Natural Gas Pipeline Safety Culture and the Regulatory Environment

Drivers of Continuous Improvement

Nathan Dore

Gas Pipeline Safety Inspector

Maine Public Utilities Commission
Discussion Topics

• Pipeline Safety Enforcement – Structure and Objectives
• Natural Gas Pipeline Safety – Drivers of Cultural Change
• Evolution to a Robust Safety Management System
• State Commission Impacts
• Industry Initiatives
Pipeline Safety Enforcement
Federal – State Partnership

• State Programs obtain Certification or Agreement with US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA)

• State Programs are audited by PHMSA
  -Includes focus on NTSB Recommendations

• “Protect people and the environment by advancing the safe transportation of energy...”

• “…Recommendations aimed at preventing future accidents.”
  -https://www.ntsb.gov/about/Pages/default.aspx
Fundamental Assumptions

• Natural Gas Pipeline Operating Companies must prioritize meaningful safety activities

• Enforcement Agencies must retain adequate authority to ensure compliance

• Personnel knowledge, skills, ability, and procedural adherence is the foundational front line of pipeline quality control
Drivers of Safety Culture Evolution

• Major Incidents

• National Transportation Safety Board Recommendations

• Industry Initiative

• Federal, State or other Jurisdictional Enforcement Body Initiative
Pipeline Safety Benchmarks

1942
B31 Standard Code for Pressure Piping Final Version Established

1968
NGPSA Enacted by Congress

1974
NTSB established as independent agency

1990s
Performance Based Regulations Developed in Response to Congress and NTSB

2000s

Today
Safety Mgmt. Systems
Evolution of Safety Management

- Operator Programs
  - Organizational Sophistication
  - Leadership
  - Past experience
  - Regulatory Atmosphere

- Regulatory Posture
  - Authority
  - Enforcement
  - Rulemakings
  - Communication
  - Public Expectations

Federal Aviation Administration, “Safety Management System”
Incident Trends Since 2005

Nationwide Reported Distribution – Total Incidents

Source – PHMSA Pipeline Data Mart
Minimum Sufficiency

  - Additional requirements
  - Existing standard modifications
  - Adjustments to enforcement / oversight
  - Extended trending tolerance (patience)

- Alternatives to Federal Regulatory Activities
State Initiatives

• Over 1,300 state requirements exceed Federal Minimum Safety Standards

• Address local concerns where necessary
  – Reporting
  – Design/Installation
  – Recordkeeping
  – Direct Oversight

• Continuously Evolving

www.napsr.org
Establishing Culture – Developing the Next Phase of Safety

Driven by:

– Consideration of public good
– Corporate and Regulatory values
– Industry / Brand reputation
– Regulation or voluntary initiative
– Economic incentive
– Legal liability concerns
State Program Initiative

- **Rulemakings / Enforcement Procedures**
  - Encourage advanced safety management programs
  - Acknowledge and accommodate latest industry initiatives
  - Verify meaningful program deployment

- **Committee Involvement**
  - Federal OPS – GPSC
  - Gas Safety Program Involvement in NAPSR
  - NARUC Pipeline Safety Subcommittee

- **Communication**
  - Industry
  - Affected Public
Operator Initiative

• **Voluntary Commitment to Standards**
  – API Recommended Practices

• **Participation in Committee and Standards Work**
  – Industry groups
  – GPAC (Federal)
  – VIS Working Group (Federal)
  – State Rulemakings and Committees

• **Communication**
  – Public Awareness
  – PHMSA certificated State Pipeline Safety Programs
SMS Deployment Considerations

• Not Just “Corporatese”
  – Differentiation from existing performance – based programs

• Deployment for smaller operators

• Securing commitment

• Accountability
Establishing Culture

- **Top-down approach includes:**
  - Universal commitment at all levels
  - Promote sharing and engagement
  - Broadcast values consistently
  - Accountability
  - Incentivize buy-in

- **Program must be:**
  - Integrative
  - Accessible / Approachable at all levels
  - Useful
  - Self-Informed by Meaningful Metrics
  - Focused on achieving results