CSG Natural Gas Policy Academy

*Smart Modernization:*
Infrastructure Replacement & Expansion Overview
The American Gas Association (AGA), founded in 1918, represents more than 200 local natural gas utilities that deliver natural gas to 177 million Americans nationwide. In addition, AGA’s broader membership includes natural gas pipelines, Canadian local distribution companies, natural gas gatherers, marketers and storage companies and more than 350 associate members who provide critical products and services to the natural gas industry.
Pipeline Safety & Infrastructure Replacement
Commitment to Safety

Safest Energy Delivery System in America

The natural gas industry has a long-standing record of providing natural gas service safely and effectively to more than 177 million Americans and is dedicated to the continued enhancement of pipeline safety.
Safely transported
Across the Country

• Natural gas pipelines, are an essential part of the nation’s infrastructure. Transportation by pipeline is the safest form of energy delivery in the country.
• Natural gas utilities spend $19 billion annually to help enhance the safety of natural gas distribution and transmission systems.
Regulatory Oversight

There is significant oversight and regulation focused on the natural gas industry to help ensure public safety.

The U.S. Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (PHMSA) establishes federal safety standards for pipelines, and PHMSA partners with state pipeline safety agencies on inspections and enforcement of intrastate pipelines. Individual states can regulate intrastate pipeline systems above and beyond federal requirements, and there are hundreds of state-specific pipeline safety regulations currently in place.

AGA supports continuous improvements to the safe delivery of natural gas through:

- Information sharing among emergency responders and the public that effectively informs and enhances pipeline safety
- Research and development of safety-enhancing technologies
- Collaboration with key stakeholders
- Advocating for the effective enforcement of “Call 811”
- Conducting forums for the industry that facilitate the sharing of leading practices
Pipeline Safety Regulations

- DOT Pipeline Safety & Hazardous Materials Administration (PHMSA)
  
  *Regulates gas utilities under 49 C.F.R. Part 192*

- Significant number of new requirements on the way
  
  *More than 80 mandates from Congress and recommendations from NTSB, GAO, and the OIG*

- Pipeline Safety Reauthorization

PHMSA’s Other Initiatives:

- Transmission Integrity Management Program (TRIMP)
- Distribution Integrity Management Program (DIMP)
- Control Room Management
- Damage Prevention
- Land Use Planning
- Public Awareness
- Emergency Preparedness
• Raise the bar on pipeline safety
• Accelerate rehabilitation, repair and replacement programs for high risk pipelines
• Focus on cast iron, bare steel, older plastic

In Section 7 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Congress directed the Secretary of Transportation to develop a report on the national cast iron inventory
• AGA Supports the Action Plan and “Smart Modernization” of infrastructure that is no longer fit for service
Infrastructure Investments
For Economic Renewal

America’s natural gas utilities invest billions in our nation’s natural gas 2.4 million miles of pipeline infrastructure — the most extensive, integrated, safe and reliable in the world — which provides access to homes and businesses across the nation.

Working with governors, legislators and state regulators around the country, utilities are developing innovative models for making these capital investments possible.

Natural gas utilities spend more than $22 billion annually to help enhance the safety of natural gas distribution and transmission systems and to upgrade systems and expand service so more Americans can access this foundation fuel.
• The overall trend is positive
• States address this issue differently
• The basis for these decisions is always just and reasonable rates for consumers
Idaho and Vermont have finished replacing their cast iron and bare steel.

Wisconsin has finished replacing its cast iron and bare steel main and has a limited quantity of bare steel services remaining.

Other companies/states on this list are on the verge of completing their cast iron and bare steel replacement.

Remaining Materials in States without Mechanisms

<table>
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<th>State</th>
<th>Main - Steel Unprotected Bare (Miles)</th>
<th>Main - Cast/Wrought Iron (Miles)</th>
<th>Estimated Miles of Services - Steel Unprotected Bare</th>
<th>Estimated Miles of Services - Cast/Wrought Iron</th>
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<td><strong>117.19</strong></td>
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Source: DOT Data
Overall Cast Iron Main Makes Up Less than 3% of the Distribution Mileage, and is Decreasing Annually

SOURCE: U.S. Department of Transportation, PHMSA, Distribution Annual Data
NOPR: Safety of Gas Transmission Pipelines

• The proposals within the rule cover the following:

  • Expansion of Integrity Management beyond HCAs including the introduction of "Moderate Consequence Areas"
  • Expansion of the HCA definition
  • Removal of the "Grandfather Clause" (§192.619(c)) for MAOP Determination
  • Pig-ability of Gas Transmission Pipelines
  • Risk Models
  • Repair Criteria for Assessments in HCAs and MCAs
  • MAOP Validation (within the Integrity Verification Process)
  • MAOP Exceedances
  • Corrosion Control P&M Measures
  • Management of Change
  • Gas Gathering Lines
  • Inspection of Pipelines following weather events & Other Gas Transmission Pipeline Issues
NOPR: Safety of Gas Transmission Pipelines

• AGA Position Themes:

1. Codification of “Best” or “Good” Practices that are not appropriate for Federal Minimum Safety Standards (aka regulations)
2. A shift from performance based regulations to prescriptive regulations
3. Diversion of valuable resources from critical pipeline safety initiatives.
4. Questionable legality of many of the retroactive record requirements. *Specifically: reliable, traceable, verifiable, complete*
Pipeline Safety Regulatory Updates

Regulations coming down the pike

1. Excess Flow Valves
2. OQ, Cost Recovery & Other Pipeline Safety Changes
3. Plastic Pipe
4. Valve Installation & Rupture Detection
5. National Pipeline Mapping System
6. Miscellaneous Rule (Construction Inspection)
7. New Regulations to watch for:
   a. Underground Storage
   b. Quality Management
Natural Gas Distribution Infrastructure Expansion
“Smart Modernization”

Infrastructure replacement programs, if designed and coupled properly, provide the opportunity to put new technology in the ground which could allow for greater pipeline capacity and pressure in a given area.

With greater capacity, utilities are better positioned to expand to serve more customers.
Drivers for Natural Gas Demand & Infrastructure Expansion

- Low price of natural gas
- Reductions in consumer energy prices
- Economic development opportunities
- Environmental quality (GHG reduction, efficiency)
- Energy security
- New technologies (NGVs, CHP, etc.)

The low price of natural gas has attracted investment by utilities.

Where natural gas is available, a builder will put it in 84 percent of the time.

Natural gas will have 80 - 90 percent of the market where lines reach, but there is a significant amount of construction and/or area beyond reach of utility lines.
States with Infrastructure Expansion Programs

39 states presently have or are considering an innovative infrastructure expansion program or policy.
The Declining Trend of Natural Gas Emissions
System Modernization Has Been a Decades Long Process and Will Continue

![Graph showing the comparison of pipeline lengths for Cast Iron and Unprotected Steel between 1990 and 2013. The graph indicates a decrease in both categories over time. Source: Department of Transportation.](graph.png)
As a Result, Emissions Have Declined Even as the System Grows

Pipeline Replacement Lowers Emissions

Source: AGA Analysis based on Department of Transportation data and EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2012

*Excludes Reductions from Voluntary Programs
Natural Gas Distribution

Shrinking Emissions by the Numbers

- **65,100** – miles of cast iron & bare steel pipe replaced with PE plastic pipe
- **300,000** – added miles of distribution mains
- **18 million** – number of new customers served (**32% increase**)
- **16%** - emissions decline since 1990
- *Note that this is due to an uptick in emissions related to higher throughput in 2013, relative to lower consumption in 2012.*

- **0.26%** - EPA estimated distribution system emissions as a percentage of U.S. Gross Production

*Numbers reflect data collected from 1990-2013*
Conclusions

• Safe, reliable natural gas delivery is core to our members’ businesses.

• *Smart modernization* initiatives (pipeline replacement and infrastructure expansion) are increasing safety and driving down natural gas emissions.