Use of Data within Interstate Natural Gas Transmission Industry to Improve Safety Performance *-A Journey with a Goal*

PHMSA Data Workshop

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A Maturing Process in Using Data for Safety

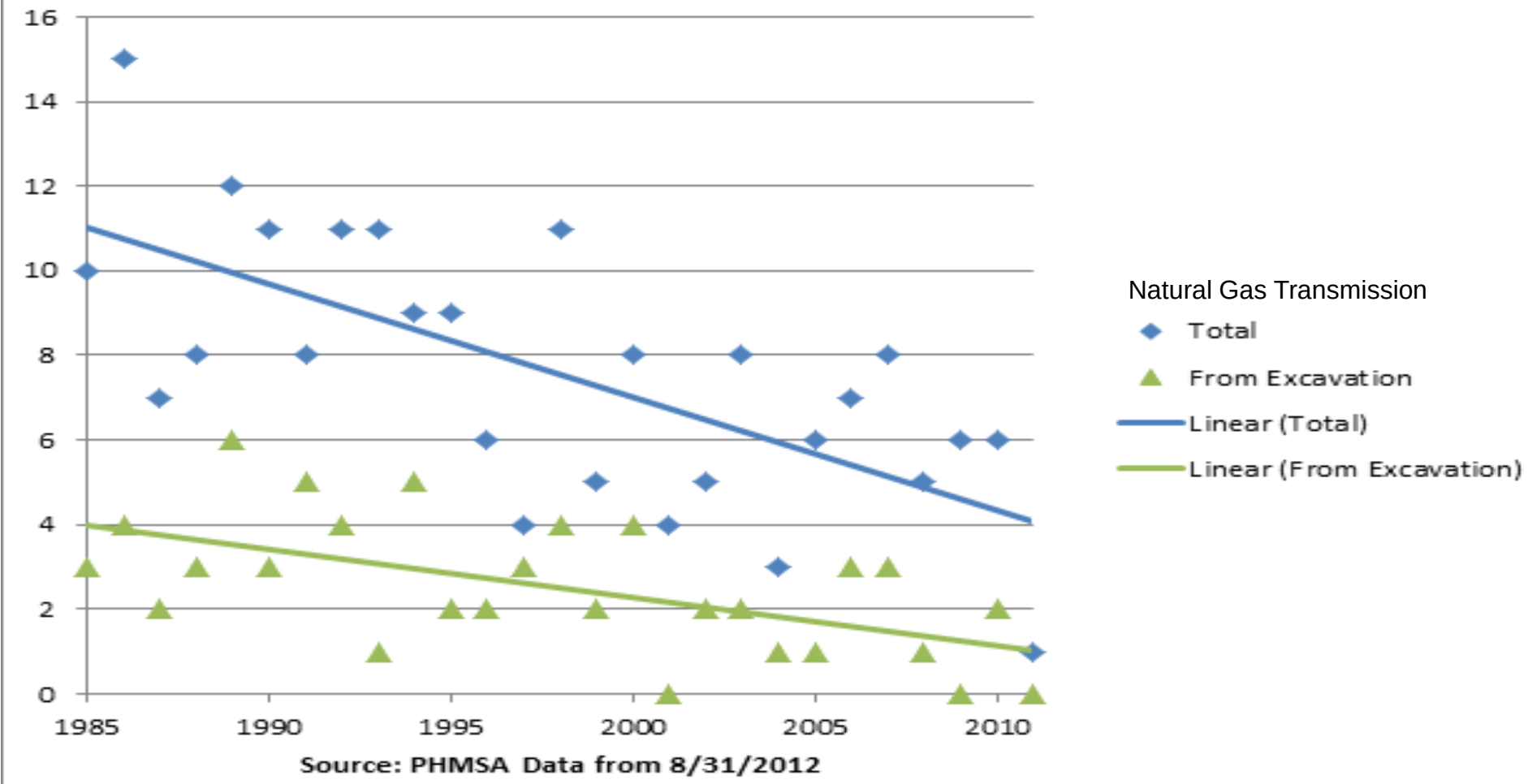
- Safety Goal
- Basic Measures of Success
- Progress
  - 1960's; A Time of Recognition
  - 1970's and 80's; Beginning to Work Together
  - 1990's Beginnings of Risk Management
  - 2000 Standardized Integrity Management
- Now - Integrity Management Continuous Improvement
- Future – IMP 2.0

Guiding Principles of Pipeline Safety

- **Our goal is zero incidents** - a perfect record of safety and reliability for the national pipeline system. *We will work every day toward this goal.*
- **We are committed to safety culture** as a critical dimension to continuously improve our industry's performance.
- **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** - from the local community to the national level - so they understand and can participate in reducing risk.

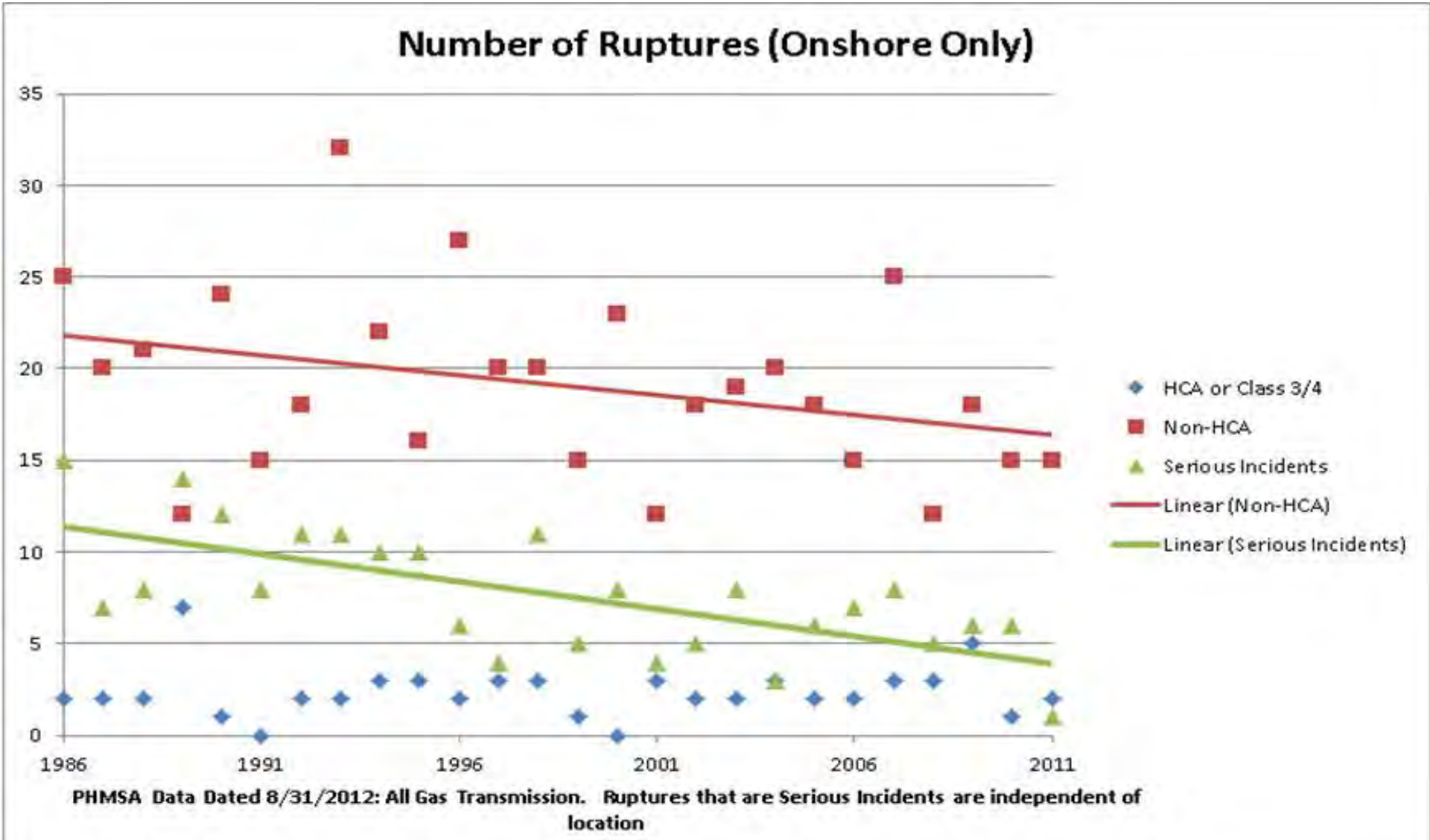
Public, Employee and Contractor Safety

of Incidents with Fatalities or Injuries by Year (Onshore Only)



Source: PHMSA Data from 8/31/2012

Ruptures are a Key Determinant in Serious and Significant Accidents Affecting Public



1960's - A Time of Recognition

- Expansion of Pipeline Research Council (PRC*I*) Efforts
  - Need for Technical Data
- Review of State Pipeline Safety Programs
- Magnuson Legislative Proposal
- Federal Power Commission Study on Pipeline Accidents
- Pipeline Safety Act of 1968
- Adoption of Interim Pipeline Standards for Regulation
  - Utilize American Society of Mechanical Engineers B31.8 as a basis
  - Begin collection of data to help inform process

1970's and 80's; Beginning to Work Together

- **PHMSA**
  - Gas Transmission Annual Report
  - Gas Transmission Incident Report (1970, 1984)
  - Prescriptive Regulations & Audits (Design, Construction, Operation, Inspection and Maintenance)
- **INGAA**
  - Testing Information & Pipe Inventory
  - Ad Hoc Rulemaking support
- **PRCI**
  - Focused Technology Issues (Fracture, SCC, Corrosion, Sensors, Accident Analysis)
- **GRI**
  - Inline Inspection Technology

1990's - Beginnings of Risk Management

- **PHMSA**
  - Prescriptive Regulations and Audits
  - Improved Incident Data Collection (QA/QC)
  - Risk Management Demonstration
  - Outside Stakeholder Participation
- **INGAA**
  - Safety Cost Study
  - Risk Management Algorithms
  - Incident Reporting and Trending System
- **PRCI**
  - Expanding Membership and Focus
- **GRI**
  - Pipeline Inspection & Maintenance Operation System (PIMOS)

2000's - Standardized Integrity Management

- **PHMSA**
  - Definition of High Consequence Areas
  - Integrity Management Rule and Audits
  - R&D Development
  - Improved Incident and Annual Reports
- **INGAA**
  - Review Past Practices (Emeritus Report, GTI Reports, Performance, Risk Models)
  - Standardize Integrity Management (processes, data, reports, technology, standards [ASME, NACE, ASNT)
  - Review Process and Results (INGAA, GAO)
- **PRCI**
  - Focused Technology Issues
- **Public Advocates**
  - What is happening in Safety (NPMS, PIPA)

2010 - 2012 – Planning Future Data Needs

Integrity Management Continuous Improvement (IMCI)

- Apply **Risk Management** beyond High Consequence Areas (HCAs)
- Raise the **Standards** for Corrosion Anomaly Management
- **Demonstrate Fitness for Service** on Pre-Regulation Pipelines
- **Shorten Pipeline Isolation** and Response Time to 1 Hour in Populated Areas
- Improve **Integrity Management Communication** and **Data**
- **Implement PIPA Guidance**
- **Evaluate, Refine and Improve Threat Assessment** and Mitigation
- **Implement Management Systems** Across INGAA Members
- Provide **Forums for Stakeholder Engagement** and Emergency Officials

Stakeholder Engagement- 2012 and Beyond
Same Data - Different Needs

- Internal
  - INGAA Board
  - INGAA Committees
  - INGAA Member Company (Employees)
  - INGAA Foundation (Service Providers)
- External
  - PHMSA
  - National Transportation Safety Board (NTSB)
  - Pipeline Safety Trust (PST)
  - National Association of Pipeline Safety Representatives (NAPSR)
  - Emergency Responders
  - Industry Groups (AGA, API, AOPL, ASME, SGA)
  - R&D Groups (PRCI, GTI, NYSEARCH)

Questions / Comments ?