Track Summary – Emerging Technologies

Breakout Presentations – Thursday February 20, 2020

Location Awareness – Improving Safety with Wireless Monitoring

Meeting Flare Emissions Regulations with BTU Measurement

How Digital Transformation Can Impact Compliance for Environmental and Safety Regulation

Advanced Data Collection Technologies for Rugged Field Work

Digital Camera Visible Emissions Method (Alternative Method 082) in lieu of Method 9 for Visible Emissions

Wireless H2S Monitoring

How IoT and Blockchain Technology Can Transform Environmental

Improving Safety with Wireless Safety Shower Monitoring

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Emerging Technologies – Breakout Presentations

Best Practices Breakout Room 417A – Thursday February 20, 2020

- **10:30 AM – 11:00 AM**
  - **Location Awareness – Improving Safety with Wireless Monitoring – Marcio Donnangelo – Emerson Automation Solutions**
  - Think you're covered? Radios aren't always enough. Once a wireless infrastructure is deployed, then a new universe of occupational safety applications can be easily implemented, such as Location Awareness, using industrial wireless technology, that in many cases has already been implemented, is not only cost–effective but can provide instant alerts and quick and effective response time.

- **11:00 AM – 11:30 AM**
  - **Meeting Flare Emissions Regulations with BTU Measurement – Tom Watson – AMETEK Process Instruments**
  - Learn how mass spectrometer technology can be used to meet emissions requirements by measuring BTU in the flare gas. This session will cover the methods of BTU determination and will outline the advantages of a mass spectrometer analyzer – speed, accuracy, range, etc. – while discussing application specifics, and total cost of ownership and maintenance needs. There will also be a review of mass spectrometry technology, components, and functions.

- **11:30 AM – 12:00 PM**
  - **How Digital Transformation Can Impact Compliance for Environmental and Safety Regulation – Marcio Donnangelo – Emerson Automation Solutions**
  - This presentation will give you an overview of how Digital Transformation is eliminating layers of complexity to bring pre–interpreted field data directly to those who need to make decisions and take action. Two examples will be highlighted: • Environmental reporting involves flow measurements which must be verified to be accurate. Discovery of an inaccurate measurement can be costly for operators as they may pay fines from the last date they can prove accurate measurement. Meter verification tools make it simple and convenient to prove accuracy over time. Operators will be notified of problems immediately to avoid misreporting and allowing for immediate corrective action. • PRVs are no longer isolated mechanical devices that rely on manual rounds as part of a preventive maintenance program. Release and leakage alerts can be wirelessly monitored, and then integrated into reporting and analytical systems. Powerful tools are now available to interpret these patterns and predict future releases before they occur.

- **12:00 PM – 1:00 PM Lunch Break in the Exhibit Hall**

- **1:00 PM – 1:30 PM**
  - **Advanced Data Collection Technologies for Rugged Field Work – Craig O'Neill – Juniper Systems**
  - Abstract Coming Soon.

- **1:30 PM – 2:00 PM**

Emerging Technologies – Breakout Presentations

- o **Digital Camera Visible Emissions Method (Alternative Method 082) in lieu of Method 9 for Visible Emissions – Shawn Dolan – Virtual Technologies**
- o ASTM D7520–16 and US EPA Alternative Method 082, have revolutionized Visible Emission Management practices over the last 7 years. Community Air Quality Awareness has become a litigation boiling pot, as smart phones, and low cost Particulate and Ozone monitors, have flooded the monitoring markets, making monitoring readily available to everybody everywhere. The exponential growth of the community monitoring market over the last two years will be reviewed and strategies to embrace community monitoring as a means of compliance assurance will be discussed in this presentation.

- **2:20 PM – 2:30 PM**
  - o **Wireless H2S Monitoring – Marcio Donnangelo – Emerson Automation Solutions**
  - o The toxicity of H2 S gas is extremely high. Its flammable level is actually much lower than it's toxic level for humans. Fortunately, having the distinct odor of rotten eggs allows plant workers to detect H2 S gas in the relatively safe range of parts per billion. This is well below the danger level, however exposure to very low concentrations (30 parts per million or greater) can actually paralyze a workers ability to smell H2 S. Training for rig and plant personnel includes extensive coverage of H2 S gas dangers and what to do if detected but in some cases all the training in the world cannot help with a sudden high level exposure.

- **2:30 PM – 3:00 PM Break to Enjoy Exhibit Hall Refreshments**

- **3:00 PM – 3:30 PM**
  - o **How IoT and Blockchain Technology Can Transform Environmental Monitoring – Philip Black – Wood Group**
  - o While the US EPA's Next Generation Compliance Initiative has concluded, the focus generated a number of conversations about the potential of small consumer devices in air quality monitoring. It also attracted the attention in the Middle East and Asia where accurate monitoring and reporting have historically been challenging. The global focus on compact sensors collecting more data, commonly referred to as the internet of things (IoT), means that more monitoring can be accomplished, but how can the information be trusted? Learn how other countries are investigating the combination of IoT with blockchain technology to increase confidence in their environmental reporting frameworks.

- **3:30 PM – 4:00 PM**
  - o **Improving Safety with Wireless Safety Shower Monitoring– Marcio Donnangelo – Emerson Automation Solutions**
  - o Think you're covered? Radios aren't always enough. Find out how to improve safety by monitoring safety shower and eye–wash stations, as well as comply with OSHA without incurring complex installation and deployment costs. A safety shower system integration using wireless technology is not only cost–effective but can provide instant alerts and quick and effective response time.