



Gas Transmission Perspective on Improving Performance Measures

PHMSA Pipeline Data Public Meeting

January 7-8, 2013



- To share our learnings and current thinking on broadening use of data and improving use of performance measures in context of our commitment to zero pipeline incidents
 - Our commitment to zero pipeline incidents necessitates changes to how we work with data
 - We need more discussion to understand what this means to operators, industry associations, regulators and the public

Five Guiding Principles for Pipeline Safety



- Our goal is zero incidents
- We are committed to safety culture
- We will be relentless in our pursuit of improving by learning from the past and anticipating the future
- We are committed to applying integrity management principles on a system-wide basis
- We will engage our stakeholders



Priority Issues for the Pipeline Safety Task Force



- Stakeholder Engagement and Outreach
- Risk Management
- Integrity Management Tools
- Pipelines Built Prior to PHMSA Regulations
- Technology Development and Deployment
- Management Systems
- Emergency Preparedness and Response
- New Construction

Shift in How We Use Data and Measures



- The management system approach represents a shift in how we think about data and measures.
 - Reactive: Support
 - Historically used data to support our positions
 - Proactive: Illumination and Support
 - We can improve by expanding the use of data to work with stakeholders to make better choices

Importance of Stakeholder Involvement

- Similar to NTSB view of collaboration, we are working to be transparent and soliciting feedback from stakeholders including:
 - PHMSA
 - Public / Pipeline Safety Trust
 - NPSR
 - NTSB
 - First Responders



Collaboration: A Major Paradigm Shift

- **Old: Regulator identifies a problem and proposes solutions**
 - Industry skeptical of leader's understanding of the problem
 - Industry resists regulator's solutions and/or implements them begrudgingly
- **New: Collaborative "System Think"**
 - Industry involved in identifying problem
 - Industry players have "ownership interest" re solution because everyone had input, everyone's interests mutually considered
 - Prompt and willing implementation (and tweaking)
 - Solution probably more effective and efficient
 - Unintended consequences much less likely

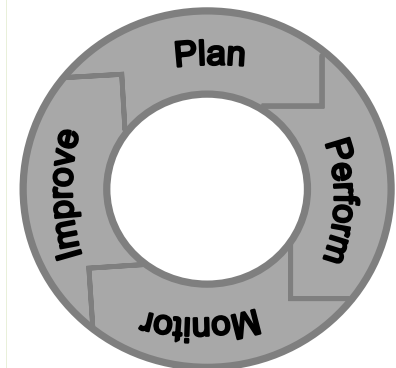
Collaboration with Industry Associations



- We are soliciting feedback from the INGAA Board and other energy pipeline trade associations
 - American Gas Association
 - American Petroleum Institute
 - Association of Oil Pipe Lines
 - Canadian Energy Pipeline Association
 - Canadian Gas Association
- Common commitment to reducing incidents
 - We are developing guidance and technical materials to help provide context for how to accomplish that

What We've Been Learning from Other Industries

- Many other industries share like fingerprint of low probability – highly unacceptable consequence incidents have made step change in performance
 - Airlines, Nuclear, Chemical and Refining, Medical, etc.
- Management systems are key to making step change in safety performance
 - Management system defined as framework of processes to fuel continuous improvement
 - It is a process, not a project
 - Data and measures are inputs to plan, monitor and improve phases



Also referred to as Plan, Do, Check, Act

Some Learning Highlights

- More input on interpretation of data
 - Analysis that considers how other events can shape the data and the conclusions we can make
 - Clarify definitions and interpretation
 - Clarify context of measures
 - Improves confidence in our communications
- More collaboration to identify meaningful measures
 - Measures to provide confidence that:
 - We are improving pipeline safety outcomes
 - We are proactively working to ensure continuous improvement
 - Drives data requirements

Clarifying Definitions and Interpretation



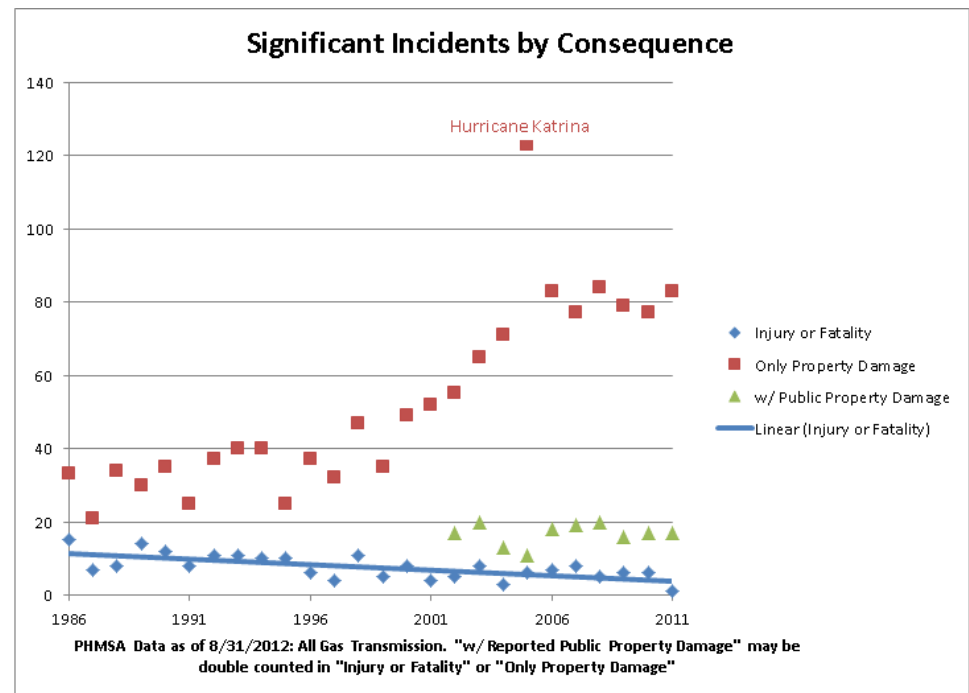
- Example: Public data shows upward trend in “Significant Incidents”
- Data is based on events that:
 - Result in fatality or injury (aka “Serious Incident”)
 - >\$50,000 property damage



Clarifying Definitions and Interpretation

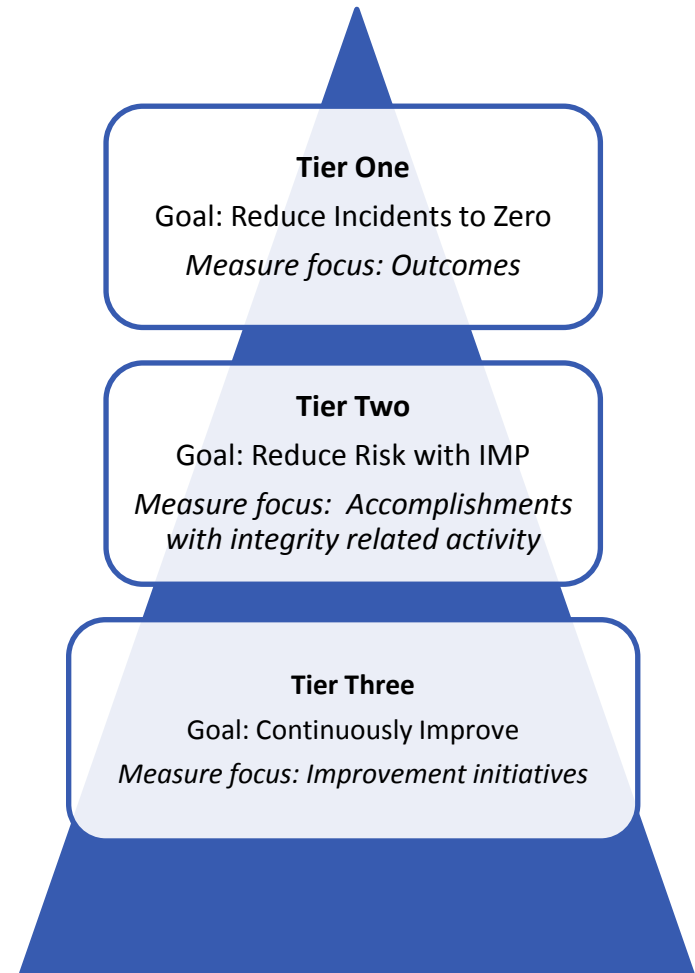


- Further analysis to understand what contributes to the trend line
 - Number incidents resulting in fatality or injury compared to number of incidents resulting in property damage >\$50,000
 - Definition of property
 - Contributors to cost



Context for Meaningful Measures

- Outcome measures only tell part of the story
- Building stakeholder confidence also requires sharing information about ongoing proactive work such as:
 - Program achievements
 - Prioritized improvement initiatives



Tier One Measures

- **Goal:**
 - Reduce incidents to zero
- **Focus:**
 - Outcome of performance toward goal of zero incidents
- **Measures under consideration:**
 - # serious incidents (incidents with fatalities or injuries)
 - # fatalities and injuries
 - # ruptures



Tier Two Measures

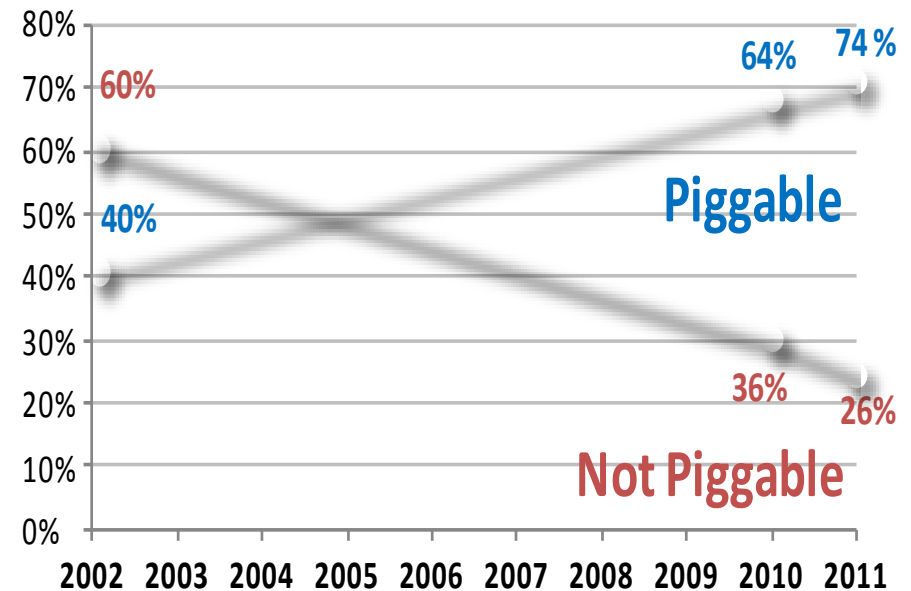
- **Goal:**
 - Reduce Risk with Integrity Management Program (IMP)
- **Focus:**
 - Accomplishments with integrity related activity
- **Measures under consideration:**
 - Pipeline that can accommodate inline inspection (ILI)
 - Pipeline assessments
 - Pipeline repairs and replacements



Tier Two Measures (example)

More Pipeline Miles Accommodate Inline Inspections

- INGAA members have increased the miles of pipeline that can accommodate ILI.
- In 2002, only 40 percent of reported mileage was capable of accommodating ILI.
- By 2011 that had increased to 74 percent.

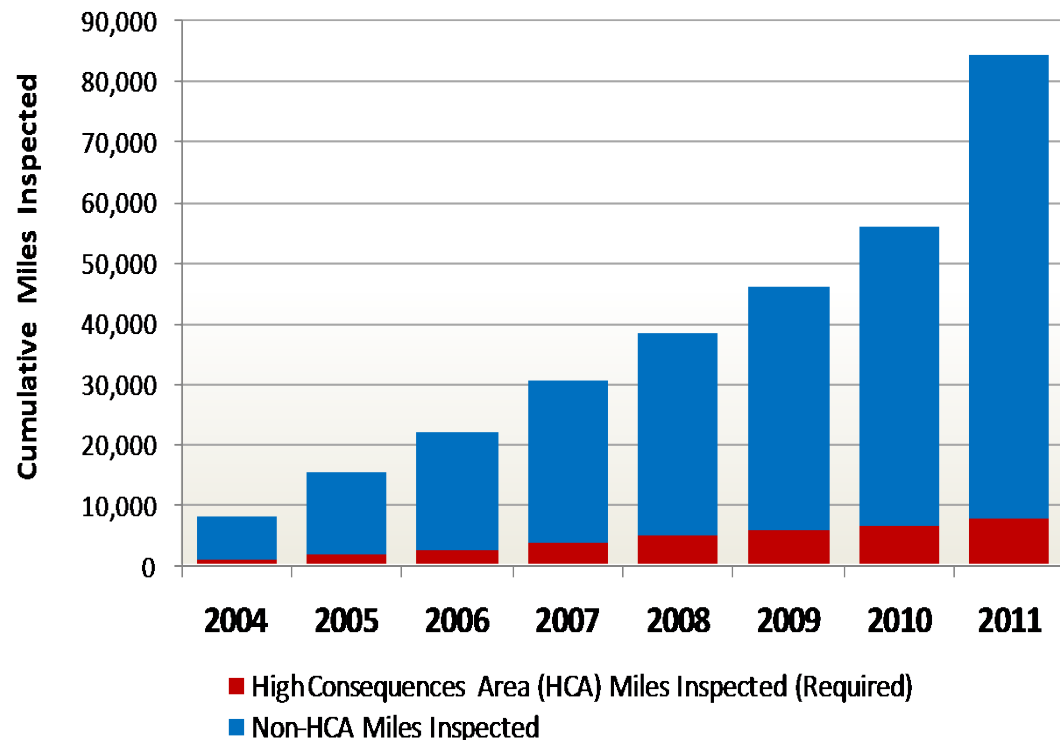


Tier Two Measures (example)

Pipeline Assessments

- INGAA's members are on track to complete PHMSA mandated Integrity Management Program (IMP) baseline assessments by the end of 2012.
- Members had already assessed 95 percent of the High Consequence Area (HCA) miles subject to the IMP by 2011.

**IMP Assessments –
Total Cumulative Miles Inspected (2004 – 2011)**

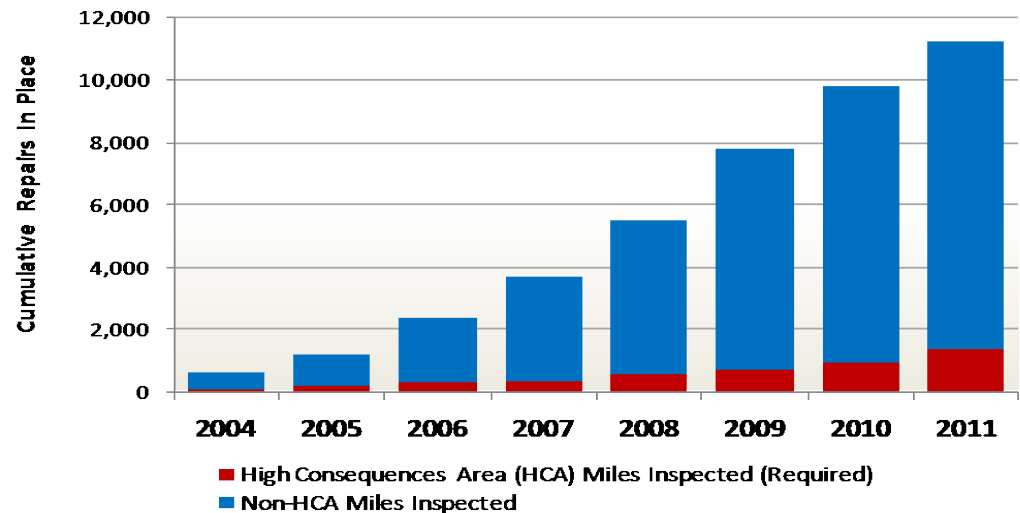


Tier Two Measures (example)

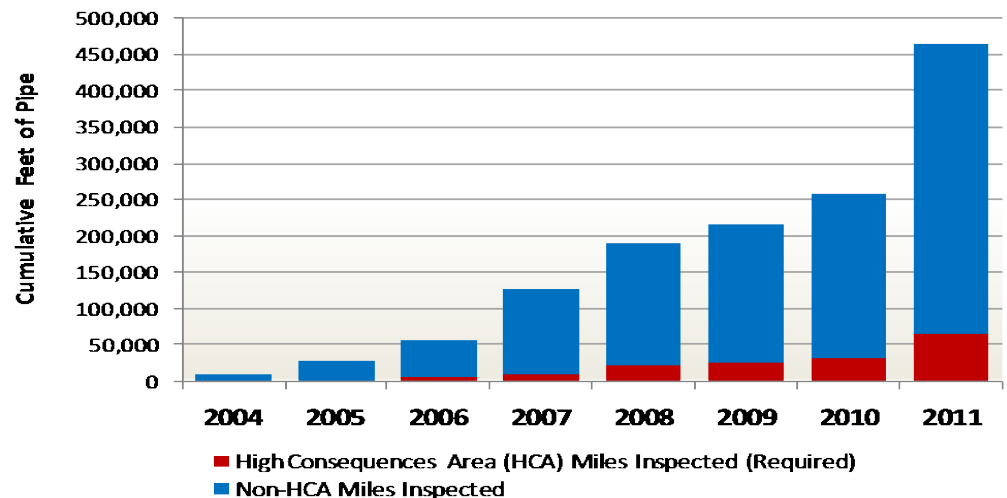
Pipeline Repairs and Replacements

- Depicts cumulative repairs made and pipe replaced in HCAs and non-HCAs.
- Demonstrates that pipelines located outside HCAs have benefited from over testing that occurs in connection with assessing of HCA mileage.
- In 2011 alone, INGAA members made 2,700 repairs in place, and replaced 206,000 feet of pipe as a result of those assessments.

Total Cumulative Repairs Made In Place (2004–2011)



Total Cumulative Feet of Pipe Replaced (2004–2011)



Tier Three Measures

- Goal:
 - Continuously Improve
- Focus:
 - Progress of improvement initiatives
- Measures under consideration:
 - Expand assessment beyond High Consequence Areas
 - Management of incident responses
 - Management of pre-regulation pipelines



Implications of this Shift

- The “What”
 - Data and measure selection and definitions
 - Measurement frameworks
- The “How”
 - Collaboration in using data and measures for both illumination and support
 - Including stakeholders in interpretation of data and measures
 - Improved decision making based on collaborative interpretation
- More discussion is required to understand what to consider at the operator, industry and regulatory level.

- Management systems are the next logical step in our goal of achieving zero pipeline incidents
- Data and measures are critical feedback into planning, monitoring and decision making phases of the management system process
- We plan to move forward in a phased, logical fashion
 - Iterative approach, continuously improving
- We are committed to two-way communication with our stakeholders
- Thank you for this opportunity to share.