

**Testimony of
Ron Bradley
Vice President, Gas Operations
PECO Energy, an Exelon Company
On Behalf of the American Gas Association**

**Before the
Subcommittee on Energy and Power**

“A Review of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011”

Tuesday, July 14, 2015

Good morning, Mr. Chairman and members of the Committee. I am pleased to appear before you today. Pipeline safety is a critically important issue, and I thank you for not only holding this Hearing, but for all the work that you and your colleagues have done over the years to help ensure that America has the safest, most reliable pipeline system in the world. My name is Ron Bradley and I am Vice President of Gas Operations at PECO Energy. With a history of more than 100 years of service to the Greater Philadelphia region, PECO has a long-standing commitment to a culture of excellence. Based in Philadelphia, PECO is an electric and natural gas utility subsidiary of Exelon Corporation, the nation's largest competitive energy provider. PECO is the largest electric and natural gas utility in Pennsylvania, serving approximately 1.6 million electric customers and more than 500,000 natural gas customers in southeastern Pennsylvania.

We are a company committed to our customers, our community and the environment. PECO operates under six core values, or guiding principles: Safety, Integrity, Diversity, Respect, Accountability, and Continuous Improvement. These values are part of our daily operations and our commitment to the region. Safety is first and foremost at PECO. We have programs to help ensure the safety of our employees, contractors, customers and the communities we serve. Among utilities, PECO's safety performance is ranked as one of the best in the nation, and the company has been widely recognized for our community service, economic development and operational and environmental efforts. PECO has been recognized as Pennsylvania's safest utility by the state Department of Labor & Industry and has also received awards from the Energy Association of Pennsylvania and the American Gas Association.

I am testifying today on behalf of the American Gas Association (AGA). AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 71 million residential, commercial and industrial natural gas customers in the U.S., of which 94 percent - over 68 million customers - receive their gas from AGA members. Natural gas pipelines, which transport approximately one-fourth of the energy consumed in the United States, are an essential part of the nation's infrastructure. Indeed, natural gas is delivered to customers through a safe, 2.4-million mile underground pipeline system. This includes 2.1 million miles of local utility distribution pipelines and 300,000 miles of transmission pipelines that stretch across the country, providing service to more than 177 million Americans. The recent development of natural gas shale resources has resulted in abundant supplies of domestic natural gas, which has meant affordable and stable natural gas prices for our customers. America needs clean and abundant energy and America's natural gas provides just that. This has made the safe, reliable and cost-effective operation of the natural gas pipeline infrastructure even more critically important, as it is our job to deliver the natural gas to the customer. Through an effective partnership between America's natural gas utilities, state regulators, Congressional and state legislators, governors and other key

stakeholders working together to advance important safety policies, we have been able to both enhance system integrity and support increased access to natural gas service for homes and businesses.¹

DISTRIBUTION PIPELINES

Distribution pipelines are operated by natural gas utilities, sometimes called “local distribution companies” or LDCs. The gas utility’s distribution pipes are the last, critical link in the natural gas delivery chain. Gas distribution utilities bring natural gas service to their customers. To most customers, their local utilities are the “face of the industry.” Our customers see our name on their bills, our trucks in the streets and our company sponsorship of many civic initiatives. We live in the communities we serve and interact daily with our customers and with the state regulators who oversee pipeline safety. We take very seriously the responsibility of continuing to deliver natural gas to our communities safely, reliably, responsibly and affordably.

AGA and its members support the development of reasonable regulations to implement new federal legislation as well as the recommendations of the National Transportation Safety Board, the U.S. Department of Transportation (DOT) Inspector General, Government Accountability Office, National Association of Pipeline Safety Representatives (NAPSR) and the National Association of Regulatory Utility Commissioners (NARUC). Within this testimony are actions that are being, or will be, implemented by AGA or individual operators to help ensure the safe and reliable operation of the nation's 2.4 million miles of natural gas pipelines. In implementing these actions, AGA and its individual operators recognize the significant role that their state regulators or governing body will play in supporting and funding these actions to fulfill our promise to our customers.²

REGULATORY AUTHORITY

As part of an agreement with the federal government, in most states, state pipeline safety authorities have primary responsibility to regulate natural gas utilities as well as intrastate transmission pipeline companies. Under these agreements, state governments adopt as a minimum the federal safety standards promulgated by the U.S. Department of Transportation.

The states may also choose to adopt standards that are more stringent than the federal regulations, and many have done so. LDCs are in close contact with state pipeline safety inspectors. As a result of these interactions, distribution operator facilities are subject to more frequent and closer inspections than required by the federal pipeline safety regulations.³

COMMITMENT TO SAFETY

Our commitment to safety extends beyond government oversight. Indeed, safety is our top priority – a source of pride and a matter of corporate policy for every company. These policies are carried out in specific and unique ways. Each company employs safety professionals; provides on-going employee safety training; conducts rigorous system inspections, testing, and maintenance, repair and replacement programs; distributes public safety information; and complies with a wide range of federal and state safety regulations and requirements. Individual company efforts are supplemented by collaborative activities in the safety and technical committees of regional and national trade organizations. Examples of these groups include AGA, the American Public Gas Association and the Interstate Natural Gas Association of America.

On October 26, 2011, AGA released its Commitment to Enhancing Safety, which outlines just a few of the industry’s commitments above and beyond regulations. This is just one example of how the industry is leading on safety by demonstrating the highest level of commitment to constant improvement and by upholding pipeline

¹ See Attachment 1: “*Natural Gas Pipelines across the U.S.*”

² See Attachment 2: “*Natural Gas Delivery System*”

³ See Attachment 3: “*Regulators and Stakeholders*”

safety as our number one priority.⁴

Outside of regulation and legislation, AGA members are striving to improve pipeline safety:

- Through AGA's Safety Culture Statement, each AGA member has committed to promoting positive safety cultures among their employees throughout the natural gas distribution industry. All employees as well as contractors and suppliers providing services to AGA members, are expected to place the highest priority on employee, customer, public and pipeline safety.

- In AGA's Commitment to Enhancing Safety, AGA and its member companies state their dedication to the continued enhancement of pipeline safety through their commitment to proactively collaborate with public officials, emergency responders, excavators, consumers, safety advocates and members of the public to continue to improve the industry's longstanding record of providing natural gas safely and effectively to 177 million Americans.

- AGA has also developed numerous pipeline safety initiatives focused on raising the bar throughout the natural gas distribution industry. Two such programs are AGA's Peer Review Program and AGA's Gas Utility Operations Best Practices Program. Both allow subject matter experts from AGA member companies to help improve industry practices through reviewing and sharing individual company policies, procedures and practices.

Natural gas utilities spend an estimated \$19 billion a year in safety-related activities. Approximately half of this money is spent in complying with federal and state regulations. The other half is spent as part of our companies' voluntary commitment to help ensure that our systems are safe and that the communities we serve are protected. Moreover, we are continually refining our safety practices to help improve overall safety and reliability.

REVIEW OF LEGISLATION AND REGULATION

From a regulatory perspective, the past fifteen years have easily included far more significant pipeline safety mandates and rulemakings than any other decade since the creation of the federal pipeline safety code in 1971. I want to assure the committee that the natural gas distribution industry has worked vigorously to implement those provisions that are related to our sector. It takes considerable time for complicated rules to be promulgated, vetted, finalized and then implemented. We are constantly working on ways to better manage the system and improve safety.

The Pipeline Inspection, Protection, Enforcement and Safety Act of 2006 and the Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011 each outlined significant industry changing pipeline safety programs. While AGA members have implemented aspects of these programs either through DOT regulation or voluntarily, it is important to remember that many of the programs are still in their infancy. AGA encourages Congress to allow these programs to develop and mature in order to realize their full impact. Over the years we have found that it is best to fully implement new safety programs and regulations, so as to allow for the gathering of conclusive data that aids in determining what, if any, changes need to be made. In the case of the unanimously passed Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011, many of the required regulations have yet to be completed, and thus we believe it would be premature to make changes to the law at this time. The specifics of The Act included significant substantive changes to the federal pipeline safety laws, such as changes to incident notification timelines, testing of certain gas transmission lines, and the requirements for valves, gathering lines, leak detection, integrity management, and class location. PHMSA is still working on a number of significant final rules that will substantially change the federal gas pipeline safety regulations. These include expansion of transmission integrity management, additional pressure testing requirements,

⁴ See Attachment 4: "AGA's Commitment to Enhancing Safety"

excavation damage prevention, rupture detection and valves, excess flow valves beyond single family homes, and plastic pipe regulations. We know that PHMSA is diligently working on these regulations and look forward to the certainty that the final rules will bring. PHMSA has issued a number of significant guidance documents, released the results of a congressionally-mandated study on leak detection, and created an online database to track progress in replacing cast iron and bare steel pipelines.

We believe progress is being made to fully address all Congressional mandates, and would respectively urge that we stay the course in working on those provisions and not begin layering on additional responsibilities that will lead to less regulatory certainty, or worse yet lead to a detour from work already commenced. Companies work day in and day out to make sure they continue to improve the safety of their systems, and it is critical that progress on regulations keep that pace to help ensure that these safety improvements are not negated. The work that PHMSA has completed to date, and the important initiatives taken by industry on its own, combined with the significant actions taken by NAPS, NARUC, individual public utility commissions and state legislatures around the country have produced significant improvement in pipeline safety over the last several years. Natural gas distribution companies are eager to move forward with other aspects of the 2011 Act, but they and their state commissions are hesitant. If system operators choose to follow the legislation as written, those actions may be nullified by future DOT regulations that do not follow the specifics in the legislation and thus require further action. Those further actions would be paid for by the customers of the natural gas distribution company and could create significant disruption to the public. AGA members desire a path forward with certainty rather than with uncertainty, duplicative actions, or additional cost burdens on their customers.

REVIEW OF KEY PROVISIONS OF THE PIPELINE SAFETY, REGULATORY CERTAINTY AND JOB CREATION ACT OF 2011 IMPACTING THE NATURAL GAS DISTRIBUTION SECTOR:

PIPE DAMAGE PREVENTION

Excavation damage represents the single greatest threat to distribution system safety, reliability and integrity. A number of initiatives have helped to prevent excavation damage and resulting incidents. These include a three digit number, “811,” for excavators to call before they dig, a nationwide education program promoting 811, “best practices” to reduce excavation damage and regional “Common Ground Alliances” that are focused on preventing excavation damage. Additionally, AGA and other partners established April as National Safe Digging Month, encouraging individuals to dial 811 before embarking on any digging or excavation project. Since the Call 811 campaign was launched, there has been approximately a 40 percent reduction in excavation-related incidents. A significant cause for this reduction is the work done by the pipeline industry in promoting the use of 811. Regulators, natural gas operators, and other stakeholders are continually working to improve excavation damage prevention programs. This concerted effort, combined with the effort that states are undertaking to create robust, and effective, state damage prevention programs based on the elements contained in the 2006 PIPES Act, is having a positive impact. But as always, more can be done – and we will continue to remain vigilant in collaborating with other stakeholders and the public to help ensure the safety of our pipeline systems.

DISTRIBUTION INTEGRITY MANAGEMENT

The 2006 PIPES Act required the U.S. DOT to establish a regulation prescribing standards for integrity management programs for distribution pipeline operators. The DOT published the final rule establishing natural gas distribution integrity management program (DIMP) requirements on December 4, 2009. The effective date of the rule was February 12, 2010. Operators were given until August 2, 2011 to write and implement their program.

The DIMP final rule is a comprehensive regulation that provides an added layer of protection to the already-strong pipeline safety programs implemented by local distribution companies. It represents the most significant rulemaking affecting natural gas distribution operators since the inception of the federal pipeline safety code in 1971. It impacted more than 1,300 operators, 2.1 million miles of pipe, and 70 million customers. The final rule effectively took into consideration the wide differences that exist between natural gas distribution operators. It

also allows operators to develop a DIMP plan that is appropriate for the operating characteristics of their distribution delivery system and the customers that they serve.

PUBLIC EDUCATION/AWARENESS

AGA appreciates the DOT's work with the public, emergency responders, and industry to improve the public's awareness of pipelines and natural gas safety. The public awareness initiative has been successful and has effectively improved the public and emergency responders' awareness of the pipeline infrastructure and appropriate actions to be taken in the event of a pipeline emergency. We are eager to work with DOT to identify performance metrics that are critical in assessing program effectiveness. Industry is working to ensure that 911 operators are identified as an important stakeholder audience and receive all needed pipeline awareness information. AGA and the industry look forward to continuing to work with all regulatory agencies to help improve the methods utilized to educate the public regarding pipeline awareness.

CAST IRON PIPELINES

Natural gas utilities continue to be ever vigilant and committed to systematically upgrading this infrastructure based on enhanced risk-based integrity management programs. Indeed, there is a growing effort underway to accelerate the replacement of pipelines that may no longer be fit for service. This work is facilitated by regulatory and legislative policies that establish innovative rate mechanisms which allow for accelerated replacement and modernization of natural gas pipelines.

The quantity of cast iron main continues to steadily decline. Overall cast iron makes up less than three percent of the distribution mileage and that number is decreasing annually. Today, PHMSA reports that there are 29,358 miles of cast iron pipelines in use. The approximate cost of removing these pipelines is nearly \$83 billion.⁵

The specific costs associated with replacement vary depending on an individual utility's regulatory structure and state. All utilities have an infrastructure replacement program and seek to remove pipelines no longer fit for service as rapidly as they are able and allowed through their regulatory construct. Moreover, today 39 states and the District of Columbia now have a specific rate mechanism that facilitates accelerated replacement of pipelines no longer fit for service.⁶

NARUC has always considered pipeline safety a leading priority and has raised the bar by prioritizing the issue of accelerating replacement of pipelines no longer fit for service. We commend NARUC for having passed a resolution at its 2013 summer meeting calling on commissions to explore, examine, and consider adopting alternative rate recovery mechanisms as necessary to accelerate the modernization, replacement and expansion of the nation's natural gas pipeline systems.⁷

MAOP

There is significant uncertainty in the pipeline industry surrounding the method by which PHMSA will implement provisions in the 2011 Act pertaining to Maximum Allowable Operating Pressure (MAOP) and the Integrity Verification Process (IVP). AGA members have conducted a verification of records as proposed in the legislation, for class 3 and class 4 locations and class 1 and class 2 high consequence areas. However because the MAOP and IVP regulations have not yet been implemented, operators are uncertain if their actions to address missing or incomplete records would be nullified by future DOT Regulations.

INCIDENT NOTIFICATION

AGA members are committed to finding new and innovative ways to inform and engage stakeholders, including emergency responders, public officials, excavators, consumers and safety advocates and members of the public living in the vicinity of pipelines. AGA and INGAA sponsored a workshop that was presented by the National

⁵ See Attachment 5: "Total Cast Iron Main"

⁶ See Attachment 6: "States with Accelerated Infrastructure Replacement Programs"

⁷ See Attachment 7: "NARUC Resolution"

Association of State Fire Marshals. The workshop had approximately 60 emergency responders, PHMSA staff and 40 operator personnel in attendance. There are also a number of efforts at the state and local level to engage emergency responders, government officials and the public in pipeline safety efforts.

DATA COLLECTION AND INFORMATION SHARING

Collecting accurate data and data analysis are integral to determining areas for potential pipeline safety improvement. AGA and PHMSA co-chair a data quality and analysis team made up of representatives from government, industry and the public, similar to the PHMSA technical advisory committees. The team analyzes the data that PHMSA collects and determine opportunities to improve pipeline safety based on the analysis. The team is also identifying gaps in the data that are collected by PHMSA and others, ways to improve the collected data, and is working on consistent messages based on the pipeline incident data.

AGA has 16 technical committees and an operations managing committee focusing on a wide range of operations and safety issues. The technical committees develop and share information, including those issues raised by PHMSA, the National Transportation Safety Board, and other pipeline safety stakeholders. In addition, AGA has a Gas Utilities Operations Best Practices Program focused on identifying superior performing companies and innovative work practices that can be shared with others to improve operations and safety. AGA is also the Secretariat for the National Fuel Gas codes, the Gas Piping Technology Committee, and manages the Plastic Pipeline Database which includes over 45,000 records of plastic material and component failures that have been voluntarily submitted by the industry.

RESEARCH AND DEVELOPMENT

More industry research is necessary to improve in-line inspection tool quality and capabilities, operator use of tool data, direct assessment tools, non-destructive testing and leak detection. Many pipeline companies have direct memberships in research consortiums and contribute towards this type of research. These research consortiums include the Pipeline Research Council International (PRCI), NYSEARCH, Operations Technology Development (OTD), Utilization Technology Development (UTD) and Sustaining Membership Program (SMP). In the last five years, hazardous liquid and gas pipeline operators have contributed more than \$115 million to research and development. However, R&D cannot be successful without cooperative planning between industry and government. As noted above, AGA is committed to improving the transparent collaborative relationship with PHMSA that has historically enhanced pipeline safety R&D.

SUMMARY

The natural gas utility industry has a strong safety record. Recognizing the critical role that natural gas can and should play in meeting our nation's energy needs, we are committed to working with all stakeholders to consistently make improvements to the safety and reliability of our systems. To that end, we applaud this committee's focus on the common goal: to enhance the safe delivery of this vital energy resource.

Recent pipeline safety reauthorizations contained significant changes to pipeline safety programs. Many of these changes are not yet in federal regulation and others are in their infancy. PHMSA is working on a number of significant rules that will substantially change the federal gas pipeline safety regulations and the industry looks forward to the certainty that the final rules will bring.

Natural gas distribution companies are eager to take action on the aspects of the 2011 Act that DOT has not finalized, but their actions may be nullified if DOT's final regulations that do not follow the specifics in the legislation. Operations would then need to take additional actions or repeat their work, adding unnecessary cost to customers and a disruption to the public. AGA members desire a path forward with certainty rather than with uncertainty, duplicative actions, or additional cost burdens on their customers.

We would urge that we stay the course in developing comprehensive, risk based rules to comply with the legislation and provide the regulatory certainty that is essential to ensuring a safe and reliable natural gas

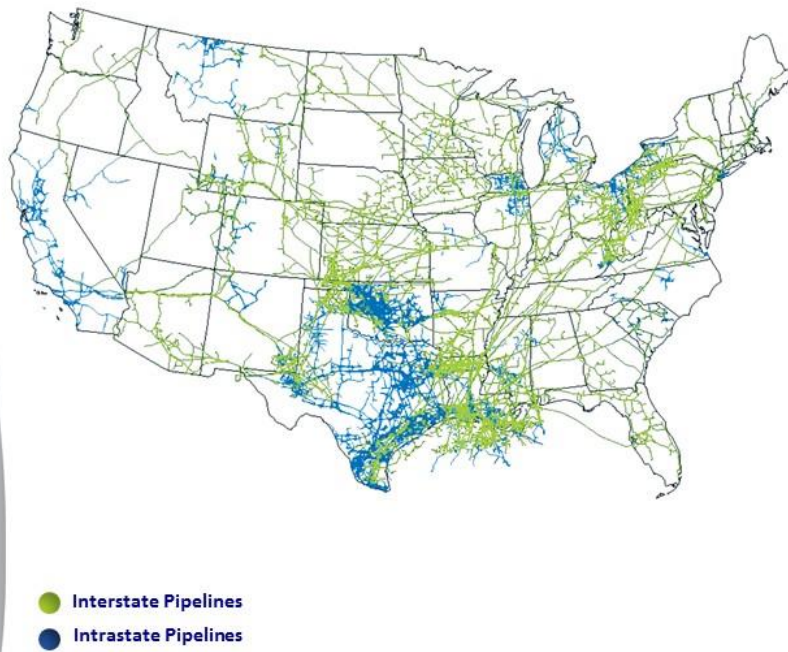
distribution system. Many of these rules have just been implemented and need time to work before assessing whether additional changes need to be made to enhance safety.

Natural gas is a key to our energy future and America's natural gas utilities are upgrading our delivery system to meet this growing demand. There is a tremendous opportunity for consumers and our nation as a whole through greater use of natural gas, and we see a future where natural gas is the foundation fuel that heats our homes, runs our vehicles, and supports other forms of renewable energy. We are building and continually improving our infrastructure to deliver on this promise.

Attachment 1: Natural Gas Pipelines across the U.S.

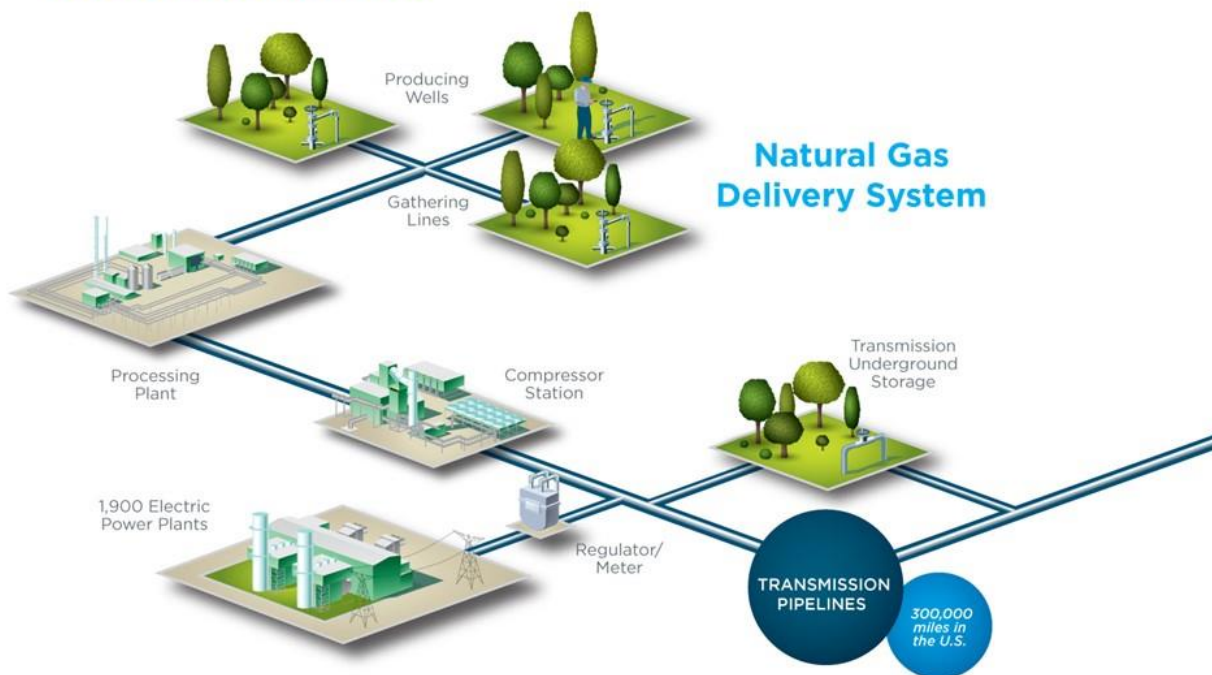
Safely transported **Across the Country**

- Natural gas pipelines are an essential part of the nation's infrastructure.
- Natural gas utilities spend more than \$19 billion annually to help enhance the safety of natural gas distribution and transmission systems.

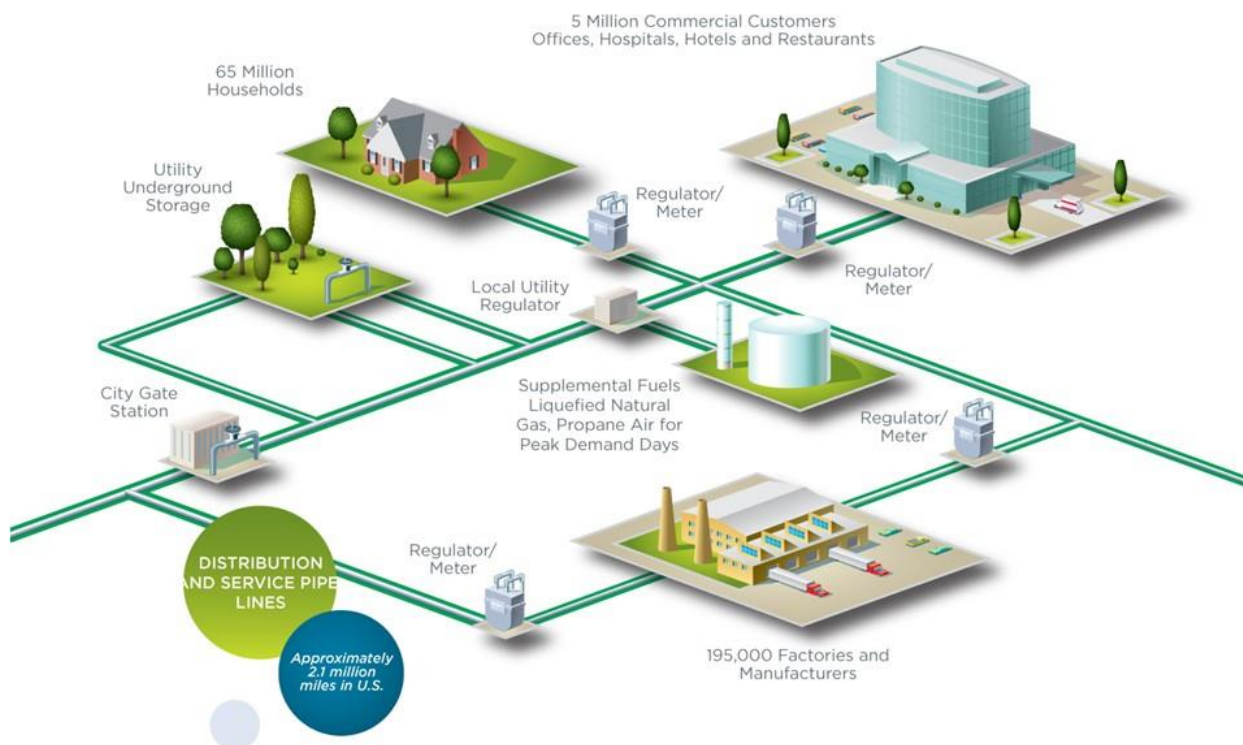


Attachment 2: Natural Gas Delivery System

Natural Gas Getting It to Homes, Businesses and to Work for America



American Gas Association 51



American Gas Association 52

Attachment 3: Regulators and Stakeholders

Many Regulators and Stakeholders



Attachment 4: AGA's Commitment to Enhancing Safety



AGA's Commitment to Enhancing Safety

AGA and its members are dedicated to the continued enhancement of pipeline safety. As such, we are committed to proactively collaborating with public officials, emergency responders, excavators, consumers, safety advocates and members of the public to continue to improve the industry's longstanding record of providing natural gas service safely and effectively to 177 million Americans. AGA and its members support the development of reasonable regulations to implement new federal legislation as well as the National Transportation Safety Board safety recommendations.

Below are voluntary actions that are being addressed by AGA or individual operators to help ensure the safe and reliable operation of the nation's 2.4 million miles of pipeline which span all 50 states representing diverse regions and operating conditions. In addressing these actions, AGA and its individual operators recognize the significant role that their state regulators or governing body will play in supporting and funding these actions.

It is the consensus of AGA members that the actions listed below enhance safety and gas utility operations when implemented as an integral part of each operator's system specific safety actions. However, both the need to implement and the timing of any implementation of these actions will vary with each operator. Each operator serves a unique and defined geographic area and their system infrastructures vary widely based on a multitude of factors, including facility condition, past engineering practices and materials. Each operator will need to evaluate the actions in light of system variables, the operator's independent integrity assessment, risk analysis and mitigation strategy and what has been deemed reasonable and prudent by their state regulators. It is recognized that not all of these recommendations will be applicable to all operators due to the unique set of circumstances that are attendant to their specific systems.

Building Pipelines for Safety

Construction

- Expand requirements of the Operator Qualification (OQ) rule to include new construction of distribution and transmission pipelines.
- Review established oversight procedures associated with pipeline construction to ensure adequacy and confirm that operator construction practices and procedures are followed.

Emergency Shutoff Valves

- Support the use of a risk based approach to the installation of automatic and/or remote control sectionalizing block valves where economically, technically and operationally feasible on transmission lines that are being newly constructed or entirely replaced. Develop guidelines for consideration of the use of automatic and/or remote control sectionalizing block valves on transmission lines that are already in service. Work collaboratively with appropriate regulatory agencies and policy makers to develop these criteria.
- Expand the use of excess flow valves to new and fully replaced branch services, small multi-family facilities, and small commercial facilities where economically, technically and operationally feasible.

Operating Pipelines Safely

Integrity Management

- Continue to advance integrity management programs and principles to mitigate system specific risks. This includes operational activities as well as the repair, replacement or rehabilitation of pipelines and associated facilities where it will most improve safety and reliability.
- Collaborate with stakeholders to develop and promote effective cost-recovery mechanisms to support pipeline assessment, repair, rehabilitation, and replacement programs.
- Develop industry guidelines for data management to advance data quality and knowledge related to pipeline integrity.
- Support development of processes and guidelines that enable the tracking and traceability of new pipeline components.

Excavation Damage Prevention

- Support strong enforcement of the 811 – Call Before You Dig program through state damage prevention laws.
- Improve the level of engagement between the operator and excavators working in the immediate vicinity of the operator's pipelines.

Enhancing Pipeline Safety

Safety Knowledge Sharing

- Review programs currently utilized for the sharing of safety information. Identify and implement models that will enhance safety knowledge exchange among operators, contractors, government and the public.

Stakeholder Engagement and Emergency Response

- Evaluate methods to more effectively communicate with public officials, excavators, consumers, safety advocates and members of the public about the presence of pipelines. Implement tested and proven communication methods to enhance those communications.
- Partner with emergency responders to share appropriate information and improve emergency response coordination.

Pipeline Planning Engagement

- Work with a coalition of Pipelines and Informed Planning Alliance (PIPA) Guidance stakeholders to increase awareness of risk based land use options and adopt existing PIPA recommended best practices.

Advancing Technology Development

- Increase investment, continue participation, and support research, development and deployment of technologies to improve safety. Evaluate and appropriately implement new technological advances.

Gas Utility Industry Actions To Be Implemented	Target Dates *
Confirm the established MAOP of transmission pipelines Note: Confirmation of established MAOP utilizes the guidance document developed by AGA, "Industry Guidance on Records Review for Re-affirming Transmission Pipeline MAOPs," October 2011.	On an aggregate basis of AGA member companies, complete > 50% of class 3 & 4 locations + class 1&2 HCAs: 7/3/12 Remaining class 3&4 + 1&2 HCAs, based on PHMSA guidance: 7/3/13 Remaining class 1&2 by 7/3/15
Review and revise as necessary established construction procedures to provide for appropriate (risk-based) oversight of contractor installed pipeline facilities.	Trans: 12/31/12 Dist: 12/31/13
Under DIMP, evaluate risk associated with trenchless pipeline techniques and implement initiatives to mitigate risks	12/31/12
Under DIMP, identify distribution assets where increased leak surveys may be appropriate	12/31/12
Integrate applicable provisions of AGA's emergency response white paper and checklist into emergency response procedures	12/31/12
Extend Operator Qualification program to include tasks related to new main & service line construction	6/30/13
Expand EFV installation beyond single family residential homes	6/30/13
Incorporate an Incident Command System (ICS) type of structure into emergency response protocols	6/30/13
Extend transmission integrity management principles outside of HCAs using a risk-based approach	70% of population within PIR by 2020; 1&2 by 2030
Implement applicable portions of AGA's technical guidance documents: 1) Oversight of new construction tasks to ensure quality; 2) Ways to improve engagement between operators & excavators	Within 1 yr of AGA guidance
Begin risk-based evaluation on the use of ASVs, RCVs or equivalent technology on transmission block valves in HCAs	Within 6 months of Comptroller General study
Implement appropriate meter set protection practices identified through the Best Practices Program	Within 6 months of program results

* Target dates are based on an operator's evaluation of these actions in light of system variables, the operator's independent integrity assessment, risk analysis, and mitigation strategy. Target dates also assume state regulatory approval that action is prudent and reasonable and therefore recoverable in rates.

Gas Utility Industry Actions That Exceed 49 CFR Part 192
Incorporate systems and/or processes to reduce human error to enhance pipeline safety
Advocate programs to accelerate the risk-based repair, rehabilitation and replacement of pipelines
Support development of processes and guidelines that enable tracking and traceability of pipeline components
Encourage participation in One-Call by all underground operators and excavators
Influence and/or support state legislation to strengthen damage prevention programs
Use industry training facilities and evaluate opportunities to expand outreach and education programs to internal and external stakeholders
Support and enhance damage prevention programs through outreach, education, intervention and enforcement
Use a risk-based approach to improve excavation monitoring
Develop, support, enhance and promote CGA initiatives targeted at damage prevention, including data submission and 811
Support public awareness programs targeted at damage prevention
Continue AGA Safety Committee initiatives, such as sharing lessons learned through the Safety Information Resource Center, safety alerts through the AGA Safety Alert System, safety communications with customers and supporting AGA's Safety Culture Statement
Explore ways to educate, engage and provide appropriate information to stakeholders to increase pipeline public awareness
Conduct organizational response drills to improve emergency preparedness
Participate in state, regional and national multi-agency emergency response training exercises
Reach out to emergency responder community in order to enhance emergency response capabilities
Verify participation in a mutual assistance program, if appropriate; integrate into emergency response plans
Collaborate with stakeholders near existing transmission lines to increase awareness/adoption of appropriate PIPA recommended best practices
Promote benefits of R&D funding. Support R&D investment, pilot testing and technology implementation
Support technology development and deployment in critical applications
Collaborate on R&D

AGA's Commitment to Enhancing Safety: AGA Actions

ACTIONS COMPLETED

- ✓ Implement discussion groups to address safety issues including discussion groups for employee technical training, material supply chain issues, DIMP implementation, public awareness, work management and GPS/GIS
- ✓ Participate in 2012 DOT Automatic Shut-off Valve and Remote Control Valve Workshop
- ✓ Develop, with INGAA and API, a public document to explain ratemaking mechanisms used for pipeline infrastructure
- ✓ Create a Safety Information Resources Center for the sharing of safety information
- ✓ Hold regional operations executives' roundtables to discuss safety initiatives
- ✓ Sponsor workshop with INGAA and National Association of State Fire Marshals (NASFM) on emergency response
- ✓ Develop a technical note on industry considerations for emergency response plans
- ✓ Develop Emergency Response Resource center with a streamlined mutual assistance program
- ✓ Develop a task group comprised of AGA staff and members that will work closely with Pipelines and Informed Planning Alliance (PIPA) to ensure AGA member concerns are addressed in joint PIPA initiatives
- ✓ Work with INGAA, research consortiums and other pipeline trade associations to provide the NTSB with a compilation of the progress that has been made in advancing in-line inspection technology
- ✓ Host a roundtable focused on operator experience and lessons learned: 2012 Operations Conference
- ✓ Work with INGAA, API, AOPL, Canadian Gas Association and Canadian Energy Pipeline Association on a comprehensive safety management study that explores initiatives currently utilized by other sectors and the pipeline industry.

ONGOING ACTIONS

- Promote the use of innovative rate mechanisms for faster repair, rehabilitation or replacement.
- Maintain a clearinghouse on effective cost-recovery mechanisms that states have used to fund infrastructure repair, replacement and rehabilitation projects.
- Support legislation that strengthens enforcement of damage prevention programs and 811
- Support the Common Ground Alliance, use of 811 and other programs that address excavation damage
- Continue the work of the AGA Best Practices Programs to identify superior performing companies and innovative work practices that can be shared with others to improve operations and safety.
- Continue the Plastic Pipe Database Committee's work to collect and analyze plastic material failures
- Promote the AGA Safety Culture Statement and a positive safety culture throughout the natural gas industry
- Conduct workshops, teleconferences and other events to share information including pipeline safety reauthorization, DIMP/TIMP, fitness for service, records, in-line inspection, emergency response, and other key safety initiatives
- Hold an annual executive leadership safety summit.
- Recognize statistical top safety performers, promote safety performance and encourage knowledge sharing through AGA Safety Awards
- Support PHMSA and NAPSRS workshops and other events
- Search for new and innovative ways to inform, engage and provide appropriate information to stakeholders, including emergency responders, public officials, excavators, consumers and safety advocates, and members of the public living in the vicinity of pipelines
- Participate in the Pipeline Safety Trust's annual conference to provide information on distribution and intrastate transmission pipelines, AGA and industry initiatives, and receive input
- Work with PHMSA to establish time limits for telephonic or electronic notice of reportable incidents to the National Response Center after the time of confirmed discovery by operator that an incident meets PHMSA incident reporting requirements
- Build an active coalition of AGA member representatives to work with PHMSA and other stakeholders to implement PIPA recommended practices pertaining to encroachment around existing transmission pipelines
- Advocate to state commissioners the inclusion of research funding in rate cases in an effort to increase overall funding for R&D
- Work with PHMSA and other stakeholders on opportunities to increase R&D funding and deployment of technologies
- Advocate acceptance of technologies that can improve safety

AGA's Commitment to Enhancing Safety: AGA Actions Continued

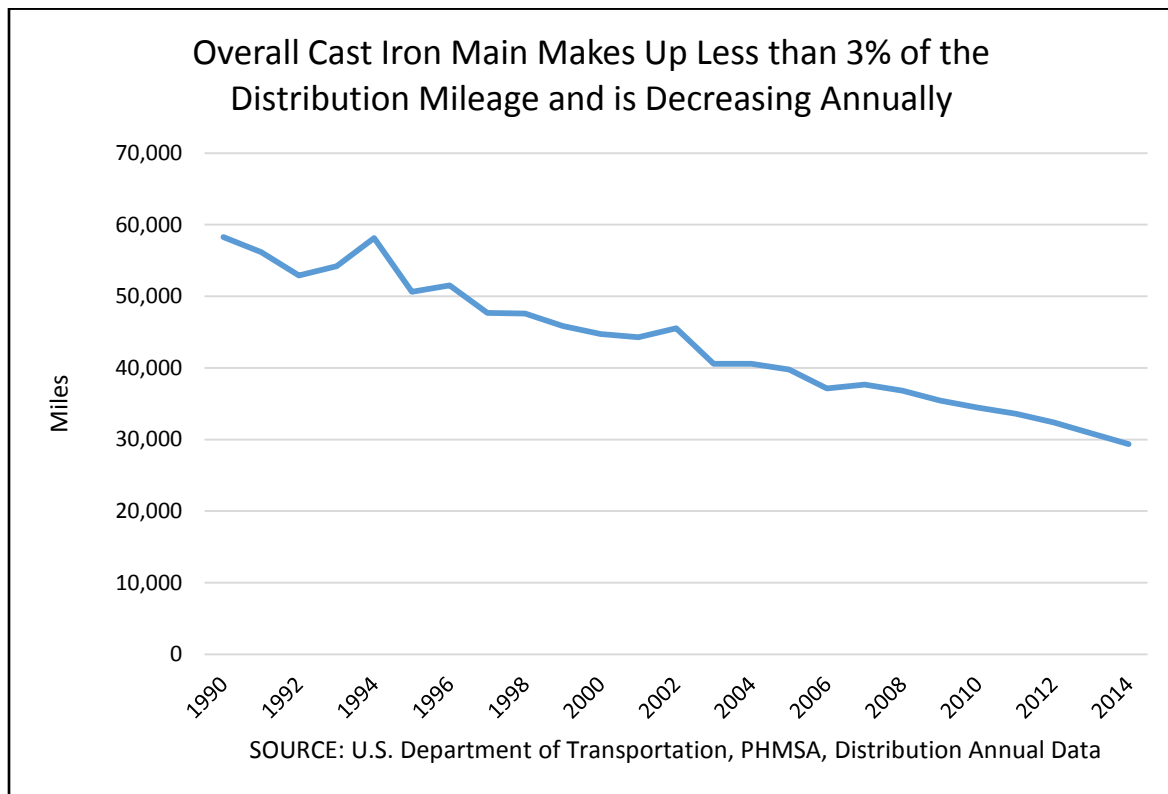
ACTIONS WITH TARGET DATES

- Develop guidance to determine a distribution or transmission pipeline's fitness for service and MAOP, and the critical records needed for that determination. **(5/30/12)**
- Create a Safety Alert Notification System that will allow AGA or its members to quickly notify other AGA members of safety issues that require immediate attention. **(5/30/12)**
- Develop a more comprehensive technical paper that presents benefits and disadvantages of the installation of ASV/RCV block valves on new, fully replaced and existing transmission pipelines. **(9/30/12)**
- Create technical guidance for oversight of new construction tasks to ensure quality. **(12/31/12)** (Track progress of industry's implementation of guidelines and summarize results annually)
- Utilize DIMP to evaluate the risks associated with trenchless pipeline techniques and implement, where necessary, initiatives to prevent and mitigate those risks. **(12/31/12)**
- Based on the results of the safety management study, identify and begin to implement initiatives that will enhance the appropriate sharing of safety information. **(12/31/12)**
- Include meter protection in 2013 AGA Distribution Best Practices Program with results. **(9/30/13)**

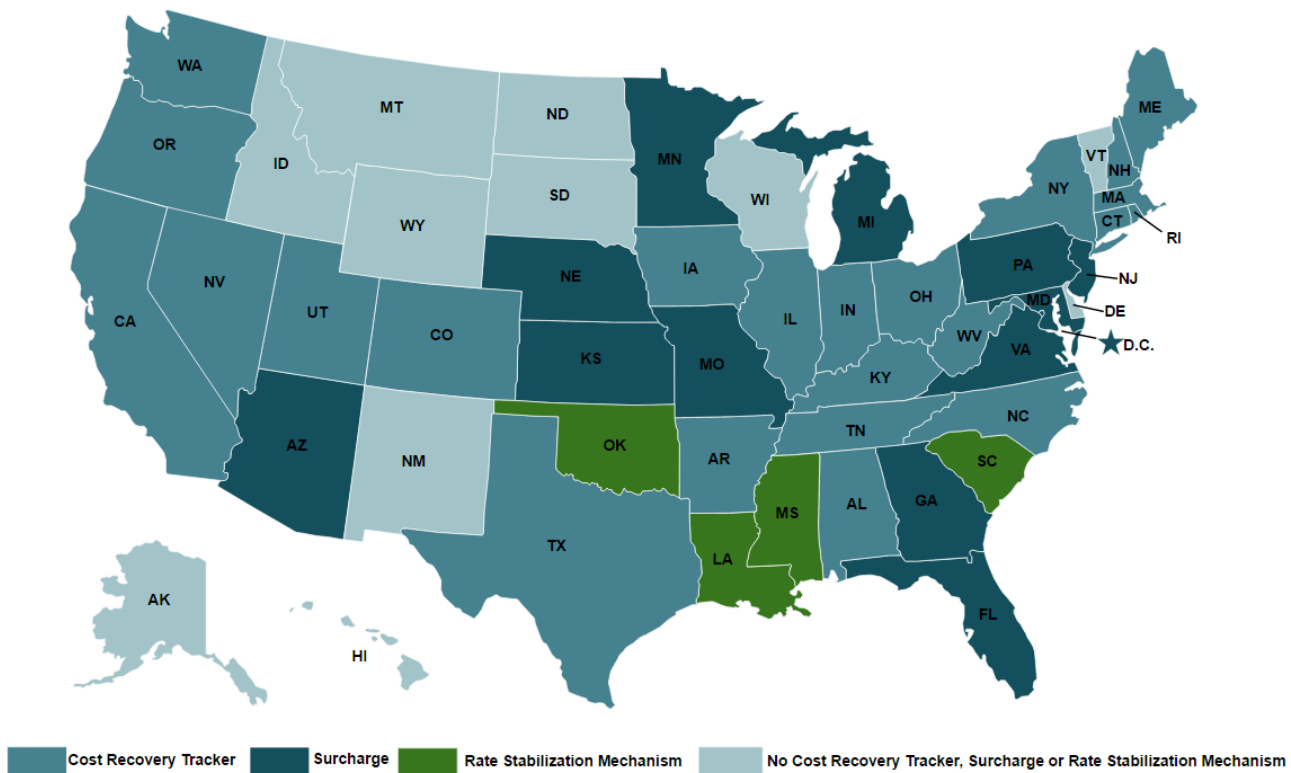
ACTIONS – TARGET DATES NOT APPLICABLE

- Work with PHMSA and distribution operators on ways to address risk to meters from vehicular damage, natural and other outside forces.
- Engage PHMSA and NAPS in discussions on whether TIMP should be expanded beyond HCAs and the benefits and challenges of applying integrity management principles to additional areas.
- Highlight in DOT workshops, NAPS meetings and discussions with Government Accountability Office that: 1) Many AGA members are required to manage DIMP and TIMP programs that overlap. The effectiveness, inefficiencies and duplication of multiple integrity management programs must be explored. 2) Low-stress pipelines operating below 30% SMYS should be treated differently.
- Work with industry and regulators to evaluate how the grandfather clause can be modified to reduce and/or effectively eliminate its use for transmission pipelines.
- Work with other stakeholders to develop potential technological solutions that allow for tracking and traceability of new pipeline components (pipe, valves, fittings and other appurtenances attached to the pipe).
- Develop guidelines that provide for an improved level of engagement between operators and excavators.
- Work with other stakeholders to improve pipeline safety data collection and analysis, convert data into meaningful information, determine opportunities to improve safety based on data analysis, identify gaps in the data collected by PHMSA and others, and communicate consistent messages based on the data.
- Develop publications dedicated to improving safety and operations
- Pilot application of PIPA guidelines with select member utilities.

Attachment 5: Overall Cast Iron Main



Attachment 6: States with Accelerated Infrastructure Replacement Programs



*As of June 30, 2015

- *The overall trend is positive*
- *Nine states moved to adopt programs in 2013, alone*
- *NJ, MA, PA & DC adopted pipeline safety measures in 2014*
- *West Virginia recently passed legislation*
- *States address this issue differently*
- *The basis for these decisions is always just and reasonable rates for consumers*

2013 NARUC Resolution

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners... *encourages regulators and industry to consider sensible programs aimed at replacing the most vulnerable pipelines as quickly as possible along with the adoption of rate recovery mechanisms that reflect the financial realities of the particular utility in question*; and be it further;

RESOLVED, That State commissions should explore, examine, and *consider adopting alternative rate recovery mechanisms as necessary to accelerate the modernization, replacement and expansion of the nation's natural gas pipeline systems*.

