

# 2015 Inspection Summit Program

\*as of 12/15/2014. Program is subject to change

## Tuesday, January 27, 2015

### Industry-Wide \*May appeal to more than one industry sector

| TRACK                | 8:30 AM                                                                                                     | 10:00 AM | 10:00 AM | 10:30 AM                                                 | 11:15 AM                                                        | 12:00 PM | 1:30 PM                                                                              | 2:15 PM                                                                   | 3:00 PM | 3:30 PM                                                                              | 4:15 PM                                                           |                                                                                                      |  |
|----------------------|-------------------------------------------------------------------------------------------------------------|----------|----------|----------------------------------------------------------|-----------------------------------------------------------------|----------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--|
| Inspection / NDE - 1 | <b>Keynote Address:</b><br><br><b>Mike Mullane</b><br><br>Countdown to Safety and Normalization of Deviance | Break    | Break    | NDE of Composite Wrap Repairs Piping and Pipelines (#54) | Benefits of ILI Verification (#46)                              | Lunch    | Integrating ILI and Pipeline Data to Evaluate Asset Preservation Strategies (#53)    | Supplementing Pipeline System Records Using ILI Survey Data (#70)         | Break   | In-Line Inspection Technique Suitable for Lined or Internally Coated Pipelines (#63) | Robotic Inspection of "Inaccessible" Piping at Pump Station (#92) |                                                                                                      |  |
| RBI                  |                                                                                                             |          |          | Is RBI for You? (#8)                                     | Do Not Underestimate RBI's Contribution to Process Safety (#97) |          | Mitigation Of Integrity Challenges In Ageing Refineries By Risk Based Approach (#34) | Key Performance Indicator's for Risk Based Inspection Effectiveness (#89) |         |                                                                                      |                                                                   |                                                                                                      |  |
| Industry Panel       |                                                                                                             |          |          | API Codes and Standards - What's New and Changing        |                                                                 |          | Long Seam Pipeline Inspection                                                        |                                                                           |         |                                                                                      |                                                                   | Risk-Based Inspection - Where To From Here?                                                          |  |
| Industry Panel       |                                                                                                             |          |          |                                                          |                                                                 |          |                                                                                      |                                                                           |         |                                                                                      |                                                                   | High-Temperature Sulfidation - How Several Owner/Operators are Responding to Recent Failures (cont.) |  |

### Down-stream

| TRACK                  | 8:30 AM                | 10:00 AM | 10:00 AM | 10:30 AM                                                                                       | 11:15 AM                                                                 | 12:00 PM | 1:30 PM                                                                                                              | 2:15 PM                                                                        | 3:00 PM | 3:30 PM                                                                                               | 4:15 PM                                                                                         |
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| Inspection / NDE       | <b>Keynote Address</b> | Break    | Break    | Recent PMI Innovations and Your API RP-939C Compliance (#12)                                   | High Temperature Sulfidation Inspection (#51)                            | Lunch    | PMI - An Expensive Lesson (#187)                                                                                     | Using Proper PMI Practices From Codes and Standards to Help Reduce Risk (#304) | Break   | Pre-Turnaround Inspections Can Lead to Reduced T/A Work Scope and Improved Equipment Integrity (#108) | A Guide for Successfully Staffing and Executing a Turnaround (#23)                              |
| Corrosion / Metallurgy |                        |          |          | Tramp Amines: Sources, Detection, Mitigation, Monitoring (#151)                                | Fabulous Facts about Protecting Your Passivation Layer (#152)            |          | The Corrosion Challenges with Processing Sour Canadian Heavy Crudes (#254)                                           | A Damage Mechanisms Review Methodology for Refinery Process Units (#85)        |         | Corrosion Monitoring Equipment (#94)                                                                  | Two Case Studies of Failures from Liquid Metal Embrittlement and Corrosion Under Deposits (#96) |
| AIM/Engineering        |                        |          |          | Engineering Technology for Better Data Analysis Using Robotics and Wireless Data Access (#300) | Process Safety and the Impact to Your Mechanical Integrity Program (#21) |          | Lessons Learned from Failures and Incidents Involving Pressure Vessels and Piping and the Loss of Containment (#250) | Case Study: Assessment and Remediation of a Local Thin Area (#164)             |         | Vertical Can Pump Case Failure - Are You at Risk? (#287)                                              | Considerations for Heavy-Wall Hydrogen Service Pressure Vessel Repair (#75)                     |

### Mid-Stream

| TRACK                  | 8:30 AM                | 10:00 AM | 10:00 AM | 10:30 AM                                                                                                     | 11:15 AM                                                                    | 12:00 PM | 1:30 PM                                                                                 | 2:15 PM                                                                                     | 3:00 PM | 3:30 PM                                                                 | 4:15 PM                                                                                                       |
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| Corrosion / Metallurgy | <b>Keynote Address</b> | Break    | Break    | Case Study of AC Induced Corrosion of a 24" Natural Gas Line (#65)                                           | Corrosion Protection of Oil Storage Tanks Soil Side Bottoms and Roofs (#71) | Lunch    | Corrosion Resistant Alloy (CRA) Clad Pressure Vessel: A Case Study in Inspection (#174) | Failure Analysis on Cracked Outlet Nozzle Welds on a Vertical Finned Tube Economizer (#226) | Break   | The Dilemma of Field Applied Pipeline Coatings: Proven Solutions (#167) | Reboiler Exchanger Heater Fire Tube Failures - A Case Study and Lessons Learned (#118)                        |
| AIM/Engineering        |                        |          |          | Asset Integrity Management of a Seawater Strainer for a Fresh Water vs. Seawater Plate Heat Exchanger (#180) | Fitness for Service Approaches - ASME and API Approaches Compared (#38)     |          | How Natural Forces Impact Your Integrity Management Philosophy and Planning (#22)       | Selection of Risk Mitigation Tool for Confirmation of Containment (#55)                     |         | Improving Your Compliance with OSHA PSM Standards (#48/#224)            | Use of Geospatial Mapping and Production Data to Evaluate Integrity Risk to Pipeline Gathering Systems (#202) |

### Up-Stream

| TRACK           | 8:30 AM                | 10:00 AM | 10:00 AM | 10:30 AM                                                                                                       | 11:15 AM                                                                          | 12:00 PM | 1:30 PM                                                     | 2:15 PM                                                         | 3:00 PM | 3:30 PM                                                                                                           | 4:15 PM                                               |
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| AIM/Engineering | <b>Keynote Address</b> | Break    | Break    | Finite Element Analysis and Crack-Like Flaw Evaluation of High Strength Steel Vessel in Wet H2S Service (#107) | Utilizing Measured Vibrations in Fatigue Assessments for Upstream Equipment (#25) | Lunch    | Bridging the Asset Integrity Gap for Upstream Assets (#256) | Pipeline Integrity Assessments - The Process and Strategy (#19) | Break   | A Novel Methodology to Prioritize the NDT of Dead-Legs in Deepwater Systems Using CFD and Corrosion Models (#125) | Spaced Interval Direct Contact Pipeline Survey (#126) |
|                 |                        |          |          |                                                                                                                |                                                                                   |          |                                                             |                                                                 |         |                                                                                                                   |                                                       |



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## Thursday, January 29, 2015

| Industry-Wide                                |                                                                                                    |                                                                                                                                   |          |                                                                                                                                      |                                                                                                   |          |                                                                                               |                                                                                                            |         |                                                                                                                    |                                                                                                                     |
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| TRACK                                        | 8:30 AM                                                                                            | 9:15 AM                                                                                                                           | 10:00 AM | 10:30 AM                                                                                                                             | 11:15 AM                                                                                          | 12:00 PM | 1:30 PM                                                                                       | 2:15 PM                                                                                                    | 3:00 PM | 3:30 PM                                                                                                            | 4:15 PM                                                                                                             |
| Inspection / NDE - 1                         | Continuous Monitoring of Critical Welds (#184)                                                     | Development of a Next-Generation System for Ultrasonic Wall Thickness Monitoring Using Digital Communications Bus Protocol (#192) | Break    | Real-Time Active Pipeline Integrity Detection (RAPID) System for Corrosion Detection, Localization and Quantification (#204)         | Corrosion Monitoring Using Ultrasonic Guided Wave Methods (#303)                                  | Lunch    | Continuous Monitoring of Corrosion Using Single Element Dry-Coupled Ultrasonic Sensors (#172) | Use of Integrity Monitoring Systems in Refineries and Upstream Sand Erosion Environments (#225/207)        | Break   | Non-Intrusive Subsea Corrosion and Erosion Monitoring (#103/#137)                                                  | Online Realtime Corrosion Monitoring of Subsea Pipelines with Permanently Installed Ultrasonic Sensor Arrays (#146) |
| Inspection / NDE - 2                         | The Future of NDE Personnel Qualification & Certification (#129)                                   | Chevron NDE Performance Demonstration Exams (#99)                                                                                 |          | Manage CUI Programs Through a Cloud-Based Mobile Solution (#143/#252)                                                                | Real Time Situational Awareness and the Turnaround Inspection Work Process (#122)                 |          | Efficient Location Based Inspection and Management (#229)                                     | Continuous Thickness Monitoring of Subsea and Buried Pipelines Using Wireless Technology (#262)            |         | "A Jurors Perspective" How Negligence Leads to a Wrongful Death Lawsuit (#228)                                     | Successful Intelligent Pigging Inspection of a Refinery's Aging Crude Supply Lines - A Case Study (#291)            |
| Inspection / NDE - 3                         | Development of a Minimum Intervention Strategy for Inspection (#208)                               | Learning How to Avoid Expensive Shutdowns with Non-Intrusive Inspections (#57)                                                    |          | The Methodology and Effectiveness of On Stream Inspection Programs (OSI) Relevant to Gas Oil Separation Plants at Saudi Aramco (#88) | Non-Invasive Monitoring Strategies for Engineering Structures Using Ultrasonic Guided Waves (#79) |          | UT Camera for In-Service Inspection : Making NDT Inspectors More Productive (#242)            | Save Time and Cost for Turnarounds Using Phased Array Technology (#64)                                     |         | Phased Array Testing of Welds From Only One Side - Optimize Your Results (#290)                                    | A New Phased Array Probe Technology Simplifies Recording of DAC/TCG Curves Significantly (#80)                      |
| AIM/Engineering/Inspection                   | Efficient Implementation of PAUT & TOFD for Weld Inspection (#18)                                  | Heat Exchanger Tubing Inspection Analysis: Challenges, Capabilities, and Limitations (#49)                                        |          | Corrosion Monitoring Using Ultrasonic Guided Wave Methods (#260)                                                                     | New ASME Section V Requirements for NDE Personnel - What This Means for You (#288)                |          | Physical Failure Analysis and How We Can Learn From our Mistakes (#37)                        | ASME Section IX. Reviewing Welding Documents 101 (#138)                                                    |         | Root Cause Analysis of a Pipeline Loss of Primary Containment Event (#185)                                         | Development of a Proactive Comprehensive Asset Integrity Program During Construction (#147)                         |
| AIM/Engineering/Inspection                   | MIC Assessment Model for Oil and Gas Production Systems (#198)                                     | Unusual Corrosion Mechanism in a Shale Gas Well (#235)                                                                            |          | Failure Analysis on Cracking in SS Integrally Reinforced Nozzles on a Suction Separator for a CO2 Compressor (#237)                  | Experience with Acoustic Emission Testing on Offshore Structures (#259)                           |          | Physical Failure Analysis and How We Can Learn From our Mistakes (#37)                        | ASME Section IX. Reviewing Welding Documents 101 (#138)                                                    |         | Root Cause Analysis of a Pipeline Loss of Primary Containment Event (#185)                                         | Integrity Management of Arctic Exploration and Production Facilities (#139)                                         |
| RBI                                          | Utilizing Risk-Based Inspection on Subsea Assets (#140)                                            | Optimizing Tank Inspection Intervals Through the Use of On-Stream Inspections and RBI (#110)                                      |          | Using RBI for Tank Bottom Corrosion Rate Modeling (#245)                                                                             | Onshore Production Tanks - Risk Assessment and Nondestructive Evaluation Techniques (#43)         |          | Inspection Effectiveness and Your Mechanical Integrity Program (#257)                         | A \$7MM Success Story: Realizing Value from a World Class Mechanical Integrity Program at Dakota Gas (#47) |         | WeldCRO – The Fully Quantitative Cost-Risk Optimization Process-software for P91 Piping Lifetime Management (#181) | Comprehensive Inspection Programs to Sustain and Aging LNG Plan Integrity (#201)                                    |
| Industry Panel                               | Auto-Refrigeration/Brittle Fracture - How to Make Sure Brittle Fracture Never Happens at Your Site |                                                                                                                                   |          | NDE Qualification and Performance Demonstration                                                                                      |                                                                                                   |          | Asset Integrity Management (AIM) Assessments - How Important Are They?                        |                                                                                                            |         |                                                                                                                    |                                                                                                                     |

| Down-Stream            |                                                                                  |                                                                                             |          |                                                                                                 |                                                                                                         |          |                                                                    |                                                                                                                              |         |                                                                       |                                                                                                                          |
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| Inspection / NDE       | Pressure Relief Valve Inspection, A Neglected Necessity (#74)                    | Field Trial Test Results for Eddy Current Inspection of Twisted Tube Heat Exchangers (#113) | Break    | Non-Invasive Heat Exchanger Tube Inspections - Applications and Limitations of Technology (#41) | Heat Exchanger Cleaning Technology for Improved Eddy Current and Remote Field Inspection Results (#236) | Lunch    | The Transition Role of a Unit Inspector (#230)                     | The Unit Inspector and the Turnaround Organization - Partnering for Success (#24)                                            | Break   | A New Electromagnetic-Based Approach to CUI Inspection (#83)          | Advanced Internal Inspection Alternatives Used to Optimize Effectiveness During Short Duration Turnaround Windows (#101) |
| Corrosion / Metallurgy | Practical Guidance in Welding of Duplex and Super Duplex Stainless Steels (#197) | Back to Basics with Naphthenic Acid (#234)                                                  |          | 1.25Cr Reformer Reactor Flange Brittle Fracture: Lessons Learned (#166)                         | Unexpected Brittle Fracture of a Heat Exchanger Channel (#193)                                          |          | Acid Gas Preheater Furnace Tube Failures: Case Study (#170)        | Update on API RP 970 A Corrosion Control System (#155)                                                                       |         | Coatings for Heat Exchanger Tubes - Do They Really Work (#31)         | A Comprehensive Discussion on Coating Systems for CUI Service (#15)                                                      |
| AIM/Engineering        | Tackling Competency in Mechanical Integrity (#6)                                 | What Makes a Good Inspector Great? (#10)                                                    |          | The Unit Inspector Transforms into a Mechanical Integrity Compliance Officer (MICO) (#231)      | Mechanical Integrity Program Management - Online Portal Discussion (#11)                                |          | A Better Way to Manage Your Mechanical Integrity Department (#210) | Fitness-for-Service Methodology as Part of Asset Integrity Management for the ECOPETROL - Results and Lessons Learned (#209) |         | Using Limit Analysis in FFS of Pressure Vessels and Structures (#302) | Fitness For Service Assessment of Alcohol Storage Tank Based on API Standards (Case Study) (#131)                        |