CH$_4$ Emission Reductions In Transmission/ Distribution Pipelines

Challenges/ Barriers/ Opportunities

San Antonio, TX
10/ 19-21/ 2009
Thank You!

- Environmental Protection Agency
- Workshop Organizing Committee
- Specifically Roger Fernandez & Jerome Blackman from EPA!
Outline

• Who is PHMSA?
• Drivers for Reducing CH$_4$ Releases
• Challenges with the Policy
• Barriers to Implementation
• Opportunities to Remove Challenges/Barriers
• Related PHMSA Actions
Who is PHMSA?

• We’re one of ten agencies within DOT
• We develop and enforce regulations for the safe, reliable and environmentally sound operation of:

Approximately

• 2.5 M pipeline miles
• 2,500 pipeline operators
• 1M daily hazmat shipments
  - By land, sea and air
Drivers for Reduced Emissions

- **Obama Administration** – Strong Interest in reducing GHG emissions & in climate change

- **Current EPA Rulemaking** – Mandatory Reporting of Greenhouse Gases

- **EPA Natural Gas Star Program** – Put much in context and build industry/government coalitions

- **Congressional** – Further clarify needed Federal, State and Industry actions – *Waxman/Markey & Boxer/Kerry?*

- **Future Regulatory Program?** – Detect, Inspect, Measure and Collect Methane
Challenges with the Policy

Natural Gas Industry
Challenges with the Policy

<table>
<thead>
<tr>
<th>Pipeline System Components</th>
<th>Pipeline</th>
<th>Mileage</th>
<th>% Total</th>
<th>Operators</th>
<th>% Total</th>
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<tr>
<td>Hazardous Liquid</td>
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<td>173,396</td>
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<td>306</td>
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<tr>
<td>Gas Transmission</td>
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<td>Gas Distribution (main)</td>
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<td>2,035,253</td>
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<td>(service)</td>
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<td>834,450</td>
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<tr>
<td>Total</td>
<td></td>
<td>2,526,165</td>
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<td>2,490</td>
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Challenges with the Policy

- **Uniform Picture** – Do we have one?
- **Regulatory Program** – What would it look like?
- **Regulatory Oversight** – Who would regulate the industry?
- **Technology Solutions** – They do fairly well to detect but can they characterize or quantify methane loss?
- **Rate of Return on Investments** – Will cost impacts be leveraged or incentivized?
- **Pipeline Safety** – Will there be an impact?
Barriers to Implementation

- **Congressional Action** – New Federal mission authorities needed to applicable agencies with new resources
- **Lack of Incentives** – Change will not occur without defined incentives or without clear policy
- **State Oversight** – Most states oversee pipeline safety, especially for distribution
- **Technology Gaps** – Matching exiting tech with varied pipeline scenarios and quantifying leaks cost effectively
Opportunities to Remove Challenges/Barriers

- **Outside the Box Thinking** – Can methane be safely burned vs. vented? Determine the cost and environmental implications of when to burn and when to capture vented gas

- **Regulatory Summit** – Relevant Federal and State agencies should collaboratively craft targets and implementation strategies

- **Collaborative Research** – Several strong coalitions already exist. Can’t we coordinate, collaborate and co-fund research?
Opportunities to Remove Challenges/Barriers

- **Apply Lessons Learned** – What about new pipelines? Can we better mitigate fugitive methane releases in new pipelines
  - The US is under a pipeline construction boom
  - FERC approved 8,080 miles of new pipeline since 2003
  - Considerable construction underway for distribution systems as well – 169k miles
Related PHMSA Actions

- **Overall Regulatory Program** – Keeping product in the pipeline and preventing leaks

- **Integrity Management (IM) Rulemaking** – Enhanced transmission industry programs to find and fix leaks since 2004

- **Distribution IM Program Rulemaking** – Proposed requirements to find and fix leaks in the distribution system
Related PHMSA Actions

- PHMSA 2008-0291 Mandatory Reporting – Proposing a 3,000 MCF volumetric basis for natural gas incident reporting
  - This is a change from the previous dollar amount based reporting requirement initiated in 2004
  - The current change addresses both Unintentional and Intentional release of gas
  - Improved reporting will lead to improved risk picture
Related PHMSA Actions

- **Research & Development** – A collaborative and co-funded program since 2002 is bringing technology solutions to market

- **Excess Flow Valves** – Mandatory installation of EFVs on new and replaced residential service

- **Increasing Pipeline Capacity** – Conducted rulemaking to improve throughput efficiency in cross border pipelines
Thank You!/Questions?

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