METHANE MITIGATION
Best Practices, Latest Regulatory & Policy Developments in Reduction Strategies and Analytics for Leak Detection and Repair

February 10-11, 2020
Denver Marriott Westminster
Westminster, CO

“This Symposium was exactly at the level of content I need for continuing my assignment in methane emissions reduction.”

Senior Utilities Engineer, CPUC

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EUCI is authorized by IACET to offer 0.9 CEUs for this conference.
OVERVIEW

Reducing methane emissions from oil and gas operations is among the biggest greenhouse gas bargains in the world. Capturing and converting the approximately $60 billion in wasted natural resources from leaky pipelines, are an immediate, actionable opportunity to help avert catastrophic climate change and improve a key industry’s climate performance, while boosting operational efficiency.

In our carbon-constrained world, methane emissions are now an intrinsic threat to the oil and gas industry. It is therefore imperative that this industry commits the resources in all forms now to address this enormous risk to their business and, more importantly, our common future. Methane emissions also result in an estimated $1.3 billion in lost product from flaring each year for the oil and gas industry. Methane, the primary component of unburned natural gas, can emanate from a variety of sources along the natural gas supply chain, including equipment designed to release methane as a matter of mechanical operation (i.e. venting) and from unintended leaks throughout the system (i.e. fugitives). EUCI’s symposium on mitigating methane emissions will bring together industry leaders to share latest regulatory and policy developments in reducing methane emissions and present delegates with an in-depth analysis on latest methodologies for leak quantification and best practices in leak detection and management to help avert catastrophic climate change and improve a key industry’s climate performance.

Areas of focus include:

- Improving operational efficiency while improving climate performance
- Predictive analytics or data mining for failure detection
- Using data analytics to target riskiest infrastructure
- Managing large data sets, greenhouse gas surveys, looking for patterns
- Methane regulations: Where do we go from here?
- Automated leak technologies: Aerial
- How project developers can initiate, finance and execute methane mitigation projects
- Latest leak detection methods, cost effective techniques, approaches, which technologies are most effectively being used to quantify and reduce methane emissions including the regulatory side of new technologies, what is accepted, and the process
- Research and development with alternative fugitive leaks
- What new approaches to infrastructure development are being used to minimize the industry’s environmental impact?
- Leveraging finances; rebates for technology programs installation to reduce methane emissions
- Quantifiable air quality data & monitor input to correctly identify threats to health

LEARNING OUTCOMES

- Utilize temporary compression to minimize methane emissions
- Discuss technologies used to reduce methane emissions and their limitations
- Quantifiable emission reporting
- Review regulations with methane mitigation
- Identify methane blowdown & leak mitigation technologies on pipelines & compressor stations
- Review the implementation of a methane reduction & reporting program
- Identify how leading companies and regulatory agencies are mitigating emissions from the natural gas value chain and reporting outcomes
- Assess accounting approaches for different transmission and distribution asset categories
- Compare measured vented emissions by operating mode - single vs multiple data points
- Evaluate compression cost to gas lost
- Discuss pressure reduction (safety considerations)
- Identify emergent and rapidly improving data analytics
- Review hot tapping/Line stopping technology to dramatically reduce pipeline blowdowns
- Identify market opportunities for differentiated gas
AGENDA

MONDAY, FEBRUARY 10, 2020

8:00 – 8:30 am  Registration & Continental Breakfast

8:30 – 9:15 am  A Legislative Lens to Methane Mitigation in the Context of Colorado Oil and Gas
Since 2014, Colorado has been at the forefront of methane regulation in the United States. The progressive measures we took five years ago resulted in more than a 50% reduction in methane leaks in the following years. Fast forward to 2019, where the General Assembly passed one of the most ambitious packages of oil and gas regulations the state has seen in years with Senate Bill 181. As we now look ahead, there is much debate about how the new regulations will play out, as well as how Colorado’s greenhouse gas emissions will fair over time--particularly regarding methane. Though this uncertainty brings challenges, it brings opportunities as well. Beneficial electrification capture of coalbed methane, and the prospect of a renewable natural gas standard are all benefits the state could see over the next few years, though there is still a lot of work to do. In this discussion, Representative Chris Hansen will talk about the challenges and opportunities of methane mitigation in the context of Colorado’s energy sector as well as a national outlook.

**Objectives:**
- Colorado’s progress on methane regulation in the past decade
- Challenges and opportunities for future emissions reductions
- What the future could look like in the new oil and gas regulatory framework

**Chris Hansen, Representative House District 6, State of Colorado**

9:15 – 10:00 am  Regulations with Methane Mitigation: Where Do We Go from Here?
Now is a critical time for oil and gas producers and policymakers to consider the sector how to reduce methane emissions from the natural gas supply chain. Abundant low-cost natural gas supplies have led to increased consumption of natural gas in the United States. And while once squarely considered a transition fuel, emissions along the natural gas value chain are being more closely scrutinized – particularly as policymakers focus on meeting goals that align with the Paris Agreement. Gaining a better grasp of how-to best measure and reduce methane emissions is critical to sector’s long-term viability in a low carbon energy future.

**Develop an Understanding of:**
- Challenges of measuring and identifying sources of methane leakage
- Technologies used to reduce methane emissions and their limitations
- Status of state and federal regulation to reduce methane emissions
- Prescriptive vs. performance-based regulation and impact on innovation
- Best-in-class examples from the private sector

**Attendees Will Learn:**
- The range of possibilities regarding how US oil and gas sector methane emissions may be more strictly regulated in the future
- Policy structures that might enable faster deployment of new technologies that reduce methane
- How leading companies and regulatory agencies are mitigating emissions from the natural gas value chain and reporting outcomes

**Nancy Meyer, Vice President, Business Engagement, C2ES**

10:00 – 10:30 am  Networking Break
MONDAY, FEBRUARY 10, 2020 (CONTINUED)

10:30 – 11:15 am  Methane Emissions Reduction Program
The goal of the Williams Methane Emissions Reduction Program is to reduce methane emissions across their Northeast Assets by 25% (as compared to 2017 figures) without impacting safety or operation thereby allowing operation with fewer Greenhouse gases emitted. The presentation will cover emissions sources identified across the Northeast Operating Area – Gas Gathering Assets and data validation/site modifications executed to reduce methane emissions reporting. The program is comprised of internal resources using various tools/platforms to trend data, incidents and track ongoing analytics going forward.

Objectives of Presentation Highlights
- Discuss methodology for site selection and type of emissions reduction projects
- Discuss progress made on the emissions reduction program
- Review tracking tools for progress updates

Justin Adams, Manager of Technical Services, Williams

11:15 am – 12:00 pm Quantifiable Emission Reporting
Quantification of emissions has taken on new importance due to regulatory requirements and in the case of California, could lead to disallowance of cost recovery for lost gas, should an IOU fail to meet emission reduction goals.

State and local air quality agencies have become more focused on the GHG impact of methane (natural gas) emissions and instituted laws and regulations aimed at mitigating and reducing methane emissions. In order to do that reasonably accurate reporting mechanisms need to be in place to benchmark and trend the results of emission reduction efforts.

Static Emission Factors (EFs) are no longer enough to capture improvements in infrastructure or operational practices that effect emissions reductions. Innovative strategies and methods to reduce emissions require innovative approaches and methods to account for those emissions reductions. Emissions reduction efforts are costly, and appropriately accounting for the emissions reductions is important to ensure due credit for the reductions is received.

Objectives:
- Review challenges of quantifying emissions for reporting
- Discuss changes in operational drive innovations to quantifying emissions
- Reducing emissions require more effort in reporting to show emissions more granularly than emissions inventory reporting

Attendees will Learn:
Accounting approaches for different transmission and distribution asset categories:
- Distribution mains and services pipeline leaks
  - Standard survey leak emissions
  - Projecting emissions for leak formation in Un-surveyed areas
- Compressor vented emissions
  - Measured vented emissions by operating mode - single vs multiple data points
  - Consideration of factors
  - Component leaks
    - Population based EF
    - Leaker based EF

Ed Charkowicz CPA, CPUC – SED, Risk Assessment and Enforcement Section, California Public Utilities Commission
MONDAY, FEBRUARY 10, 2020 (CONTINUED)

12:00 – 1:00 pm  Group Luncheon

1:00 – 1:45 pm  Utilizing Temporary Compression to Minimize Methane Emissions

- Establish annual plan
- Evaluate compression cost to gas lost
  - Assess volume and gas cost required to depressurize line segment
  - Share project parameters with vendor
  - Evaluate bids vs. cost of gas lost if blowdown option were used
- Schedule vendor to support projects
  - Positive financial impact
  - Improving options for emergent response
  - Reduce impact on neighboring property owners - equipment noise vs. emission issues
- History of temporary compression projects
  - Implementation projects
  - Units used
  - Decreasing PSIG

Amy Kapuga PE, Env Services-Air Quality, Consumers Energy

1:45 – 2:30 pm  The Opportunity of Certified Low Methane Emission Natural Gas

Meaningful reductions in oil and gas methane require two things: transparent data and incentives for action. An evolving suite of methane detection technologies is helping us get a better handle on where emissions are coming from, and analytic tools can be effectively applied to the collected data to translate that information into on-the-ground methane abatement action. Market incentives are also being designed to reward methane management that goes above and beyond the regulatory minimum. Among these tools is a new global standard for low-methane-emissions natural gas, which will enable leading operators to differentiate their gas based on methane impact, and for buyers to choose a lower-impact product.

Attendees will learn:
- Analytical tools under development that can help identify, and help predict, methane emission sources
- How market incentives, supplemental to and/or embedded in regulation, can be used to achieve wide-scale methane abatement

Cate Hight, Principal, Rocky Mountain Institute

2:30 – 3:00 pm  Afternoon Break

“Condensed, effective network and technology forum.”

Environmental Engineer, Altech

“Effective, concise forum of industry subject matter experts on topic presented.”

Regional Manager, Envea Altech
AGENDA

MONDAY, FEBRUARY 10, 2020 (CONTINUED)

3:00 – 4:30 pm  Xcel Energy Leak Survey and Detection Panel
• High pressure transmission Aerial leak survey:
  o Compliance
  o Safety
  o Fire Mitigation
  o Change Detection
• Leak mitigation
• Ground based leak survey and detection
  o Sensits
  o Flame Ionization
  o Soap
  o FLIR Cameras
• DO leak survey
• Aerial leak survey current technology
• Aerial leak survey future technology
  
  Ron Smith, Manager HP gas, Xcel Energy
  David Murillo, Sr Operations Manager for High Pressure Gas, Xcel Energy
  Erin Scarcliff, Manager Project Leak Detection Survey, Xcel Energy
  Tim Goolsby, President, LaSen Inc.

TUESDAY, FEBRUARY 11, 2020

8:00 – 8:30 am  Continental Breakfast

8:30 – 9:15 am  Methane Blowdown & Leak Mitigation Technologies on Pipelines & Compressor Stations
STAR I – Leak identification and repair (EPA STAR)
• Facility Emission Inspection (FEI)
• LiDAR (Light detection and ranging)
• Compressor rod packing
• Compressor unit valves
• Pneumatics intermittent and continuous
STAR II – Methane conservation
• Reroutes
• Pressure reduction using TBS, farm tap, interconnects
• In line compression
• ESD (emergency shut down)
• Flares
• Stopples
• Temporary compression
STAR III (not part of the MERI but for EPA STAR Transmission reporting only)
• Pressure Reduction (safety considerations)
• Hot taps
• Clock springs
• Patches
• Full-wrap saddle

  Rick Loveless, Sr. Division Environmental Specialist, Northern Natural Gas Company
9:15 – 10:00 am   Emergent and Rapidly Improving Leak Detection and Data Analytics by Natural Gas Utilities
Natural gas distribution utilities in the US and throughout the world are deploying new and far more effective leak survey and detection equipment. These methods use highly sensitive mobile mounted sensors combined with predictive data analytics to better understand their infrastructure and to inform leak abatement and asset management programs and decisions. Through the use of advanced leak detection and data analytics, safety is enhanced, emissions are reduced, ratepayers are protected, and utility operations are improved.

• Discuss how utilities find leaks with state-of-the-art advanced leak detection and data analytics
• Exchange perspectives and the experience of numerous utilities improving their leak abatement through these methods, and those of service providers
• Understand the magnitude of greater leak reductions that are being achieved in comparison to legacy methods used by utilities in the integrity management programs

Attendees will learn:
• EDF’s science-based efforts to develop and deploy advanced leak detection
• Maturation of advanced leak detection as third party providers develop and improve the methodology
• Results of collaborations, pilot projects and full operationalization of numerous utilities
• Regulator validation and acceptance of the efficacy of advanced leak detection and data analytics
• Summarize benefits and the potential for broader use and adoption including emission reductions, ratepayer savings, enhanced safety and better channeling of capital

_N Jonathon Peres, Senior Director, Energy Markets & Utility Regulation, EDF_

10:00 – 10:30 am   Networking Break

10:30 – 11:00 am   Implementation of a Methane Reduction & Reporting Program
• EPA methane challenge
• Performance and data driven
• Real & quantifiable reductions
• Transparent reporting through EPA

_Jim Tangeman, EHS Manager – GHG & Methane Program, Kinder Morgan_

11:30 am – 12:00 pm   Hot Tapping/Line Stopping Technology to Dramatically Reduce Pipeline Blowdowns
Dominion Energy is going further by launching historic, industry leading initiatives to reduce methane emissions from their natural gas infrastructure by 50 percent over the next decade, equivalent to preventing more than 430,000 metric tons of methane from entering the atmosphere. One way to address this is by reducing or eliminating gas venting during maintenance and inspection to keep methane in the system and out of the atmosphere.

Learn:
• Implementation of Combo Method Z Back
• Utilizing hot tapping and line stopping processes
• How to implement a temperature valve integrated system

_Gina Rundo, Gas Infrastructure Group Innovation/Supervisor Pipeline Operations, Dominion Energy_

12:00 pm   Conference Adjourns
INSTRUCTIONAL METHODS

PowerPoint presentations and case studies will be used in program.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for the entirety of the conference to be eligible for continuing education credit.

IACET CREDITS

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EVENT LOCATION

A room block has been reserved at the Denver Marriott Westminster, 7000 Church Ranch Blvd, Westminster, CO 80021, for the nights of February 9-10, 2020. Room rates are US $149 plus applicable tax. Call 1(720) 887-1177 or click here for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is January 27, 2020 but as there are a limited number of rooms available at this rate, the room block may close sooner. Please make your reservations early.

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this conference may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.

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Please contact Gia Bosch at gbosch@euci.com or 720-988-1247 for more information.
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EUGANZE WEEKLY

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Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before January 10, 2020 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of conference cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at 303-770-8800.
EUCI reserves the right to alter this program without prior notice.