Barriers to Implementation of Methane Emissions Reduction Projects in Gas Transmission and Distribution

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NaturalGas



## Mandatory Reporting Rule - Background

- A Required by the FY 2008 Consolidated Appropriations Act
- Federal rule requiring mandatory reporting of greenhouse gas (GHG) emissions from large sources
- Intended to collect accurate and timely emissions data to inform future policy decisions
- Final rule signed September 22, 2009



## Mandatory Reporting Rule - continued

#### • Reporter:

- Facility based reporting for all source categories for which there are methods
- Limited exceptions (e.g. fuel importers, vehicle and engine manufacturers outside of the light-duty sector)

#### Threshold:

A facility that meets the general emissions threshold of 25,000 metric tons or more of CO<sub>2</sub>e/year reports all source categories for which there are methods in the rule

#### Methodology:

- In Direct measurement of stationary combustion source categories where data currently collected
- Facility-specific calculation methods for other source categories at the facility



### Mandatory Reporting Rule - continued

#### Frequency: Annual

- Data collection will begin January 1, 2010, with first reports submitted to EPA March 31, 2011
- Major changes from proposed rule: Added mechanisms to allow facilities and suppliers to cease submitting annual reporting in special cases
  - 1) Facilities or suppliers report less than 25,000 metric tons of CO<sub>2</sub>e for 5 consecutive years, or less than 15,000 metric tons CO<sub>2</sub>e for 3 consecutive years
  - 4 2)Facilities or suppliers shut down GHG-emitting processes or operations covered by the rule.
- Verification: EPA verifies reports
  - A Reporter self-certifies emissions data and other specified activity data and submits to EPA who performs verification of reports



# MRR - Subpart W

**Oil and Natural Gas Systems** 

- Included in Proposed Rule in April 2009
- Section 10 EPA received extensive comments on the proposal
- Not included in the Final Rule EPA is carefully considering and responding to comments

Next Steps

- Section 5 Construction Section 5 Construction 5
- Goal is to have a proposed rule finalized such that data collection can begin on January 1, 2011



# For More Information about the Mandatory GHG Reporting Rule

Additional information including a training schedule: <u>www.epa.gov/climatechange/emissions/ghgrulemaking.html</u>

For comments and questions:

- **Telephone: 1-877-GHG-1188**
- Email: <u>GHGMRR@epa.gov</u>



# Agenda

- V.S. Methane Emissions from Natural Gas Systems
  - Transmission and Distribution sectors
- Methane Emissions Reduction Technologies and Practices
- A Barriers to Implementation
- Conclusions



#### **Current U.S. Greenhouse Gas Emissions Estimates**



Source: EPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007. April, 2009.



# Why Focus on Methane?

- A potent greenhouse gas (GHG) with 100-year global warming potential of 25; atmospheric lifetime of ~12 years
- The 2nd most important GHG accounting for ~18% of total climate forcing
- A primary component of natural gas and a valuable, clean-burning energy source
  - Proven, viable technologies and practices exist to reduce methane emissions cost-effectively
- Oil and natural gas operations are a significant source of total U.S. (23%) and global (18%) humanmade methane emissions.



#### **2007 Transmission Sector Methane Emissions**

Majority of emissions from fugitives and venting at compressor stations



EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007.* April, 2009. Available on the web at: epa.gov/climatechange/emissions/usinventoryreport.html



#### **2007 Distribution Sector Methane Emissions**

Majority of emissions from underground pipe leaks and fugitives from metering and regulator stations



EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007.* April, 2009. Available on the web at: epa.gov/climatechange/emissions/usinventoryreport.html



#### **Cost-Effective Methane Mitigation Opportunities**

#### **Oil Production**

#### **Natural Gas Production & Processing**



#### Picture courtesy of American Gas Association 11



### Limited Penetration of Methane Emissions Reductions in Transmission/Distribution

- Technologies and practices to reduce methane emissions are mature
- However, penetration of reduction options has been low
  - 19% reduction from transmission
  - 4 2% reduction from distribution Distribution
  - In comparison production has reported methane emissions reduction of 41%
- A The issue seems to be more policy and precedent related then technology related



EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007.* April, 2009. Available on the web at: epa.gov/climatechange/emissions/usinventoryreport.html

Note: Natural Gas STAR reductions from gathering and boosting operations are reflected in the production sector.



# Technologies Exist Why aren't they more widely deployed?

- Financing Projects
  - Mow do these projects compete with other opportunities?
  - What are the constraints?
- Competitiveness
  - Do these projects impact the competitiveness of gas to consumers or between competing pipelines?
- Cost recovery and return on investment
  - What are the implications of "Cost of Service" rate regulation on the adoption deployment of technologies?



# Conclusions

- Methane emissions are the major source of GHG emissions in the natural gas industry
  - Emissions reductions mean keeping the product in the pipe
- Proven technologies and practices for reducing methane emissions are currently available for use in gas transmission and distribution sectors
- Sarriers exist which inhibit the implementation of these technologies/practices
  - Inderstanding these barriers can lead to the development of solutions
  - The Challenge for Regulators: Balancing the desire for low rates with the benefits that can be achieve by facilitating the deployment of these emissions reduction options



# **Contact Information**

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