

WRITTEN TESTIMONY OF
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BEFORE THE U.S. HOUSE
SUBCOMMITTEE ON ENERGY AND POWER

Good morning, Mr. Chairman and members of the Committee. I am pleased to appear before you today and wish to thank the Committee for calling this hearing. Pipeline safety is a critically important issue, and I commend you for not only holding this hearing, but for all the work that you and your colleagues have done over the years to ensure that America has one of the safest, most reliable pipeline system in the world.

I am Charles Dippo, Vice President of South Jersey Gas, and Chairman of the American Gas Association (AGA) Operating Section. South Jersey Gas serves customers in 112 municipalities spanning in excess of 2,500 square miles, or one-third of the geographic area of New Jersey, in which one-eighth of its population resides. The service area includes all of Atlantic, Cape May, Cumberland and Salem counties and parts of Burlington, Camden and Gloucester counties. South Jersey supplies its customers through approximately 12,000 miles of distribution and 122 miles of transmission pipeline.

I am here testifying today on behalf of the AGA, which was founded in 1918, and represents 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 70 million residential, commercial and industrial natural gas customers in the U.S., of which 91 percent — more than 64 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad

range of programs and services for member natural gas companies, pipelines, marketers, gatherers, international natural gas companies and industry associates.

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. 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 175 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.

CRITICAL PIPELINE INFRASTRUCTURE

AGA believes that the domestic abundance of natural gas and the resulting price stability, when combined with the other advantages of natural gas—including its environmental attributes and efficiency of use—presents us with an unprecedented opportunity. There is direct use of natural gas in core residential and commercial markets, expanding use for gas-fired electric generation, and the transportation market where natural gas vehicles can displace some traditional diesel- and gasoline-based vehicles. These actions will save consumers billions of dollars in related energy costs, reduce greenhouse gas emissions and enhance America's energy security by reducing our reliance on imported oil. Our industry can help meet America's need for clean and abundant energy by delivering more of America's fuel -- natural gas -- not just in 2011 but well into the future. Indeed, natural gas should now be considered a foundation fuel for the country.

Shale production grew from about 1 billion cubic feet (Bcf) per day in 2000 to about 15 Bcf per day by year-end 2010, thus forming nearly twenty-five percent of all domestic dry natural gas production. U.S. shale gas production is now spread between Appalachian states, the mid-continent, Texas, Louisiana, Arkansas and even the Michigan basin. The pipeline infrastructure is being expanded to accommodate large shale gas resources in the Northeast and other parts of

the nation. As shale production and the natural gas infrastructure grows to take advantage of this abundant resource, it must be done with a focus on safety. The AGA Board of Directors recently adopted principles for Responsible Natural Resource Development (see Exhibit 4). These principles address a foundation for the sustainable and responsible development of all natural gas resources in our country and underscore the commitment of local natural gas utilities to the communities they serve. Not only will this significant production help to ensure a stable supply of natural gas, it will also provide new jobs. Estimates are that in the Marcellus Shale region alone in 2011, 122,000 new jobs will have been directly and indirectly created. All told, 2.8 million people are directly or indirectly employed by the natural gas industry.

Industry's Demonstrated Commitment to Safety

The industry has demonstrated that it can increase the delivery of natural gas while continuously making improvement in safety. The data from the Department of Transportation's Pipeline & Hazardous Materials Safety Administration (PHMSA) on Exhibit 1 shows a continual downward trend in pipeline incidents of approximately 10% every three years. AGA has analyzed data from the PHMSA database and Exhibit 2 shows that leaks, serious incidents, and significant incidents are continually being reduced.

Over the last twenty years, we have seen improvements in leak reduction (49%), as well as significant incidents (29%) and serious incidents (49%). But clearly more needs to be done. The tragic incident in San Bruno, California reminds us that one accident is one too many. The National Transportation Safety Board has not issued a final report on the San Bruno incident, but the industry is already taking away important lessons from the information that has been produced thus far in the extensive investigation. There are 210 documents with more than 6,000 pages of information in the NTSB docket. The factual reports show that the event appears to be an isolated incident with no evidence of national systemic safety problems. From the NTSB factual reports and the Report of the Independent Review Panel San Bruno Explosion, by Jacob Consultancy, we know the following:

- Stringent pressure tests at pipe mills have been required for natural gas transmission pipe since the 1940s. The pipe is pressure tested at the mill at significantly higher pressure than it will ever be operated.

- Most transmission pipe is constructed in lengths manufactured of not less than 20-foot sections. The failed pipeline segment in San Bruno contained six short sections of pipe, known as pups. The yield strength of the pipe material for four of the six pups was significantly less than the Pacific Gas & Electric (PG&E) pipe mill order requirement for the original construction project. The specification required that the yield strength of the pipe material to be at least 42,000 psi (API Grade X42). Four of the six pups tested have yield strengths suggesting a material strength of only 32,000 psi, which is 10,000 psi below the required minimum pipe specifications of that project.
- The longitudinal seam welds were not of the quality of double submerged arc welded (DSAW) long seams typical of large diameter pipe manufactured during the 1948 to 1956 time period, for the material specified in the original construction project. Instead, the long seams of the pups segments were incomplete penetration welds made with unusual weld preparations and non-standard welding techniques not seen in the manufacture of natural gas transmission pipeline pipe.
- The original pipe was constructed in 1948 and part of the pipeline, including the failed segment, was relocated in 1956. The remaining segments of pipe were in good condition with little evidence of internal or external corrosion.

A report by the Interstate Natural Gas Association of America (INGAA), “Preliminary Analysis of Publicly Available Evidence Supporting a Failure Cause of the PG&E San Bruno Incident”, suggests the manufacturing defect by itself did not cause the incident. The pipeline, even with defective welds and substandard materials, was “stable” for the over 50 years of its existence. The Jacob Consultancy Report work confirms INGAA’s findings. Both INGAA and the independent reviewers consultant’s analysis support the theory there was an external force that triggered the manufacturing defect to propagate, causing the pipe to fail; the force that most likely put the increased stress on the longitudinal seam was the force from a 2008 sewer replacement project undertaken by the city of San Bruno that utilized pipe bursting technology in very close proximity to the PG&E pipeline. Both the Panel and INGAA believe third-party activity (activity that was proximate to the pipe, but without direct contact that would have led to visible immediate damage) could have played a key role in transforming a “stable” threat to an “unstable” threat, thus triggering the incident.

Pipeline operators are assessing their systems to determine if the circumstances encountered in the San Bruno incident investigation bear any similarity to their operations. AGA surveyed operators throughout the nation and no one reported encountering DSAW pipe without an

internal longitudinal seam weld, although one operator reported finding DSAW pipe with a poor internal seam weld. This pipe had been removed from service years ago. The California Public Utility Commission (CPUC) and operators in California have taken steps to address safety issues identified and are holding public hearings and workshops.

Other steps have been taken nationally to prevent a similar incident from occurring. The NTSB issued 10 safety recommendations to PHMSA, the CPUC and PG&E. PHMSA issued a safety advisory bulletin to all pipeline operators. AGA's members have been actively following the developments of the San Bruno investigation and have been considering how that information should be used to reduce the probability of a similar incident on their system. AGA held its biennial conference and exhibition for over 1800 people in the industry, and extensive presentations on the technical issues related to the San Bruno incident were presented.

Concurrent with the above discussed actions, the pipeline industry leadership has joined the Secretary of Transportation, Ray LaHood, in his call to action to repair, replace or rehabilitate the highest risk infrastructure. AGA member company CEOs met with Secretary LaHood in December 2010, in February 2011, and participated in the DOT Pipeline Safety Forum on April 18, 2011. The leadership of AGA believes that commitment must start at the top in any organization or business. Our actions as leaders clearly demonstrate that we are fully committed to achieving the goal of improving pipeline safety.

Exhibit 3 shows the commitment to safety from the top at the American Gas Association. It begins with the Board of Directors who guides four key safety areas: The Board Safety Committee, Board Safety Implementation Task Group, Government Relations Policy Committee and Operations Managing Committee. The Board Safety Committee was established five years ago and focuses on pipeline, employee, contractor and customer safety. The Board's Safety Implementation Task Group brings together key committees focused on safety, including AGA's Legislative, Legal, State Regulatory, Communications, and Operations Committees. The Government Relations Policy Committee provides oversight of advocacy initiatives and identifies emerging issues. The Operations Managing Committee leads 16 technical and

advocacy committees with special emphasis on identifying and sharing best practices and lessons learned. For AGA and its member companies, safety is first and foremost.

RAISING THE BAR FOR SAFETY

How do we raise the bar on safety? First, we must keep our focus on key safety initiatives that are already underway and are showing success. This includes Distribution and Transmission Integrity Management, Control Room Management, public awareness, excavation damage prevention, and a number of voluntary initiatives such as AGA's Best Practices Program. Second, we have an opportunity to work together with state and federal regulators to further elevate pipeline safety through better excavation damage prevention programs and eliminating or severely reducing exemptions that currently allow entities not to call before they excavate, establishing a data quality committee to analyze DOT pipeline performance information, reducing hurdles that prevent operators from implementing new technology, requiring PHMSA to update obsolete material construction consensus standards that are currently incorporated by reference, and passing a pipeline safety bill that focuses on key areas that can truly improve pipeline safety.

Distribution Integrity Management

The 2006 PIPES Act required 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 are given until August 2, 2011 to write and begin implementation of their individual risk-based program.

In 2003, PHMSA previously implemented integrity management regulations for hazardous liquid and gas transmission pipelines. Because there are significant differences between gas distribution, gas transmission and hazardous liquid pipelines, it would have been impractical to apply the existing hazardous liquid or gas transmission regulations to distribution pipelines. The DIMP rule incorporated the same basic principles as transmission integrity management regulations, but with a slightly different approach to accommodate differences between transmission and distribution systems. The DIMP final rule requires operators to develop and

follow individualized integrity management (IM) programs, in addition to PHMSA's other current pipeline safety regulations.

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 will impact more than 1,300 operators, 2.1 million miles of piping, and 70 million customers. The final rule effectively takes 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.

The final rule requires that all distribution pipeline operators, regardless of size, implement an integrity management program that contains seven key elements:

1. Develop and implement a written integrity management plan.
2. Know its infrastructure.
3. Identify threats, both existing and of potential future importance.
4. Assess and prioritize risks.
5. Identify and implement appropriate measures to mitigate risks.
6. Measure performance, monitor results, and evaluate the effectiveness of its programs, making changes where needed.
7. Periodically report performance measures to its regulator.

Operators are aggressively implementing this rule. Workshops have been conducted throughout the nation. Webinars and audio conference have been held. Software programs have been developed specifically for distribution integrity management. The Gas Pipeline Technology Committee, comprised of federal and state regulators, pipeline operators, manufacturers, and the public, has developed a guidance document to implement the DIMP regulation. PHMSA and state regulators have completed pilot audits, created an audit form that has been shared with operators, and recently held webinars for hundreds of operators. I am pleased to inform the committee that all affected stakeholders are working to make this an effective regulation.

Excess Flow Valves (EFVs)

Natural gas utilities have been installing EFVs widely on single family residence service lines since the late 1990s, when operators were given the option of either installing them voluntarily or notifying customers of their availability, and then installing them upon request. The 2006 PIPES Act mandated that DOT require natural gas distribution utilities install an EFV on new and replacement service lines for single family residences, if the service line met specific conditions, beginning on June 1, 2008.

AGA supported the 2006 Congressional mandate for EFVs. Indeed, most operators were voluntarily installing EFVs before the June 2008 Congressional deadline. The DIMP final rule codified the congressional mandate to install EFVs in services to single-family residences. I do want to emphasize that Congress was absolutely correct in limiting the EFV mandate to single-family residential dwellings. Single family residence dwellings are very uniform and only about 15 percent of the dwellings have characteristics that prevent EFV installation (e.g. pressure too low, dirt, or contaminants in the gas).

However, due to the inherent uncertainties and complexities associated with service lines to multiple-family dwellings, commercial and industrial customers, it is inadvisable to attempt mandatory nation-wide installation of EFVs beyond the single-family residential class. Multifamily dwellings, commercial, and industrial customers are subject to significant variations in gas loads. Since EFVs are designed to shut down when there is a significant change in gas flow, these variations could result in the inadvertent closure of an EFV and interruption of gas service for multiple days. An inadvertent EFV shutoff of commercial and industrial facilities, like hospitals or chemical plants, could potentially result in a greater safety hazard(s) than the release of gas the EFV was attempting to prevent.

Industry is committed to working with DOT on the use of new safety devices. However, given that small commercial services have yet to be defined and only one or two operators have ever used large volume EFVs, PHMSA should be given adequate time to finish its technical analysis and complete the advanced notice, notice and final rulemaking process.

Control Room Management

In December 2009, DOT promulgated the final regulation for Pipeline Control Room Management. The final rule requires pipeline operators to develop, implement and submit a management plan designed to reduce risks associated with the human factors of employees working in a pipeline control room. As a part of their plan, pipeline operators must address fatigue issues and establish a maximum limit on the number of hours worked by pipeline controllers.

AGA commends DOT for putting forth a final rule that enhances safety and is practical, reasonable, and cost-effective. Similarly to the DIMP, the rule takes into consideration the inherent differences that exist between natural gas pipeline operators and hazardous liquids pipeline operators. There has never been a documented accident that has been directly caused by the controller of a natural gas pipeline. Yet, AGA and its members are supportive of the regulation and are active in working to develop national standards that identify recommended practices for pipeline operators to consider in developing their plan. The final rule actually goes beyond the Congressional mandate in the area of controller fatigue by requiring operators to:

- Establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve eight hours of continuous sleep;
- Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue; and
- Train controllers and supervisors to recognize the effects of fatigue.

The NTSB has expressed its support of the new regulation by closing its recommendation for pipeline operators to address fatigue. On February 18, 2010, the NTSB issued a press release that stated: “The Board was pleased to report that the Pipeline and Hazardous Materials Safety Administration has published a final rule establishing new basis for managing fatigue in the pipeline industry.” The Board called the rule "a significant step forward for an industry that did not previously have any rules governing hours of service." The Board closed the recommendation “Acceptable Alternate Action” and has removed fatigue in the pipeline industry from its “Most Wanted” list.

AGA and its members supported PHMSA's proposed rule to expedite the implementation of the control room management final rule requirement by more than 18 months. Most of the rule elements will be implemented by August 2011, while new personnel will be added to satisfy the fatigue management and training requirements by August 2012. In addition, operators are reviewing all of their control room policies and procedures to identify changes that can be made to better manage gas control operations.

In preparation for the August 2011 deadline for control room management plan development, operators, federal regulators and state regulators have focused extensive efforts on education and training. Natural gas operators were included in a series of pilot audits that allowed regulators to finalize their compliance guidance. The operators who participated in the pilot audits provided additional information that was needed to better clarify the reasons for variances in control room operations and the processes in place to augment pipeline safety. AGA and its members will continue to work with federal and state regulators to determine how control room operations can contribute to the shared goal of continually improving pipeline and public safety.

ENHANCED SAFETY PRACTICES

As stated at the DOT Pipeline Safety Forum, operators can increase safety through:

- The exchange of best practices and the sharing of lessons learned from incidents and near misses,
- By working more closely with emergency responders and the public on natural gas safety and
- Collaborating with all stakeholders on key initiatives that have the ability to truly improve pipeline safety.

AGA has a comprehensive best practices program for its members and is exploring other ways to share practices and lessons learned. In addition, AGA recommends that PHMSA establish a data quality team made up of representatives from government, industry and the public to analyze and improve upon the data collected by DOT and identify areas where the data tells us safety can be improved,

Excavation Damage Prevention

Excavation damage represents the single greatest threat to gas distribution system safety, reliability and integrity. A number of initiatives have helped to reduce excavation damage and resulting incidents. These include a new nationwide three digit number, “811”, that excavators can use 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 have 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.

AGA supports amendments to legislation that will require a state one-call program to have appropriate participation by all underground operators, including government entities; have mandatory participation by all excavators, including governments and contractors; have flexible and effective enforcement; and prohibit exemption of municipalities, State agencies or their contractors from one-call notification system requirements.

Risk-based Data Driven Safety

AGA believes pipeline safety can be improved through an independent review and analysis of the data collected by the DOT. To conduct this review and analysis, AGA recommends that Congress require DOT to create a data quality team made up of representatives from government, industry and the public that mirrors PHMSA’s technical advisory committees or the Plastic Pipe Database Committee. This team would analyze and improve upon the data collected by DOT, identify areas where the data tells us there is an opportunity to improve pipeline safety and communicate consistent messages about what the pipeline data is telling us. No single entity can effectively analyze and communicate national performance data. The public, industry and other pipeline stakeholders should be involved in analyzing the data, drawing conclusions, and recommending actions for improvement.

Research & Development and Consensus Standards

We support the continued funding of research, development and deployment of new technologies, as well as the refinement of current technologies, which are essential to improving pipeline safety. In addition, it is critical that the information gained through research, development and deployment be shared so that we can improve our collective understanding of the factors that can influence the risk assessment process which drives decisions to repair, rehabilitate, replace or retire a line. We recommend more emphasis be placed on the deployment of new technologies, and reducing the regulatory barriers operators currently face when attempting to implement new technologies, because too often that is where good research and development projects lose their momentum.

Additionally, it is important to manage construction and maintenance practices using the latest accepted practices and material standards. Polyethylene pipe is the material of choice when installing a gas distribution line because it not susceptible to corrosion that occurs in metal pipe. Unfortunately, the industry is presently restricted by federal pipeline safety regulations that require operators to follow the obsolete 1987 and 1999 editions of ASTM D2513 *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings*. Material standards are typically revised every five years and AGA has petitioned PHMSA to incorporate by reference the most current 2009 edition of ASTM D2513.

Material standards, such as those for steel and plastic pipe, are developed to regulate the manufacturing process and infrastructure installation nationally and worldwide. The United States should not be hindered by a requirement to follow obsolete material standards as they relate to pipeline safety. AGA suggests that Congress consider language in its legislation to require PHMSA to codify all, or part, of the most recent edition of a standard that has already been adopted by DOT into the pipeline safety code within two years after the last revision has been issued whenever feasible.

High Consequence Areas

It has been suggested that the Transmission Integrity Management Program (TIMP) be changed, and that the High Consequence Areas (HCA) definition be eliminated, thus requiring operators to perform TIMP assessments for all 300,000 miles of natural gas transmission pipelines. AGA believes that this would be contrary to the intent Congress had for the program, which was to focus resources on densely populated and environmentally sensitive areas where an accident could do the most damage.

All pipelines must comply with stringent state and federal safety standards even before the TIMP program is applied. As part of its regulation on TIMP, DOT has already included provisions for pipeline operators to have an added layer of protection on low-stress pipelines outside of HCAs. These provisions are known as Preventive and Mitigative (P&M) measures and are contained in Subpart O of the Federal Pipeline Safety Code. These P&M measures include enhanced protection against the threats of external and internal corrosion, as well as third party excavation damage. The TIMP program is relatively new as the regulation was only finalized in December 2003 and the initial baseline assessment of all covered transmission pipelines will not be completed until December 2012. AGA believes it is reasonable for Congress to direct the DOT to evaluate the effectiveness of the integrity management program within two years of the completion of the baseline assessments. The study could include reviewing existing integrity management safety measures, including:

- Evaluations of maximum allowable operating pressures,
- Potential expansion of HCAs,
- Installation of remote control or automatic shut-off valves, and
- Expansion to areas of seismic activity.

Summary

In conclusion, 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 improve. To that end, we applaud this committee's focus on moving pipeline safety act reauthorization forward. Passage of this important bill this year will help us all achieve a common goal: to enhance the safe delivery of this vital energy resource.

Exhibit 1

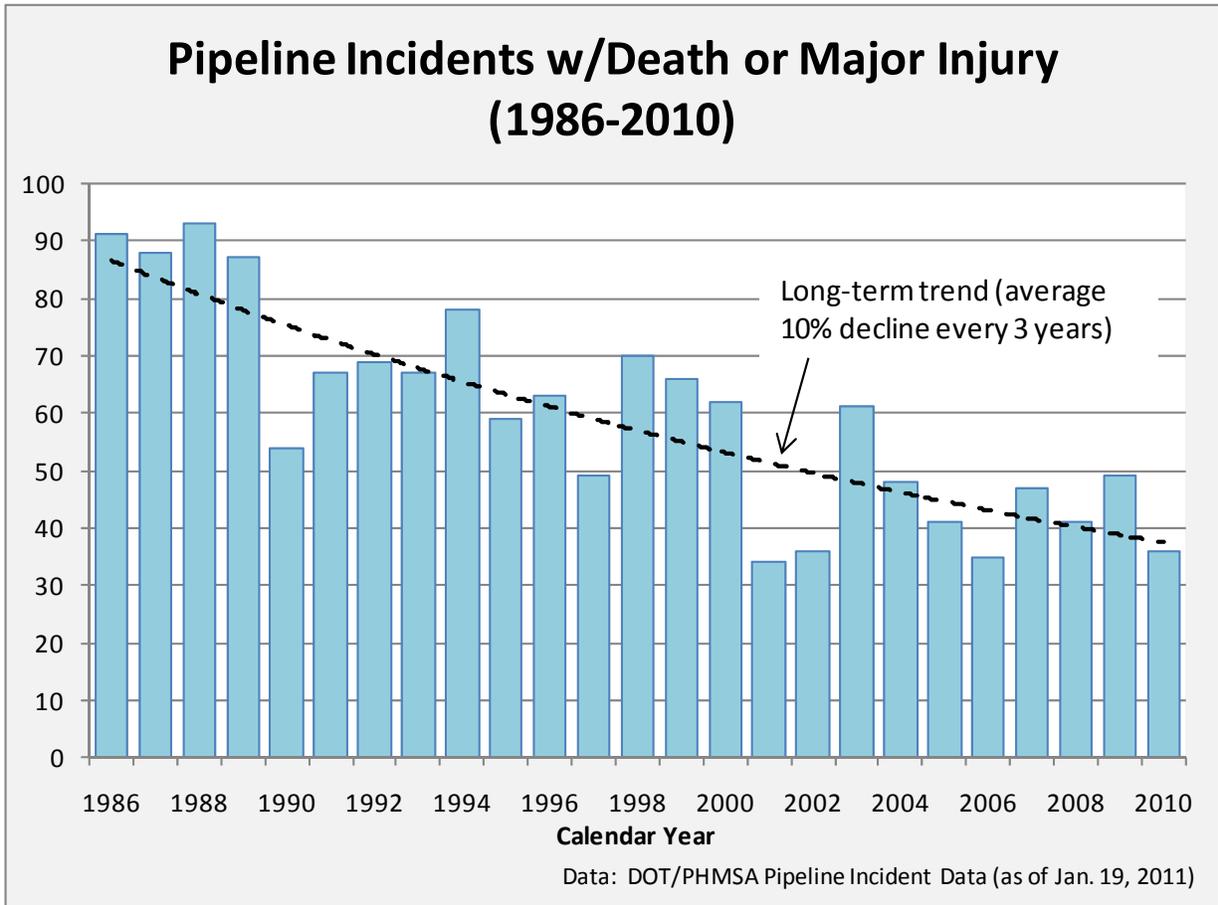
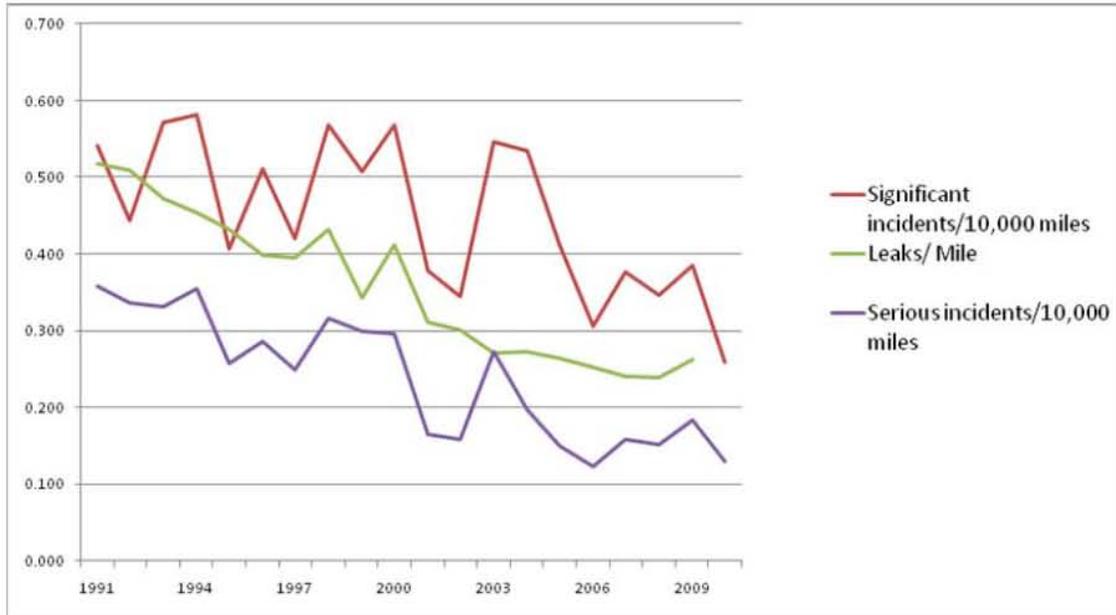


Exhibit 2

Distribution Safety Performance Leaks & Incidents



Note: Leak and mileage data for 2010 is not yet available 2010 Incidents are per 10,000 miles using 2009 miles

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Exhibit 3 – Gas Distribution Industry Leadership Structure



Responsible Natural Gas Resource Development POSITION STATEMENT

The American Gas Association (AGA) believes that the benefits of developing the abundant and clean natural gas energy resource in America can and should be realized. We also believe it can be developed in a responsible manner. Over the past several years a truly game-changing event has occurred in the natural gas industry thanks to improved technologies that are allowing energy producers to access significant and growing supplies of domestic natural gas from shale formations and other unconventional reservoirs. As a result, for the foreseeable future the natural gas supply picture looks extremely bright, both for the industry and for natural gas customers. Recently, the completion practices required to produce natural gas, specifically from shale formations, have attracted considerable attention in both the media and public policy circles. Safe and reliable extraction, transport and delivery of natural gas to consumers remain the first priority for all natural gas industry participants. These principles address a foundation for the sustainable and responsible development of all natural gas resources in our country and underscore the commitment of local natural gas utilities to the communities they serve.

AGA's natural gas utility members deliver natural gas to approximately half of all Americans, and two thirds of the natural gas consumed in the nation flows through their delivery systems.

AGA believes that recognition of the following principles is essential to sustainable and responsible development of natural gas in the United States:

- *As the representative of local utility businesses that were founded on principles of safety and community stewardship, we and our members believe it is critical to engage all stakeholders in the process of meeting economic, environmental and regulatory goals, to share information transparently, and—based on lessons learned—to continually refine and improve safety and environmental practices.*
- *Natural gas from shale formations has contributed to domestic natural gas production since the 1960s. Recently, steady technological advancements associated with horizontal drilling and hydraulic fracturing have made it increasingly cost effective to produce shale gas, which has resulted in a significant increase in domestic natural gas production since 2007.*
- *Consumers benefit enormously from the tremendous growth of this new natural gas supply, which has made natural gas prices reliably low and stable. Under current projections even sudden or significant shifts in demand—weather induced or otherwise—should have no appreciable effect on natural gas prices.*