptive technology for in-service crude oil tank inspections, including those containing a significant amount of sludge. AIR has developed a first-of-its-kind prototype technology using a combination of vibration and fluid injection to create a pocket of reduced viscosity around the robot, allowing the robot to maneuver in a simulated sludge environment. This presentation will describe a case study of AIR's analogue sludge compared to actual sludge samples, patented methods to maneuvering a robot in sludge, and new value unlocked by utilizing superior UT technology at more frequent inspection intervals.

AIR's solution aims to minimize these costs and keep tanks in service for longer, with the potential to save asset owners billions of dollars annually. Additionally, by keeping the tank in-service, this solution generates data using superior UT technology at any desired inspection interval giving operators the confidence and ability to understand tank wear patterns and degradation to optimize the resources allocated for tank management.

- Jon Hunt, Energy Transfer (Moderator)
- Joel Poe, Applied Impact Robotics

### SESSION 2B

● 6/13/2022 | 12:05 p.m. – 12:35 p.m. (Texas Ballroom A)

#### Meeting the Standard: Gasoline-Ethanol Blend Growth Considerations

Bulk fuel distribution facilities blending gasoline with ethanol at the rack are almost certainly covered by the API standard that addresses growth in gasoline-ethanol blends (API MPMS 11.3.4). Are you, and your operators, fully aware of the issues this standard addresses? Could you benefit from a discussion of the pitfalls operators encounter relating to growth, and how this standard can help avoid problems? Participants in this session will learn how this helpful standard applies to several approaches to product blending, covering all methods typically encountered at bulk fuel distribution terminals.

Drawing on his three decades of experience as a contributor to the development of industry measurement standards, our expert presenter will describe the history, purpose, development, and application of the gasoline-ethanol growth blend standard. Session participants will gain a firm grasp of the mechanisms of blending gasoline and ethanol, learning why growth can occur in these blends, the magnitude of potential error in applying the standard, the impact on measurement and product inventory accounting, and observations regarding real-world blending scenarios. If gasoline-ethanol blending is a part of your operations, be sure someone from your company attends this informative session.

- Jon Hunt, Energy Transfer (Moderator)
- James M. Pettinato, Jr., TechnipFMC

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### SESSION 3A

● 6/13/2022 | 1:50 p.m. – 2:20 p.m. (Texas Ballroom A)

#### Risk-Informed Hazard Mitigation Planning for Storage Tanks and Terminals

Take the opportunity to join this session that will help you think in new ways about disaster preparedness. Natural hazard triggered technological accidents (Natech) can cause extensive structural damage to tanks and terminals, causing significant economic losses and creating the potential for secondary disasters such as fires or releases of hazardous materials. Advanced planning can help maintain the resilience of tank terminal systems and reduce the risk of economic loss.

Pre-hazard mitigation planning allows operators to build an integrated, performance-modeling framework that can identify vulnerable tanks and support preventive decision-making. In this session, participants will learn about new methodology that can help operators assess the performance of tanks and terminals under natural hazards. The methodology is based on two innovative approaches:

1. Applying probabilistic sampling methods to simulate the uncertainties in natural hazards and hazard-induced tank damages, and
2. Quantifying the direct economic loss and the further loss caused by secondary disasters.

Based on the new methodology described, our expert speaker will also propose a new “resilience index,” capable of characterizing the overall performance of tanks and terminals in hazard scenarios. Participants will learn about a real-world application of the proposed framework. The session will conclude with a discussion of the critical parameters that can guide the application of the framework.

- **Eric Conard, Petro Diamond (Moderator)**
- **Yangyang Wu, Roundtable Engineering Solutions**

### SESSION 3B

● 6/13/2022 | 2:25 p.m. – 2:55 p.m. (Texas Ballroom A)

#### Engineered Composite Repairs for Aboveground Storage Tanks

Corrosion is a force of nature that can only be managed, not controlled. The good news is that science and engineering provide today’s terminal operators with a wealth of tools to address the potential impacts corrosion can bring to a facility. This informative session is designed to help terminal owners and operators understand their role in the requirements and design option specific to nonmetallic repairs.

It is important that tank terminal operators have a strong understanding of the aspects of API 653 that relate to nonmetallic repairs. Our expert speaker will lead participants through the requirements of API 653 that pertain to the nonmetallic repairs of shell plates or nozzle necks, to repair hoop strength capacity lost to corrosion. This presentation will provide participants with valuable insights into the standard’s recommendations, and requirements. To enable participants to continue building their knowledge in this area, our speaker will provide supplemental information related to composite testing and engineered repair design criteria.

- **Eric Conard, Petro Diamond (Moderator)**
- **Alex Tzamtzis, Belzona Houston**

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### SESSION 4

● 6/13/2022 | 3:00 p.m. – 4:10 p.m. (Texas Ballroom A)

#### Risked-Based Inspections: What are the Rewards?

This important session focuses on the benefits of damage mechanisms assessments, using risk-based inspection analysis (RBI) in the context of tank farm storage tanks and piping components. Our expert speakers will explain the overall goal of RBI, describe the components of a properly implemented RBI program, and detail how sites can reap rewards from using RBI techniques in conjunction with existing mechanical integrity programs. Particular attention will be given to key elements of RBI assessment including pre-screening, corrosion circuits (loops), and risk analysis.

- Jay Bany, Enterprise Products (Moderator)
- Earl J. Crochet, Crochet Midstream Consulting
- Diana Trevino, Provenance Consulting

### SESSION 5

● 6/13/2022 | 4:15 p.m. – 5:15 p.m. (Texas Ballroom A)

#### Reshaping Pipeline and Terminal Monitoring in the Rapidly Evolving Space Economy

New satellites are being launched almost weekly, and the capability of these satellites to deliver detailed information on fixed infrastructure is growing rapidly as well. Cost-effective access to persistent satellite monitoring data is now a reality. Terminal and pipeline operators will soon have new and improved tools at their disposal to help them make more informed decisions regarding investments in operational integrity and monitoring. For facility monitoring, enhanced access to new streams of information is creating new ways for operators to steward their assets. Customized analysis of satellite data will enable facilities to make better decisions based on better information.

In this session, our expert speaker will describe how terminal companies and pipeline operators can utilize new monitoring services from the commercial space marketplace. These revolutionary services have the potential to help operators to obtain critical information about their assets, empowering more insightful decision-making. Our speaker will share examples of historic satellite imagery as it compares to hyperspectral imagery – showing how quickly these technologies have evolved over recent years.

The presentation will focus on how this new data pathway can allow terminal operators to rapidly identify and respond to threats and hazards before they pose greater threats to our communities or the infrastructure itself. Some examples of the threats that can now be visualized using satellite data include vapor releases, small oil spills, vegetation encroachment, soil disruption, physical intrusions, and new construction activity.

- Vincent Di Cosimo, Targa Terminals (Moderator)
- Peter R. Weaver, ChE, MBA, Orbital Sidekick

### SESSION 6A

● 6/14/2022 | 9:50 a.m. – 10:20 a.m. (Texas Ballroom A)

#### Industrial Autonomy: A Path Forward for Every Terminal

Future-proofing upstream and midstream operations, which requires strong alignment with two capital-competing initiatives—industrial autonomy and net zero emissions goals. The good news is both, autonomous operations, and net zero goals hold key synergies that yield substantial benefits from having been executed concurrently.

Gain insight into where to invest your time and capital on the journey to autonomous operations, while simultaneously leap-frogging your net zero emissions goals.

- Jon Hunt, Energy Transfer (Moderator)
- Robert Ell, P.Eng., Honeywell

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### SESSION 6B

● 6/14/2022 | 10:25 a.m. – 11:00 a.m. (Texas Ballroom A)

### Managing Your Terminal from Your Smartphone: Fact or Fiction?

Why is the digitalization trend continuing to build momentum in the terminal industry? In this timely and important session, our expert speaker will describe examples from his own experience showing how digitalization can:

- Reduce tank downtime by up to 85 percent,
- Decrease labor-hours by up to sixty percent,
- Pay for initial investments within six months,
- Deliver a seven-fold return on investment within one year.

The oil and gas market is changing due to market pressures related to increased investment in renewables energy, and an increased emphasis on electrification and on sustainability. These constraints, and the volatility they create for oil and gas prices in the future, are pushing for more efficient management of oil and gas assets including oil and gas terminals. The development of digital technologies offers a great opportunity to optimize the management and operation of oil and gas facilities, while improving safety and reducing OPEX and CAPEX.

Although digital and emergent technologies have the potential to achieve significant savings, operators must contend with challenges such as upfront investment and the lack of a digitization strategies. Operators may also face workforce challenges such as lack of expertise and discomfort with adopting new technologies. In this presentation, our expert speaker will identify how digital solution providers tackle each of these barriers to digitization. Session participants will learn how tools like workshops and demonstrations can aid in identifying the best digitization strategy and deliver the best return on investment. The presentation will explain why digital solutions should leverage computer vision, AI, and human-centered design to provide simple, intuitive solutions. Finally, the session will demonstrate that the 'iPhonification' of digital solutions can facilitate staff acceptance of new technologies.

- **Jon Hunt, Energy Transfer (Moderator)**
- **Ahmed Hadid, Hybrid Ltd.**

### SESSION 7A

● 6/14/2022 | 11:05 a.m. – 11:35 a.m. (Texas Ballroom A)

### Extending Tank Lifespans Using Inserted Liners

Terminal operators have several options available to extend the usable lifespan of aboveground storage tanks. Commonly, an operator will complete an API 653 or SPI SP001 inspection, and then use a competent contractor to perform any necessary repairs. While a valid approach, delay and cost issues may sometimes make this approach impractical. It is important for terminal operators to understand that other approaches are possible, and to know how to evaluate which approach is best for each situation.

Participants in this informative session will learn about an alternate approach that involves the use of an insertable liner to extend the use of aboveground storage tanks. This alternative can often prove to be a simple and quick solution that can decrease the risk of failure or product loss. Be sure to attend this session to ensure that you are fully aware of all your options in managing and optimizing your terminal assets.

- **Kari Bernard, TransMontaigne Partners LLC (Moderator)**
- **John Cornell, Sr. Storage Tank Specialist, H.I.R. Technical Services**

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### SESSION 7B

● 6/14/2022 | 11:40 a.m. - 12:15 p.m. (Texas Ballroom A)

### LNG Storage - Do You Know What's Really Happening Inside Your LNG Tanks?

Stored at minus 162 degrees C and at a 600:1 compression ratio, LNG brings significant handling challenges with demanding requirements for accurate level, temperature, and density measurements. These specialized needs also have considerable implications for safety and accountability.

Multiple options and solutions are available to you for tank gauging of LNG storage tanks – and it is important that operators are fully aware of each of these. Automatic Tank Gauging (ATG) systems and specialized LNG Software can offer significant advantages to operators by providing visualization, data trends, alarming and reporting, as well as the ability to do predict rollover. Our expert speakers will also address Raman spectroscopy as a cost and time saving option.

Participants will learn from a discussion of real-world challenges in monitoring LNG tanks, including understanding the requirements for accurate level, temperature, and density measurement. If your terminal facility is involved in LNG storage, be sure that you or a colleague attend this informative session.

- Kari Bernard, TransMontaigne Partners LLC (Moderator)
- Brian Howsare, Endress & Hauser