



CH₄ 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 CH₄ 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

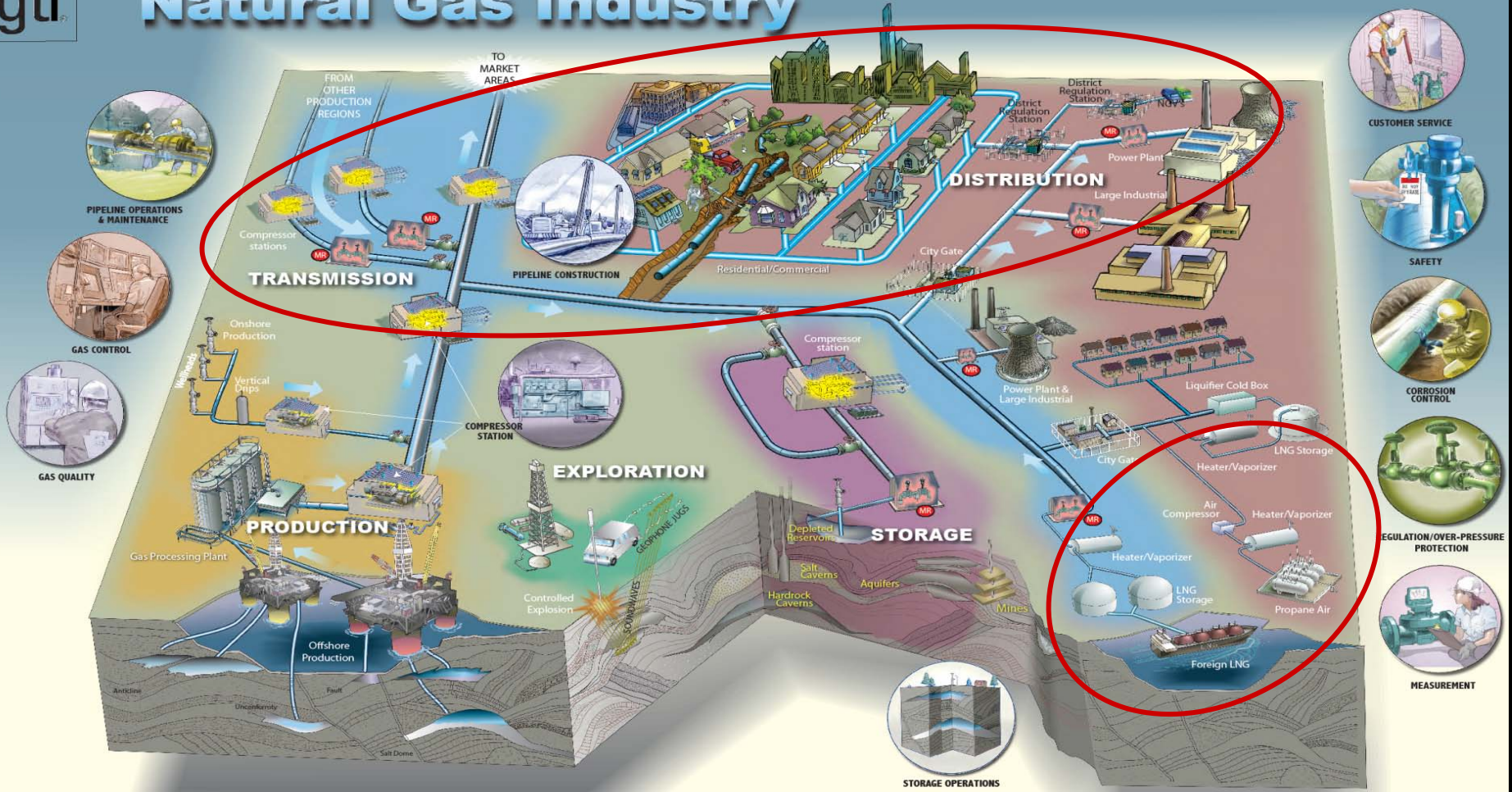
- **Obama Administration** – Strong Interest in reducing GHG emissions & in climate change
- **Current EPA Rulemaking** – Mandatory Reporting of Greenhouse Gases
- **EPA Natural Gas Star Program** – Put much in context and build industry/government coalitions
- **Congressional** – Further clarify needed Federal, State and Industry actions – *Waxman/Markey & Boxer/Kerry?*
- **Future Regulatory Program?** – Detect, Inspect, Measure and Collect Methane



Challenges with the Policy

gti

Natural Gas Industry





Challenges with the Policy

Pipeline System Components				
Pipeline	Mileage	% Total	Operators	% Total
Hazardous Liquid	173,396	7	306	12
Gas Transmission	317,516	13	939	38
Gas Distribution	2,035,253	80	1,245	50
<i>(main)</i>	1,200,803	48		
<i>(service)</i>	834,450	32		
Total	2,526,165	100	2,490	100



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



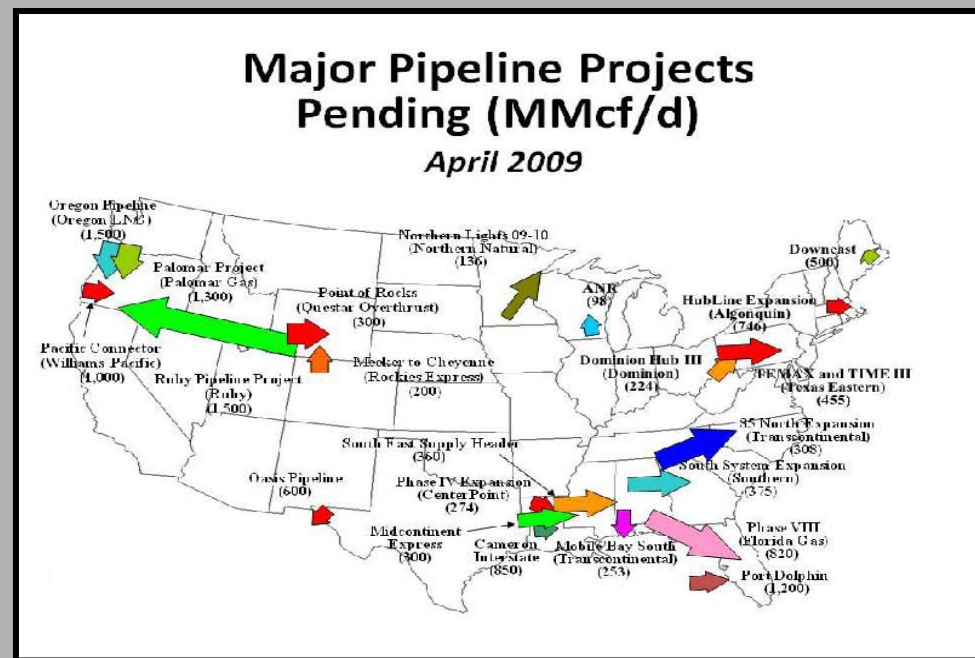
Opportunities to Remove Challenges/Barriers

- **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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