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BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

ATMOS ENERGY CORPORATION
UTILITY I.D. NO. GC-123-0081-00

DOCKET NO. _____

'15-UN- 049

RE: **IN THE MATTER OF A COMPREHENSIVE REVIEW OF ATMOS
ENERGY CORPORATION'S CAPITAL BUDGET FOR FISCAL YEAR
2015 THROUGH FISCAL YEAR 2024 AND ITS REQUEST FOR A
SYSTEM INTEGRITY RIDER**

PREFILED DIRECT TESTIMONY OF JOHN MCDILL

April 1, 2015

**SUBMITTED ON BEHALF OF
ATMOS ENERGY CORPORATION**

Prefiled Direct Testimony of John McDill

Mississippi / McDill Testimony

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1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is John McDill. I am Vice President, Pipeline Safety for Atmos Energy
4 Corporation ("Atmos Energy" or the "Company"). My business address is 3697
5 Mapleshade Lane, Plano, Texas.

6 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

7 A. Atmos Energy takes the safety of its pipeline system seriously. When a natural gas
8 pipeline fails, the repercussions can be catastrophic. New Federal pipeline regulations
9 propel pipeline operators to better understand the condition of their assets. This process
10 assists operators to understand threats on their system and to take appropriate steps to
11 repair or replace pipelines proactively. Balancing safety and cost is important. However,
12 the goal of maintaining low-cost service should not jeopardize initiatives required to
13 maintain a safe and reliable system.

14 In that regard, Atmos Energy carefully monitors its system, devotes additional
15 resources when necessary, and accelerates work when appropriate. This includes the
16 replacement of pipelines made of materials prone to leaks and potential failure. This
17 approach is intended to protect from fatalities, injuries, and property damage and permits
18 Atmos Energy to monitor and inspect its system and renew pipe when needed, rather than
19 doing so reactively. Given the age of some of the Company's pipelines, along with the
20 increased expectations at the federal and state level, the Commission should encourage
21 utilities to implement and fund new programs that will improve the safety and reliability
22 of our natural gas infrastructure. We are asking for that authority in this filing.

1
2 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
3 **BACKGROUND.**

4 A. I graduated in December 1986 from Mississippi State University with a Bachelor of
5 Science degree in Petroleum Engineering. In terms of my professional background, I
6 joined Mississippi Valley Gas Company in April 1987 as a graduate engineer. Early in
7 my career, I participated in a training program where I spent a number of weeks, and in
8 many cases, months working in meter reading, service and the construction areas of our
9 company. I have held various positions of increasing responsibility since 1987 in natural
10 gas operations, measurement and customer service. These include Manager of
11 Measurement Service, Jackson District Superintendent, Assistant District Manager,
12 Jackson District Manager. In January 2003, I became Vice President of Operations for
13 the Southern Region of Mississippi when Mississippi Valley Gas was acquired by Atmos
14 Energy. For a majority of my 28 years of service, I have been directly responsible for the
15 service, construction, compliance and operational activities of approximately 150
16 employees while serving approximately 70,000 customers while in the roles of District
17 Superintendent and District Manager of Jackson, Mississippi. In 2003 my role expanded
18 with the promotion to Vice President of Operations and included the southern operating
19 region of Mississippi, providing service to approximately 130,000 customers. This
20 includes the development, execution and monitoring of O&M and capital budgets. I
21 served in that role until the time of my promotion to my current position in May 2012.
22 From September 2009 until October 2011, I served as Chair of Atmos Energy's Utility
23 Operating Council. Within the industry, I have served on the Southern Gas Association's

1 (SGA) Distribution Operation and Engineering Committee and the American Gas
2 Association's (AGA) Managing Committee. I currently serve as Co-Chair of the SGA
3 Pipeline Safety Council and I am a member of the AGA Board Safety Committee.

4 **Q. WHAT ARE YOUR DUTIES IN YOUR CURRENT ROLE?**

5 A. In my position as Vice President, Pipeline Safety I provide strategic direction and plan
6 oversight for pipeline safety and compliance, employee safety and physical security
7 activities for our eight state operation. I monitor the effectiveness of enterprise pipeline
8 safety activities and seek opportunities for continuous improvement. I monitor federal
9 and state pipeline safety activities, as well as external incident investigations and work
10 with industry associations and regulators on pipeline safety activities. I also serve as the
11 executive sponsor for Atmos Energy's Utility Operating Council (UOC). The UOC is a
12 governing body of enterprise leaders within Atmos Energy that is responsible for the
13 activities that are core to delivering safe and reliable service and adhering to our customer
14 service objectives. The UOC works to ensure we meet or exceed compliance, operational
15 and jurisdictional standards and oversees our written procedures, plans and policies.

16 **Q. WHAT IS ATMOS ENERGY'S PRIMARY MISSION IN MISSISSIPPI?**

17 A. Atmos Energy's primary mission in Mississippi is to provide safe and reliable service to
18 its customers.

19 **Q. PLEASE DESCRIBE ATMOS ENERGY'S COMMITMENT TO SAFETY.**

20 A. Atmos Energy is deeply committed to the safety of our customers, communities and
21 employees; it is our highest priority. Our commitment to safety and reliability is threaded
22 throughout our corporate culture. We have worked and continue to work with regulators,

1 industry associations and other stakeholders to take pro-active measures to strengthen
2 safety in Mississippi and our industry.

3 For each mile of pipe we maintain and for every community we serve, ensuring
4 the safety and reliability of our gas transmission and distribution infrastructure stands as
5 our Company's core commitment and highest goal.

6 **Q. IS ATMOS ENERGY'S PIPELINE SYSTEM IN MISSISSIPPI SAFE?**

7 A. Yes. We are very proud that, overall, our system has proven to be safe and reliable. While
8 no one can guarantee there will never be an incident, we can and do monitor and inspect
9 our system, identify risks, and implement remedies when appropriate. However, past
10 success is not a guarantee of future safety and Atmos Energy must remain vigilant in
11 monitoring, inspecting, maintaining and improving the system.

12 **Q. CAN ATMOS ENERGY IMPROVE SYSTEM SAFETY AND RELIABILITY IN**
13 **MISSISSIPPI?**

14 A. Yes. By being proactive with our maintenance, monitoring and replacement activities,
15 Atmos Energy can minimize the risks of incidents. We are continuing to focus on
16 maintaining and improving our safety and reliability record. At the same time, our
17 industry is being driven to be even more proactive in identifying and mitigating risks.

18 Federal rules and directives make it clear that each individual pipeline operator is
19 responsible for identifying and evaluating the risks of its system and for addressing those
20 risks in a proactive manner. Thus, for the pipeline operator, this can be broken down into
21 three main points: know your assets; identify the risks and threats to those assets; and be
22 proactive in mitigating those risks and threats. These points must be addressed, not
23 sequentially, but in unison. This can be viewed as a continuous cycle of 'plan, do, verify,

1 and act.' For example, if risks are identified but are not addressed until much later, the
2 purpose of the directive is defeated. It is in accomplishing and sustaining these three
3 points that Atmos Energy is focused on operating in a proactive manner.

4 Atmos Energy's goal is to work with our regulators to implement a safety
5 program that best serves the interests of our customers, the communities in which they
6 live, and the Mississippi public.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. The purpose of my testimony is to describe Atmos Energy's need to significantly elevate
9 investment related to system integrity in order to proactively replace its natural gas
10 pipeline system and facilities and to timely recover the full costs associated with the
11 elevated investment. When it comes to pipeline safety, being in compliance by meeting
12 minimum regulatory standards is simply not sufficient any more.

13
14 **II. HISTORY AND EVOLUTION OF PIPELINE SAFETY REGULATION**

15
16 **Q. IS THE SAFETY OF ATMOS ENERGY'S PIPELINE SYSTEM REGULATED?**

17 A. Yes. Federal pipeline safety regulations were promulgated in 1970 and are contained in
18 49 Code of Federal Regulations (CFR) 190-199. These regulations are comprehensive
19 and prescriptive in nature. Our industry has prescribed minimum intervals of time to
20 perform activities such as: leak surveys, critical valve maintenance, regulator station
21 inspections, cathodic protection readings, etc. The Pipeline Hazardous Materials Safety
22 Administration (PHMSA) under the Department of Transportation (DOT) is the federal
23 authority for oversight of pipeline safety regulations. Since 1970 PHMSA's regulations

1 in part 192 have contributed to producing an admirable safety record. Nevertheless,
2 incidents have continued to occur, some of which involved significant consequences,
3 including death and injury.

4 The pipeline safety regulations, or code (including the Federal code and
5 complementary codes adopted by the states), were never meant to be all inclusive. In
6 other words, the Federal code prescribes the minimum that should be done to construct,
7 operate, and maintain a natural gas system. Inherent in the code, and in the integrity
8 rules, is the requirement that pipeline operators do what is reasonably necessary for the
9 public good. Through collaboration with industry at public workshops, technical
10 conferences and meetings, PHMSA established two new regulatory programs. The two
11 regulatory integrity management programs for transmission and distribution pipelines are
12 described in greater detail below.

13 Notable natural gas incidents in recent years have occurred in Carlsbad, New
14 Mexico (August, 2000), San Bruno, California (September, 2010), and Allentown,
15 Pennsylvania (February, 2011). These high profile incidents led to numerous pipeline
16 safety rules and directives that have affected pipeline modernization efforts and other
17 initiatives that encourage the accelerated repair, rehabilitation, and replacement of
18 pipeline infrastructure.

19 **Q. WHAT ARE THESE REGULATORY PROGRAMS?**

20 A. Broadly speaking they are referred to as a Transmission Integrity Management Program
21 (“TIMP”) and Distribution Integrity Management Program (“DIMP”). Transmission
22 pipelines generally operate at a higher pressure, carry larger volumes of gas and usually
23 transport gas for longer distances (even from town to town) than distribution pipelines.

1 Distribution pipelines normally carry gas from transmission pipelines to the customer. In
2 Mississippi, Atmos Energy operates almost 300 miles of transmission pipelines and over
3 6,300 miles of distribution pipelines.

4 **Q. EXPLAIN TIMP.**

5 A. On December 12, 2003, PHMSA issued a final rule requiring operators of natural gas
6 pipelines to develop integrity management programs (IMPs) for gas transmission
7 pipelines located where a leak or rupture could affect a high consequence area (HCA).
8 This was a change from merely a prescriptive regulatory program to a risk based
9 regulatory program. The integrity management (IM) rule required gas transmission
10 pipeline operators to (1) perform ongoing assessments of pipeline integrity; (2) identify
11 and characterize threats to pipeline segments that could impact an HCA; (3) improve data
12 collection, integration, and analysis; (4) repair and remediate the pipeline as necessary;
13 and (5) implement preventive and mitigative actions. The IM rule, which took effect in
14 January 2004, incorporated certain requirements from the *Pipeline Safety Improvement*
15 *Act of 2002*. Some critical compliance dates for the IM rule included: (1) December
16 2004 – Gas transmission pipeline operators were required to have a written IMP; (2)
17 December 2007 – Natural gas transmission pipeline operators were required to complete
18 baseline integrity assessments of 50% of their HCA mileage; and (3) December 2012 –
19 Operators were required to complete baseline assessments of all of their HCA mileage.
20 PHMSA collects data on IM rule implementation and performance.

21 **Q. WHAT IS A HIGH CONSEQUENCE AREA?**

22 A An HCA is a subset of a transmission pipeline and it defines a populated area near the
23 pipeline where, if an inadvertent release or rupture was to occur, it could have adverse

1 consequences to life and/or property. As an operator, we conduct a review of our
2 transmission pipeline segments by calculating the potential impact radius and evaluate
3 the potential impact on life and property if a rupture or inadvertent release was to occur at
4 any point. Regulations prescribe the minimum thresholds of potential impact that would
5 have to occur to require the designation of a segment of transmission pipeline as an HCA.

6 **Q. EXPLAIN DIMP.**

7 A. In 2006, Congress passed the Pipeline Inspection, Protection, Enforcement and Safety
8 Act (“PIPES Act”). Pursuant to the PIPES Act, in 2009 PHMSA published the Integrity
9 Management Program for Gas Distribution Pipelines Rule (49 CFR Part 192, Subpart P)
10 (“2009 Final Rule”).

11 **Q. AS A GENERAL MATTER, WHAT DOES THE 2009 FINAL RULE DO?**

12 A. The 2009 Final Rule requires each operator, including Atmos Energy, to create and
13 maintain a written distribution pipeline safety and integrity management program or
14 “DIMP.” The integrity management approach is “designed to promote continuous
15 improvement in pipeline safety by requiring operators to identify and invest in risk
16 control measures beyond core regulatory requirements.”¹ Indeed, the “basic principle
17 underlying integrity management” is that “operators should identify and understand the
18 threats to their pipelines and apply their safety resources commensurate with the
19 importance of each threat.”²

20 **Q. PLEASE FURTHER DESCRIBE WHAT A DIMP IS.**

¹ Pipeline Safety: Integrity Management Program for Gas Distribution Pipelines, 74 Fed. Reg. 63906 at 63906 (Dec. 4, 2009) (emphasis supplied) (“2009 Final Rule”).

² 2009 Final Rule, 74 Fed. Reg. at 63906.

1 A. A DIMP specifies how the utility will identify, assess, prioritize, and evaluate risks to the
2 integrity of distribution lines and the manner in which those risks will be mitigated or
3 eliminated. As explained above, Atmos Energy is subject to the DIMP regulations, and
4 required to have a DIMP in place. Additionally, Atmos Energy submits annual reports to
5 the Commission, as further required by the PHMSA and Commission's rules.

6 **Q. WHY DID THE PHMSA PROMULGATE THE 2009 FINAL RULE?**

7 A. The history behind the 2009 Final Rule, and the studies that lead up to it, are well
8 discussed in the Notice of Proposed Rulemaking for the 2009 Final Rule.³ In short
9 though, the 2009 Final Rule was the end result of the gas distribution industry, elected
10 officials, and state and federal regulators' recognition that the "integrity management"
11 approach, already in place for transmission pipelines, should be extended to distribution
12 pipelines. PHMSA recognized the special nature of distribution pipelines, and stated:

13 Incidents on distribution pipelines kill and injure more people than
14 incidents on gas transmission pipelines. As noted above, nearly
15 two million miles of distribution pipelines are in operation in the
16 U.S., compared with approximately 300,000 miles of gas
17 transmission pipelines. In addition, distribution pipelines are
18 almost all located in populated areas. Large portions of gas
19 transmission pipelines traverse rural areas where there are few
20 people. Largely because of these differences, incidents on
21 distribution pipelines in 2006 resulted in five times as many
22 fatalities (16 vs. 3) and six times as many serious injuries (25 vs. 4)
23 as those on gas transmission pipelines, even though the total
24 number of incidents on each type of pipeline was about the same
25 (141 vs. 134). Because of the much larger number of miles of
26 distribution pipeline, the normalized rate of fatalities and injuries
27 (i.e., the number per 100,000 miles) is similar for the two types of
28 lines, with a slightly lower rate for distribution lines. As described
29 further below, the trend in gas distribution incidents involving
30 fatalities and serious injuries (those requiring hospitalization) was

³ Notice of Proposed Rulemaking, 73 Fed. Reg. 36015.

1 downward from 1990–2002. In the years since, however, the
2 number has again started to increase.⁴

3
4 These appear to have been some of the PHMSA’s core concerns in promulgating
5 the 2009 Final Rule.

6 **Q. DOES THE 2009 FINAL RULE PROVIDE ANY ADDITIONAL INFORMATION?**

7 A. Yes, it does. PHMSA’s 2009 Final Rule (74 Fed. Reg. 63906) notes:

8 PHMSA has considered these comments [regarding the necessity
9 of the rule] but still considers it necessary to issue a rule requiring
10 integrity management for distribution pipelines. While accidents
11 may continue to occur, that does not mean that reasonable actions
12 should not be taken to avoid those accidents that could be
13 prevented. PHMSA concludes that the flexibility inherent in the
14 rule, as modified in response to other comments (described below),
15 adequately addresses concerns based on differences among
16 distribution pipelines. PHMSA also concludes that the changes
17 made in response to other comments will reduce implementation
18 costs and that the rule will be cost-beneficial. PHMSA is working
19 with State pipeline safety agencies to increase the level of Federal
20 financial support provided for State programs. PHMSA notes that
21 the vast majority of distribution pipeline operators and State
22 regulators, and the associations that represent them, supported the
23 proposed rule. The existing rules help assure an admirable safety
24 level. Still, significant accidents continue to occur, if infrequently.
25 Experience has shown that incidents are most often caused by a
26 combination of circumstances. These circumstances represent risks
27 for the pipeline involved, but may not affect other pipelines. It is
28 thus not practical to create additional prescriptive requirements to
29 address these pipeline-specific risks. This rule (as the integrity
30 management requirements for other types of pipelines that
31 preceded it) requires that operators evaluate their pipelines to
32 identify the risks important to their circumstances and take
33 appropriate actions to address those risks.

34
35 This...[integrity management (“IM”)] regulation for distribution
36 operators requires an operator to conduct a comprehensive
37 evaluation of its system to better identify threats to the system, to
38 implement additional measures to help prevent accidents from
39 occurring and to mitigate the consequences if an accident does

⁴ Notice of Proposed Rulemaking, 73 Fed. Reg. 36015 at 36017.

1 occur. IM provides for a more systematic and comprehensive
2 approach to preventing failures. Accordingly, PHMSA considers
3 this the most effective means to effect further reductions in the
4 number of pipeline incidents. The regulatory analysis supporting
5 this rule considers the improvement in safety that is expected to
6 result and explicitly recognizes the current low frequency of
7 serious accidents.
8

9 **Q. YOU MENTION THE MONITORING OF EXTERNAL INCIDENT**
10 **INVESTIGATIONS AS ONE OF YOUR CURRENT JOB RESPONSIBILITIES.**
11 **DURING YOUR TENURE WITH ATMOS ENERGY AND ITS PREDECESSOR**
12 **COMPANIES HAVE YOU BEEN INVOLVED IN COMPANY INCIDENT**
13 **INVESTIGATIONS?**

14 **A.** Yes. The incident that serves as a reminder to me is one the happened in July 2006 in a
15 city we serve. The feelings and emotions I felt during that time are still very fresh today.
16 I even keep the front page headlines from the local newspaper in my desk to serve as a
17 reminder of the importance of maintaining a safe pipeline system. The front page has a
18 picture of the debris from a home that exploded as well as an article about the events of
19 that night.

20 Early one evening I received a call from our local manager telling me there had
21 been an explosion and fire and we had employees on the scene investigating with local
22 officials. During the course of the investigation, it became clear that natural gas was
23 likely involved and there was tragically one fatality. We proceeded with our regulatory
24 reporting requirements and made plans for a team, including myself, to arrive first thing
25 the next morning. When we arrived at the scene, I was not prepared to see the complete
26 devastation of the home. Only portions of the exterior walls of the house remained and

1 debris was scattered in parts of trees and in nearby neighbors' yards. I could only think
2 about the person who lost her life and the surviving family.

3 As we conducted our investigation, we determined that the cause of the incident
4 was due to a corrosion leak as a result of a small section of a steel service line that was
5 isolated from cathodic protection. Cathodic protection is a means that is used to help
6 protect steel pipe from the effects of corrosion. The corrosion of the pipe caused a hole
7 to develop, which in turn allowed natural gas to migrate under the foundation and into the
8 structure of the home where an ignition source created an explosion. When we excavated
9 the portion of service line and discovered the hole in the service line, many people were
10 on the scene including family members of the person who died. My heart sank even
11 further when I learned that the natural gas which fueled the explosion came from the
12 system we had the responsibility of operating and maintaining.

13 The investigation also revealed that the service line to the house was constructed
14 in the early 1960's and a section of the service line was joined in a way that isolated a
15 short section of the service line from cathodic protection, thereby allowing corrosion to
16 occur.

17 Everything we were doing in that community as an operator was in full
18 compliance with regulations based on known conditions. We were performing regular
19 cathodic protection readings in that area, conducting prescribed leak surveys and
20 conducting regular odor readings. Yet being in full regulatory compliance based on the
21 conditions we knew about, this incident was not prevented.

22 **Q. HAVE YOUR INCIDENT INVESTIGATION EXPERIENCES INFLUENCED**
23 **HOW YOU APPROACH YOUR PIPELINE SAFETY RESPONSIBILITIES?**

1 A. Yes. I remember meeting with the local mayor shortly after the explosion and one of the
2 questions he asked me was, "John, how can you reassure the residents of my city and
3 even my mother that when they go to sleep tonight, their house will not explode?" My
4 explanation to him felt empty, but I tried to reassure him that incidents such as this were
5 rare, and I affirmed our commitment to finding the cause and taking all actions to prevent
6 a similar event from occurring again.

7 In our industry we always have to ask ourselves if we are doing enough, and have
8 we considered all the possibilities. We are entrusted to operate a safe and reliable system
9 and we always have to challenge ourselves to think about conditions that may exist but
10 we do not know about. We have to be relentless in our efforts and take all reasonable
11 means in our daily activities while remaining vigilant in the pursuit of operating a safe
12 and reliable system. Safety is much more than meeting the minimum requirements of
13 compliance.

14 **Q. HAVE FEDERAL REGULATORS PROVIDED ANY ADDITIONAL GUIDANCE**
15 **ON PIPELINE INTEGRITY, SUBSEQUENT TO THE PASSAGE OF THE DIMP**
16 **REGULATIONS?**

17 A. Yes, after the passage of the 2009 Final Rule, but prior to the August 2, 2011 deadline for
18 gas distribution operators to develop their DIMPs, the Department of Transportation took
19 further action. In response to fatal explosions caused by natural gas pipeline failures in
20 Allentown, Pennsylvania and San Bruno, California, the Secretary of Transportation Ray
21 LaHood issued a Call to Action. That Call to Action sought to engage state partners,
22 technical experts, and pipeline operators in identifying pipeline risks and repairing,
23 rehabilitating, and replacing the highest risk infrastructure. Additionally, the Call to

1 Action called on pipeline operators and owners to review their pipelines and quickly
2 repair and replace sections in poor condition.

3 I have attached a copy of that Call to Action to my Direct Testimony as Exhibit-
4 JM-1.

5 This was a significant action by DOT. It also served as an acknowledgment that
6 rulemakings alone were not sufficient to mitigate risks and it would require collaborative
7 actions by regulators and operators to develop rate mechanisms to accelerate the repair,
8 rehabilitation and replacement of the nation's aging pipelines. While current
9 infrastructure replacement programs and regulations are making enhanced safety
10 improvements, in the opinion of the DOT they just quite simply are not making the
11 necessary improvements at a fast enough rate.

12 **Q. PLEASE CONTINUE.**

13 A. In the Call to Action, Secretary LaHood provided additional information on the 2009
14 Final Rule, which as I discussed above created the DIMP regulations. Secretary LaHood
15 stated that the DIMP regulations:

16 require[] operators of local gas distribution pipelines to evaluate
17 the risks on their pipeline systems to determine their fitness for
18 service and take action to address those risks. For older gas
19 distribution systems, the appropriate mitigation measures could
20 involve major pipe rehabilitation, repair, and replacement
21 programs. At a minimum, these measures are needed to requalify
22 those systems as being fit for service. While these measures may
23 be costly, they are necessary to address the threat to human life,
24 property, and the environment.
25

26 In addition to the many pipelines constructed with obsolete
27 materials, there are also early vintage steel pipelines in high
28 consequence areas that may pose risks because of inferior
29 materials, poor construction practices, lack of maintenance or

1 inadequate risk assessments performed by operators. The lack of
2 basic information or incomplete records about these systems is also
3 a contributing factor. The U.S. DOT is seeking to make sure these
4 risks are identified, the pipelines are assessed accurately, and
5 preventative steps are taken where they are needed.
6

7 **Q. DID SECRETARY LAHOOD'S CALL TO ACTION SPECIFICALLY ADDRESS**
8 **THE STATES?**

9 A. Yes, it did. Secretary LaHood sent a March 28, 2011 letter to State Governors, which
10 stated among other things:

11 We appreciate your State's partnership on pipeline safety
12 inspection and enforcement. In 2009, the Pipeline and Hazardous
13 Materials Safety Administration provided the majority of the
14 funding for your pipeline safety program, trained your State's
15 inspectors alongside our own, and worked with them to enforce
16 your State pipeline safety laws.
17

18 Now, we want to partner with you again to ensure that all pipeline
19 companies in your State, both public and private, are correctly
20 analyzing the risk to their pipeline systems and using the
21 appropriate assessment technologies. Your pipeline safety staff
22 can help make this happen. We ask you to urge your staff to
23 encourage companies and the State utility commission to
24 accelerate pipeline repair, rehabilitation, and replacement programs
25 for systems whose integrity cannot be positively confirmed. This
26 is one of the best ways to help protect your citizens from accidents
27 like those in Allentown, Marshall, and San Bruno.
28

29 I have included a copy of that as Exhibit- JM-2.

30 **Q. WHAT ROLE DOES THE NATIONAL TRANSPORTATION SAFETY BOARD**
31 **("NTSB") HAVE IN REGULATING YOUR GAS FACILITIES IN MISSISSIPPI?**

32 A. The NTSB is an independent agency charged with determining probable cause of
33 transportation accidents and develops safety recommendations based on findings. The
34 NTSB is not a rulemaking body. However, PHMSA is required by law to respond to

1 safety recommendations made by the National Transportation Safety Board (NTSB). In
2 the last five years, the NTSB has investigated three major gas transmission pipeline
3 accidents where deficiencies with the operators' IM programs and PHMSA oversight
4 were identified as a concern. These three accidents resulted in 8 fatalities, over 50
5 injuries, and 41 homes destroyed with many more damaged. For each of these three
6 incidents, the NTSB issued recommendations for enhancing the safe operations of
7 transmission pipelines. As a result, enhancing pipeline safety appeared on the NTSB's
8 2014 'Most Wanted List'. I have included the Wanted List in my testimony as Exhibit
9 JM-3.

10 Additionally, the results of the NTSB transmission pipeline integrity management
11 safety study were released on January 27, 2015. This study contains 28
12 recommendations for operating a safe transmission pipeline system, 22 of which were
13 recommendations to PHMSA. These changes may lead to new rulemaking and changes
14 to currently approved assessment methods for transmission pipelines. I have included a
15 summary of the study in my testimony as Exhibit JM-4.

16 **Q. WHAT TYPE OF ADDITIONAL WORK WILL BE REQUIRED AS A RESULT**
17 **OF THESE RECOMMENDATIONS?**

18 A. The NTSB recommendations and subsequent actions by PHMSA will require operators
19 to conduct additional actions over and above current regulatory requirements. This could
20 include conducting a hydro pressure test of transmission pipelines where historical
21 pressure tests and material documents are missing. Operational conditions of
22 transmission pipelines may prohibit us from being able to conduct a hydro test and
23 instead we may be required to replace portions of the pipeline.

1 Additionally, transmission integrity activities may significantly change to include
2 conducting additional assessments outside of HCAs and only allowing the use of in line
3 inspection technology (smart pigs) rather than conducting direct assessments.

4 **Q. WHAT IS THE COMPANY'S CURRENT METHOD FOR CONDUCTING**
5 **INTEGRITY MANAGEMENT ASSESSMENTS ON TRANSMISSION**
6 **PIPELINES?**

7 A. Our current method of conducting integrity management assessments on transmission
8 pipelines in Mississippi is by a method called direct assessment. NTSB and PHMSA are
9 calling for using an assessment method called in-line inspection (ILI) or 'smart pigging'
10 (PIG - Pipeline Inspection Gauge) rather than direct assessment. Many of our pipelines
11 were constructed at a time when this technology did not exist and some operational
12 conditions of the pipeline would prohibit the use of this technology. In those cases,
13 replacement of the pipeline or those pipeline segments would be required.

14 **Q. DO THE ATMOS ENERGY TRANSMISSION LINES IN MISSISSIPPI POSE A**
15 **UNIQUE FACTUAL SITUATION THAT NECESSITATES ACCELERATED**
16 **INFRASTRUCTURE INVESTMENT IN MISSISSIPPI?**

17 A. Over 65% of transmission pipelines we operate in Mississippi were installed prior to the
18 promulgation of the 1970 minimum pipeline safety regulations. These pipelines were
19 constructed with state of the art materials and practices that were in place at that time;
20 however, often this included pipe that did not contain modern day corrosion control
21 coatings and in some instances were joined by mechanical couplings or acetylene
22 welding. While these materials and construction practices do not pose an imminent

1 threat, there is a need to replace these pipelines with modern materials at a faster pace
2 than we are currently able to achieve at current spending levels.

3 **Q. ARE THERE OTHER UNIQUE FACTORS ABOUT TRANSMISSION**
4 **FACILITIES THAT HAVE RESULTED IN REGULATORY PROGRAMS**
5 **CALLING FOR ACCELERATED INFRASTRUCTURE INVESTMENT?**

6 A. Prior to the 1970 minimum pipeline safety regulations, there were no record retention
7 regulatory requirements in place for all pipeline materials and components. Provisions
8 were established in the federal regulations that allowed pipelines to safely operate with
9 known historical record gaps. In response to NTSB recommendations following the
10 tragic rupture of a transmission pipeline in San Bruno California that killed eight people
11 and devastated a neighborhood, PHMSA issued a number of Advisory Bulletins.
12 Advisory Bulletins are not regulations but provide the industry with important safety
13 notices. The January 2011 PHMSA Advisory Bulletin ADB 11-01, instructed operators
14 to conduct a diligent search and review of historical documents and records used to
15 calculate the Maximum Allowable Operating Pressure (MAOP) of pipelines. The record
16 search was to include but was not to be limited to purchase orders, material and
17 component specifications, construction, inspections, manufacturer, as-built drawings,
18 alignment sheets, testing, maintenance and other related records. Advisory Bulletin
19 ADB-11-01 states that: "An operator must diligently search, review and scrutinize
20 documents and records, including but not limited to, all as-built drawings, alignment
21 sheets, and specifications, and all design, construction, inspection, testing, maintenance,
22 manufacturer, and other related records. These records shall be traceable, verifiable, and
23 complete. If such a document and records search, review, and verification cannot be

1 satisfactorily completed, the operator cannot rely on this method for calculating
2 MAOP.”⁵

3 Advisory Bulletin ADB-11-01 further states that: “These records should be
4 traceable, verifiable, and complete to meet PHMSA regulation §§ 192.619.... If such a
5 document and records search, review, and verification cannot be satisfactorily completed,
6 the operator may need to conduct other activities such as in-situ examination, pressure
7 testing, and nondestructive testing or otherwise verify the characteristics of the pipeline
8 when identifying and assessing threats or risks.”⁶ While some records exist for these
9 pipelines and its components, there are many miles which will not meet the current
10 federal record standards and the definition of being traceable, verifiable and complete. In
11 effect, PHMSA is proposing to retroactively apply current record retention requirements
12 to sections of transmission pipelines in densely populated areas or HCA’s. In May 2012,
13 PHMSA issued Advisory Bulletin ADB 12-06, which instructed operators to submit the
14 findings of our traceable, verifiable and complete records review as a part of our July
15 2013 DOT annual report.

16 **Q. HAVE THERE BEEN ANY SIGNIFICANT RECENT DEVELOPMENTS**
17 **REGARDING PHMSA’S RULEMAKING PROCEEDINGS, REGULATIONS**
18 **AND ADVISORY BULLETINS REGARDING MAOP VERIFICATION,**
19 **ASSESSMENTS AND SYSTEM KNOWLEDGE?**

20 A. Yes. In addition, to the *Pipeline Safety, Regulatory Certainty, Job Creation Act of 2011*
21 (The Pipeline Safety Act), Congress imposed an obligation on PHMSA to develop
22 rulemaking for conducting tests to previously untested sections of transmission pipelines.

⁵ 76 Fed. Reg. 1504, 1506 (January 10, 2011)

⁶ 76 Fed. Reg. 1504, 1507 (January 10, 2011)

1 PHMSA opened a regulatory docket (PHMSA-2013-0119) related to this matter which is
2 referred to as the Integrity Verification Process (IVP). On May 28, 2013, PHMSA issued
3 a notice announcing a public workshop to be held on the concept of IVP.⁷ The IVP is a
4 multiple step process that includes sections on the “grandfather clause” and MAOP
5 records, testing and failure history, location risk (including a new term, Moderate
6 Consequence Areas or “MCAs,” that apply to pipelines where the potential impact radius
7 includes one or more homes/structures intended for human occupancy), low stress review
8 for pipe below a certain percentage of specified minimum yield strength (SMYS),
9 material documentation review, assessment and analysis review, implementation and
10 deadlines. PHMSA has released two versions of its “Draft IVP Chart”: the first in July
11 2013 and is attached as Exhibit JM-5. The second draft was released in September 2013
12 and is attached as Exhibit JM-6. PHMSA also held the public workshop on August 7,
13 2013.

14 PHMSA has stated that this regulatory initiative is intended to address “specific
15 Congressional mandates and NTSB recommendations related to recent accidents that
16 have occurred on pipelines with previously undetected integrity issues associated with
17 original material manufacturing, construction, installation, testing, or records.”⁸ Key
18 drivers are Section 23 of the 2011 Pipeline Safety Act and NTSB’s Recommendations P-
19 11-14, P-11-15, and P-11-17. These mandates and recommendations call for the removal
20 of the existing “grandfather clause”, new pressure testing requirements, integrity
21 verification plans for pipeline segments that do not have complete records establishing

⁷ 78 Fed. Reg. 32010 (May 28, 2013)

⁸ PHMSA’s Pipeline Integrity Verification Process Workshop, “Event Summary Report” (dated August 7, 2013), p.1. A copy of this document is available at <http://primis.phmsa.dot.gov/meetings/FilGet.mtg?fil=552>.

1 their maximum operating pressures, and the conversion of all gas transmission pipelines
2 to accommodate inspection by ILI technology. According to PHMSA, “the definition for
3 MCAs is to be established in future regulations.”⁹

4 **Q. WHY IS PHMSA’S IVP SUCH A SIGNIFICANT RECENT DEVELOPMENT?**

5 A. PHMSA’s IVP is such a significant recent development for several reasons. From a
6 procedural viewpoint, PHMSA’s IVP represents a sea change departure from how
7 PHMSA previously has promulgated its regulations. In essence, the IVP represents what
8 the industry refers to as a “mega rule” that seeks to address, jointly, MAOP verification
9 requirements pursuant to Section 5 of The Pipeline Safety Act and the expansion of
10 integrity management program requirements, associated with assessments and system
11 knowledge, called for by Section 23 of The Pipeline Safety Act. It is by far the largest
12 single rulemaking that the pipeline industry has ever considered. From a substantive
13 standpoint, the industry expects that the IVP will change the way pipeline operators run
14 their business on a daily basis. In comments filed with PHMSA on October 9, 2013, the
15 American Gas Association (“AGA”) stated:

16 “Establishing requirements to test previously untested transmission pipelines
17 outside of HCAs or below 30% SMYS would immediately bring thousands of miles of
18 lower risk and lower consequence pipelines into this enhanced regulatory process,
19 dramatically increasing the cost to customers, impact to operators and timeline to

⁹ *Id.* At p.7. PHMSA’s “Draft IVP Chart” dated September 10, 2013, which is being provided as Exhibit JM-6, states that an MCA “means non-HCA pipe in Class 4,3, or 2 locations, & Class 1 locations with 1 house/occupied site in PIR [Potential Impact Radius].”

1 implement.... Operators have explained that it will take 10 to 15 years to complete
2 MAOP verification testing in HCAs.”¹⁰

3 “The revised PHMSA draft IVP represents 75 percent of the total transmission
4 mileage operated by LDCs [local distribution companies], which is a 600 percent
5 increase over the mileage covered by the current HCA definition being applied by
6 industry. AGA members have approximately 55,000 miles of transmission pipelines, of
7 which approximately 45,000 miles of pipeline will be impacted by the revised draft
8 PHMSA IVP process and only 10,000 miles would continue to operate under existing 49
9 CFR 192 regulations.”¹¹

10 PHMSA’s IVP validates that federal directives and public concern have led to a
11 fundamental change of direction in the way that natural gas industry is regulated. It is not
12 clear if or when that fundamental change of direction will settle into a more predictable
13 routine, based on the scope of present legislative mandates and regulatory initiatives, and
14 other signals from regulators. It may take several years before the natural gas industry
15 can extrapolate if and when this fundamental change of direction may settle into a more
16 predictable routine. A PHMSA notice of proposed rulemaking is expected later this year.

17 **III. ATMOS ENERGY’S IMPLEMENTATION**

18
19 **Q. HAVE THE FEDERAL AND STATE PIPELINE SAFETY CHANGES**
20 **DISCUSSED PREVIOUSLY IMPACTED THE WAY THAT NATURAL GAS**

¹⁰ Docket No. PHMSA-2013-0119, Pipeline Safety: Public Workshop on the Integrity Verification Process, “The Third Set of Comments of the American Gas Association on the Revised PHMSA Draft Integrity Verification Process” (filed October 9, 2013), p.5. AGA’s Third Set of Comments is available at <http://www.regulations.gov/#!documentDetail;D=PHMSA-2013-0119-0083>, and posted on AGA’s website at <http://www.aga.org/ourissues/safety/pipelinesafety/AGAccomment/2013/Pages/default.aspx>.

¹¹ *Id* at p.8.

1 **COMPANIES MONITOR AND MANAGE THE SAFETY OF THEIR**
2 **DISTRIBUTION SYSTEMS?**

3 A. Absolutely. The federal changes and the Call to Action have resulted in an increasingly
4 proactive approach to pipeline safety. Though none of these regulatory directs the
5 replacement of pipe, collectively they will result in accelerated programs nationwide to
6 replace aging gas infrastructure.

7 **Q. HOW HAVE THE CHANGES IMPACTED ATMOS ENERGY?**

8 A. Atmos Energy is also implementing a more proactive approach to pipeline safety. Atmos
9 Energy's intention is not only to repair identified leaks but also to proactively identify
10 pipes where the risks of leaks developing are unacceptably high and to then design and
11 implement a plan to mitigate those risks. As a result, Atmos Energy is investing capital
12 into our system at a much higher annual rate than we have historically done to address
13 safety and integrity issues identified through the risk assessment process.

14 As stated previously, a reactive approach is no longer sufficient. Integrity
15 management requires operators to identify and invest in risk control measures beyond
16 minimum requirements. Atmos Energy's accelerated pipeline replacement work is an
17 example of such a measure. Through these activities, Atmos Energy is implementing
18 prudent measures to help prevent accidents from occurring rather than simply reacting
19 once an accident has occurred.

20 **Q. DO PIPELINE SAFETY REGULATIONS SPECIFY THE FULL EXTENT OF**
21 **ACTIONS A PRUDENT OPERATOR IS EXPECTED TO UTILIZE WHEN**
22 **OPERATING THEIR SYSTEM?**

1 A. No. The pipeline safety regulations, or code (including the Federal code and
2 complementary codes adopted by the states), were never meant to be all inclusive. In
3 other words, the Federal code prescribes the minimum that should be done to construct,
4 operate, and maintain a natural gas system. As described previously, inherent in the code
5 and in the integrity rules is the requirement that pipeline operators do what is reasonably
6 necessary for the public good.

7 **Q. HOW HAVE INDUSTRY GROUPS RESPONDED WITH RESPECT TO GAS**
8 **OPERATORS GOING BEYOND MINIMUM CODE?**

9 A. Atmos Energy is an active member of the AGA and provided input on the development
10 of the AGA's "Commitment to Enhancing Safety" which was released in May 2012. The
11 document describes in part how AGA and member companies are going beyond
12 minimum compliance with current regulations to ensure the safety of the nation's natural
13 gas system. The report was prepared at the request of federal and state officials having
14 oversight of pipeline safety. Atmos Energy fully supports the Commitment to Enhancing
15 Safety and is implementing actions that report lays out as a part of our ongoing
16 commitment to providing safe and reliable service to our Mississippi customers.

17 I have attached a copy of the Commitment to Enhancing Safety to my Direct
18 Testimony as Exhibit JM-7.

19 **Q. HAS THE NATIONAL ASSOCIATION OF REGULATORY COMMISSIONERS**
20 **(NARUC) RECOGNIZED THIS NEED FOR ACCELERATED INVESTMENT IN**
21 **GAS INFRASTRUCTURE?**

22 A. Yes. PHMSA promoted the public's interest in infrastructure replacement programs in a
23 letter to the President of NARUC stating: "Pipeline infrastructure replacement programs

1 play a vital role in protecting the public by ensuring the prompt rehabilitation, repair, or
2 replacement of high risk gas distribution infrastructure.”

3 In response, NARUC issued a resolution on July 24, 2013 encouraging state
4 commissions to “consider adopting alternative rate recovery mechanisms as necessary to
5 accelerate the modernization, replacement and expansion of the nation’s natural gas
6 pipeline systems.” See NARUC Resolution as Exhibit JM-8 attached hereto.

7 **Q. HAS ATMOS ENERGY HISTORICALLY REPLACED PIPE?**

8 A. The assessment, rehabilitation and replacement of aging pipelines has been a normal part
9 of the utility business; however, it has become much more of a significant focus as we
10 implement regulatory framework that change the way we respond and mitigate risk. At
11 our present pace of spending in Mississippi, it would take decades to replace our
12 infrastructure. That pace is simply not fast enough. Responding to the federal
13 regulations and directives makes the systematic and proactive assessment and
14 replacement of pipelines essential. In turn, this will require the commitment of capital at
15 significantly higher levels than previously included in a rate structure. What is
16 extraordinary is the pace by which we are being called on to respond to the federal
17 regulations and directives, not the fact that we are inspecting, repairing and replacing
18 pipe.

19 **Q. WHAT INFRASTRUCTURE DOES ATMOS ENERGY PROPOSE TO REPLACE**
20 **IN ITS PROJECTED 10 YEAR CAPITAL PLAN?**

21 A. Mr. Doggette discusses the detail of the program in his testimony.

1 **Q. WILL THE COMPANY'S RESPONSE TO CHANGING/EVOLVING SAFETY**
2 **REGULATIONS BE SUFFICIENT TO CONTINUE TO OPERATE A SAFE**
3 **SYSTEM IN MISSISSIPPI?**

4 A. While we cannot guarantee no incidents, the elevated and accelerated investment in
5 system integrity spending will lower the risk and therefore result in a safer system going
6 forward than we would be able to achieve if we continued at our existing investment
7 level.

8 Atmos Energy recommends increasing the amount spent annually on system
9 infrastructure, thereby addressing the significant need to accelerate efforts to replace
10 leak-prone mains and services constructed using materials that are susceptible to
11 corrosion and leaks. In response to heightened public concern about the safety,
12 reliability, and integrity of the nation's pipeline infrastructure, the recently-enacted 2011
13 Pipeline Safety Act requires pipeline operators, regulators, and all industry stakeholders
14 to develop and carry out plans to address the replacement of deteriorating and leak-prone
15 pipeline infrastructure. Atmos Energy believes that accelerating the replacement of these
16 infrastructure projects by increasing the amount of capital expenditures on these
17 initiatives is in the best public safety interest of our customers.

18 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

19 A. Yes, it does.

STATE OF: TEXAS

COUNTY OF: COLLIN

AFFIDAVIT VERIFYING AND ADOPTING TESTIMONY

John McDiell, being first duly sworn, on oath, says that he is Vice President
as identified in the foregoing testimony; that he caused to be prepared such testimony; that the
answers appearing therein are true to the best of his knowledge and belief; and that if asked the
questions appearing therein, his answers would, under oath, be the same.

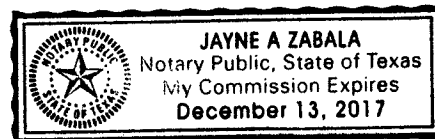
[Signature]

SWORN TO AND SUBSCRIBED BEFORE ME, this the 27th day of March 2015.

[Signature]
NOTARY PUBLIC

MY COMMISSION EXPIRES:

12.13.2017



U.S. Department of Transportation Call to Action To Improve the Safety of the Nation's Energy Pipeline System

Executive Summary

Today, more than 2.5 million miles of pipelines are responsible for delivering oil and gas to communities and businesses across the United States. That's enough pipeline to circle the earth approximately 100 times.

Currently, these liquid and gas pipelines are operated by approximately 3,000 companies and fall under the safety regulations of the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA has engineers and inspectors around the country who oversee the safety of these lines and ensure that companies comply with critical safety rules that protect people and the environment from potential dangers. While PHMSA directly regulates most of the hazardous liquid pipelines in the nation, states take over when it comes to intrastate natural gas pipelines. Every state, except Hawaii and Alaska, is responsible for the inspection and enforcement of state pipeline safety laws for the natural gas pipeline systems within their respective state. Some states – about 20 percent – also regulate the hazardous liquid lines within state borders.

In the wake of several recent serious pipeline incidents, U.S. DOT/PHMSA is taking a hard look at the safety of the nation's pipeline system. Over the last three years, annual fatalities have risen from nine in 2008, to 13 in 2009 to 22 in 2010. Like other aspects of America's transportation infrastructure, the pipeline system is aging and needs a comprehensive evaluation of its fitness for service. Investments that are made now will ensure the safety of the American people and the integrity of the pipeline infrastructure for future generations.

For these reasons, Secretary LaHood is issuing a call to action for all pipeline stakeholders, including the pipeline industry, the utility regulators, and our state and federal partners. Secretary LaHood brought together PHMSA Administrator Quartermann and the senior DOT leadership to design a strategy to achieve that goal. The action plan below is the result of those deliberations.

Background

Much of the nation's pipeline infrastructure was installed many decades ago, and some century-old infrastructure continues to transport energy supplies to residential and commercial customers, particularly in the urban areas across our nation. Older pipeline facilities that are constructed of obsolete materials (e.g., cast iron, copper, bare steel, and certain kinds of welded pipe) may have degraded over time, and some have been exposed to additional threats, such as excavation damage.

On December 4, 2009, PHMSA issued the Distribution Integrity Management Final Rule, which extends the pipeline integrity management principles that were established for

hazardous liquid and natural gas transmission pipelines, to the local natural gas distribution pipeline systems. This regulation, which becomes effective in August of 2011, requires operators of local gas distribution pipelines to evaluate the risks on their pipeline systems to determine their fitness for service and take action to address those risks. For older gas distribution systems, the appropriate mitigation measures could involve major pipe rehabilitation, repair, and replacement programs. At a minimum, these measures are needed to requalify those systems as being fit for service. While these measures may be costly, they are necessary to address the threat to human life, property, and the environment.

In addition to the many pipelines constructed with obsolete materials, there are also early vintage steel pipelines in high consequence areas that may pose risks because of inferior materials, poor construction practices, lack of maintenance or inadequate risk assessments performed by operators. The lack of basic information or incomplete records about these systems is also a contributing factor. The U.S. DOT is seeking to make sure these risks are identified, the pipelines are assessed accurately, and preventative steps are taken where they are needed.

Action Plan

The U.S. DOT and PHMSA have developed this action plan to accelerate rehabilitation, repair, and replacement programs for high-risk pipeline infrastructure and to requalify that infrastructure as fit for service. The Department will engage pipeline safety stakeholders in the process to systematically address parts of the pipeline infrastructure that need attention, and ensure that Americans remain confident in the safety of their families, their homes, and their communities. The strategy involves:

- A Call to Action – Secretary LaHood is issuing a “Call to Action” to engage state partners, technical experts, and pipeline operators in identifying pipeline risks and repairing, rehabilitating, and replacing the highest risk infrastructure. Secretary LaHood is also asking Congress to expand PHMSA’s ability to oversee pipeline safety.
 - Secretary LaHood and PHMSA Administrator Quartermann have already met with the Federal Energy Regulatory Commission (FERC), the National Association of Regulatory and Utility Commissioners (NARUC), state public utility commissions, and industry leaders to ask all parties to step up efforts to identify high-risk pipelines and ensure that they are repaired or replaced.
 - Secretary LaHood is asking Congress to increase the maximum civil penalties for pipeline violations from \$100,000 per day to \$250,000 per day, and from \$1 million for a series of violations to \$2.5 million for a series of violations. He is also asking Congress to help close regulatory loopholes, strengthen risk management requirements, add more inspectors, and improve data reporting to help identify potential pipeline safety risks early.

- The U.S. DOT and PHMSA are convening a Pipeline Safety Forum in April to engage in a working session around the actions that the Department, states, and industry can take to drive more aggressive actions to raise the bar on pipeline safety. The U.S. DOT and PHMSA will compile a report based on ideas, opportunities and challenges presented at the Forum and take action on solutions.
- Aggressive Efforts – The U.S. DOT and PHMSA are calling on pipeline operators and owners to review their pipelines and quickly repair and replace sections in poor condition.
 - PHMSA has asked technical associations and pipeline safety groups to provide best practices and technologies for repair, rehabilitation and replacement programs, and has asked industry groups for commitments to accelerate needed repairs.
 - PHMSA will review all data received from pipeline operators to identify areas with critical needs.
 - PHMSA's Distribution Integrity Management rule will become effective in August, requiring all operators of gas distribution pipelines to evaluate the risks on their pipeline systems and take action to address those risks.
- Transparency - U.S. DOT and PHMSA will execute this plan in a transparent manner with opportunity for public engagement, including a dedicated website for this initiative, and regular reporting to the public.
 - PHMSA will launch a public website with ongoing pipeline rehabilitation, replacement and repair initiatives.
 - All materials from the Pipeline Safety Forum will be publicly posted to the web, followed by a Draft Report for Notice and Comment. Once public input has been collected, PHMSA will publish a final Pipeline Safety Report to the Nation.

###



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

March 28, 2011

Recent pipeline failures around the country have elevated concerns about pipeline safety. Neighborhoods in Allentown, Pennsylvania, and San Bruno, California, were rocked by fatal explosions caused by natural gas pipeline failures. These tragic events took lives, shook communities, and raised serious questions about the safety of some of our aging pipeline infrastructure.

These and other recent pipeline incidents, such as the one last summer in Marshall, Michigan, causing a large oil spill into sensitive waters, underscore the need to develop a comprehensive solution that will prevent accidents like these from recurring. The U.S. Department of Transportation (DOT) will host a Pipeline Safety Forum on these issues on April 18 in Washington, DC, and I invite you or your representative(s) to participate. This forum will bring together key stakeholders, including pipeline companies, State and Federal agencies, technical experts, public safety advocates, and the public, to tackle these issues head-on and discuss workable solutions. You or your representative(s) may RSVP for the Pipeline Safety Forum at pipelineforum@dot.gov.

We appreciate your State's partnership on pipeline safety inspection and enforcement. In 2009, the Pipeline and Hazardous Materials Safety Administration provided the majority of the funding for your pipeline safety program, trained your State's inspectors alongside our own, and worked with them to enforce your State pipeline safety laws.

Now, we want to partner with you again to ensure that all pipeline companies in your State, both public and private, are correctly analyzing the risks to their pipeline systems and using the appropriate assessment technologies. Your pipeline safety staff can help make this happen. We ask you to urge your staff to encourage companies and the State utility commission to accelerate pipeline repair, rehabilitation, and replacement programs for systems whose integrity cannot be positively confirmed. This is one of the best ways to help protect your citizens from accidents like those in Allentown, Marshall, and San Bruno.

In addition, there are several other actions you could take to prevent other types of pipeline accidents in your State. These include the following:

Issue a Proclamation on Safe Digging Month. You can help raise awareness about the importance of calling before you dig by issuing a State proclamation and holding a public awareness event. As you may know, April is National Safe Digging Month, and DOT will be highlighting our *811 Safe Digging Initiative*. Since establishing the 811 number in 2007 and

raising awareness among excavators and do-it-yourselfers alike of the importance of calling 811 before digging, the number of gas distribution leaks caused by excavation damage has dropped by more than 45 percent. Even with this progress, excavation damage remains the number one cause of pipeline failures causing serious injuries and deaths. Your State proclamation will help raise awareness about this critical safety issue.

Enforce One-Call Laws. One of the critical components of a strong damage prevention program is fair and effective enforcement of the one-call laws. Governors play a vital role in supporting improved pipeline safety and a sound infrastructure, and we encourage your support for improvements in one-call laws and programs. Effective damage prevention laws are characterized by few or no exemptions from participation in the safe digging process, balanced enforcement that holds all parties accountable, and clearly defined responsibilities.

Encourage Better Land Use and Development. Another important damage prevention initiative is aimed at helping your cities and towns make better decisions about land use and development around existing pipelines. We have published a report on suggested practices and model legislation to help town planners and local officials coordinate with pipeline companies to ensure the safety of people and the environment. This report, called the Pipeline Informed Planning Alliance Report, can be found on our Web site at <http://www.phmsa.dot.gov>. Please help us by referring land use planners in your State to this report so they can make informed decisions about the best use of land near pipelines transporting natural gas or hazardous liquids.

I look forward to working with you on this critical safety issue. If the Office of the Secretary or DOT's Pipeline and Hazardous Material Safety Administration can be of any assistance to you, please contact Administrator Cynthia L. Quarterman at 202-366-4831.

Sincerely yours,

Ray LaHood



NTSB MOST WANTED LIST

CRITICAL CHANGES NEEDED TO REDUCE TRANSPORTATION ACCIDENTS AND SAVE LIVES

2014

ENHANCE PIPELINE SAFETY

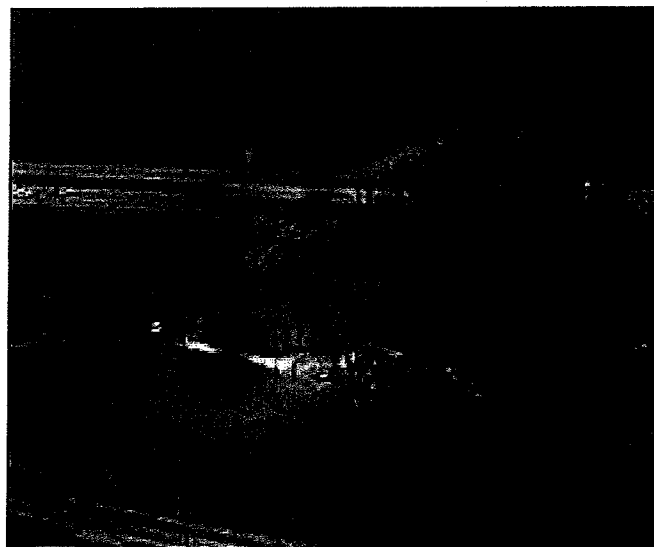
What is the Problem?

On December 11, 2012, a buried 20-inch diameter natural gas transmission pipeline ruptured near Interstate 77 in Sissonville, West Virginia. The rupture caused a 20-foot section of pipe to separate, landing more than 40 feet from its original location. Although there were no fatalities or injuries, three homes were destroyed by the ignition of the gas and ensuing fire. This most recent in a series of catastrophic pipeline ruptures and explosions investigated by the NTSB has brought increased attention to the 2.5 million miles of pipeline that traverse the nation. Pipelines remain one of the safest and most efficient means of transporting vital commodities used to power homes and supply businesses, but the consequences can be tragic when safe operational practices are not employed and standards are not implemented.

High pressure natural gas pipeline failures frequently result in explosive releases that, if ignited, become intense "jetfires" that can cause extensive damage. In addition to large-scale environmental damage, hazardous liquid pipeline accidents also pose a risk of ignition, which occurred in June 1999, when a gasoline pipeline ruptured and ignited in Bellingham, Washington, killing three. As the nation's demand for oil and gas grows and the pipeline infrastructure ages, we cannot afford to overlook the transportation mode that lies buried beneath us.

What can be done?

Safe operation of natural gas and hazardous liquid transmission pipelines is a shared responsibility among the operator, government oversight agencies, and local communities. It begins with companies strengthening their operating practices to address safety concerns in design, installation, operation, maintenance, and inspection. Improving in-line inspection technologies and expanding the use of pipeline inspection tools improve the chances of locating defects early and reduces the probability of a catastrophic failure. Companies should also incorporate hydrostatic pressure testing, which is used to demonstrate that existing flaws in the steel pipe will not grow and cause a leak or failure under normal pipeline operating limits.



Aerial photo of the damage from the December 11, 2012, pipeline rupture that occurred west of I-77 near Sissonville, West Virginia.

Oversight agencies also play a role, especially when operators are reluctant to initiate safety improvements. Regulators can mandate specific safety program improvements to ensure pipeline operators adopt and improve practices that reduce the risk and consequences of pipeline failures. For example, given the gas industry's reluctance to expand the use of automatic shutoff valves and remote controlled valves, the Pipeline and Hazardous Materials Safety Administration (PHMSA) should require this technology, which can isolate a rupture within minutes and reduce the volume of gas released and the duration of a fire.

Additionally, safety can be enhanced through improved communications between pipeline operators and the communities through which their pipelines travel. Improving communication with emergency response personnel is particularly important. Pipeline operators should provide accurate route maps to emergency responders and strengthen their internal procedures for notifying the local emergency response personnel when leaks or ruptures are suspected. Early recognition that a pipeline release has occurred coupled with accurate location information and notification to the local emergency responders can help reduce the consequences from an accident.

for more information, visit: www.nts.gov/mostwanted



National
Transportation
Safety Board

NTSB MOST WANTED LIST 2014

ENHANCE PIPELINE SAFETY

What is the NTSB doing?

The NTSB has investigated several pipeline accidents in which lives were lost and communities severely affected. In 2007, in Carmichael, Mississippi, a propane transmission pipeline ruptured, and the ensuing cloud of released gas ignited and created a fireball; two people were killed, seven were injured and four homes were destroyed. In 2010, in Marshall, Michigan, a crude oil transmission pipeline ruptured and released oil for over 17 hours before being discovered. As a result, nearly 850,000 gallons of crude oil spilled into the surrounding area and flowed into local waterways, resulting in the most expensive environmental response and clean-up for an onshore oil spill in US history. Just over a month after the Marshall accident, a natural gas transmission pipeline in San Bruno, California, ruptured and ignited in a residential neighborhood; eight people were killed, and 34 homes destroyed.

Through these investigations, the NTSB has issued a body of safety recommendations to address recurring problems:

- (1) operational practices;
- (2) oversight deficiencies; and
- (3) effective communication with emergency responders and local communities.

In addition to accident investigations, in 2005, the NTSB completed a study of Supervisory Control and Data Acquisition (SCADA) systems that are used by pipeline operators to manage and operate their pipelines. These systems collect critical near real-time information about the entire pipeline operation and transmit this information back to computer consoles within a control center. SCADA systems allow pipeline controllers to monitor and detect anomalies in the system and to make changes to the operation, such as opening and closing valves or starting and stopping pumps, from a single remote location. The 2005 study uncovered five areas for potential improvement: display graphics, alarm management, controller training, controller fatigue, and leak detection systems. These findings in part led to a significant step forward for an industry that did not previously have any rules governing hours of service. In December 2009, PHMSA published a final rule that required pipeline operators to establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep. Together, the NTSB's recent investigation of the Sissonville transmission pipeline rupture, lessons learned from previous investigations, and the SCADA study have prompted the NTSB to once again place pipeline safety on our Most Wanted List.



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NATIONAL TRANSPORTATION SAFETY BOARD

Public Meeting of January 27, 2015

(Information subject to editing)

Safety Study

Integrity Management of Gas Transmission Pipelines in High Consequence Areas

NTSB SS-15/01

This is a synopsis from the NTSB's Safety Study and does not include the Board's rationale for the conclusions and safety recommendations. NTSB staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

EXECUTIVE SUMMARY

There are approximately 298,000 miles of onshore natural gas transmission pipelines in the United States. Since 2004, the operators of these pipelines are required by the Pipeline and Hazardous Materials Safety Administration (PHMSA) to develop and implement integrity management (IM) programs to ensure the integrity of their pipelines in populated areas (defined as high consequence areas [HCAs]) to reduce the risk of injuries and property damage from pipeline failures.

An operator's IM program is a management system designed and implemented by pipeline operators to ensure their pipeline system is safe and reliable. An IM program consists of multiple components, including procedures and processes to identify HCAs, determining likely threats to the pipeline within the HCA, evaluating the physical integrity of the pipe within the HCA, and repairing or remediating any pipeline defects found. These procedures and processes are complex and interconnected. Effective implementation of an IM program relies on continual evaluation and data integration. The IM program is an ongoing program that is periodically inspected by PHMSA and/or state regulatory agencies to ensure compliance with regulatory requirements.

Why the NTSB Did This Study

In the last five years, the National Transportation Safety Board (NTSB) investigated three major gas transmission pipeline accidents where deficiencies with the operators' IM programs and PHMSA oversight were identified as a concern.¹ These three accidents resulted in 8 fatalities, over 50 injuries, and 41 homes destroyed with many more damaged. As the IM requirements have now been in place for 10 years, with all HCA pipelines having had at least one integrity assessment, the NTSB believes that now is an appropriate time to evaluate the need for safety improvements to the IM program.

¹ Palm City, Florida (5/4/2009); San Bruno, California (9/9/2010); and Sissonville, West Virginia (12/11/2012).

The focus of this study was to evaluate the need for safety improvements to IM programs and requirements for gas transmission pipelines in the United States by examining:

- Federal and state oversight of IM programs;
- Common practices associated with HCA identification and verification;
- Current threat identification and risk assessment techniques;
- The effectiveness of different pipeline integrity assessment methods; and
- Procedures for continual assessment and data integration within the IM framework.

The NTSB used a multifaceted approach to evaluate the effectiveness of IM program requirements and oversight. The quantitative analyses of PHMSA data were complemented by NTSB staff's use of qualitative analyses of information obtained from interviews and discussions with pipeline operators, state and federal inspectors, industry associations, researchers, and representatives of private companies that provide integrity assessments, risk analysis, and geospatial data services to gain insight into IM program practices and procedures.

What the NTSB Found

This study found that while PHMSA's gas IM requirements have kept the rate of corrosion failures and material failures of pipe or welds low, there is no evidence that the overall occurrence of gas transmission pipeline incidents in HCA pipelines has declined. This study identified areas where improvements can be made to further enhance the safety of gas transmission pipelines in HCAs. The study did find that IM programs are complex and require expert knowledge and integration of multiple technical disciplines including engineering, material science, geographic information systems (GIS), data management, probability and statistics, and risk management. This complexity requires pipeline operator personnel and pipeline inspectors to have a high level of knowledge to adequately perform their functions. This complexity can make IM program development, and the evaluation of operators' compliance with IM program requirements, difficult. The study found that PHMSA's resources in guiding both operators and inspectors need to be expanded and improved.

The effectiveness of an IM program depends on many factors, including how well threats are identified and risks are estimated. This information guides the selection of integrity assessment methods that discover pipeline system defects that may need remediation. The study found that aspects of the operators' threat identification and risk assessment processes require improvement. Furthermore, the study found that of the four different integrity assessment methods (pressure test, direct assessment, in-line inspection [ILI], and other techniques), ILI yields the highest per-mile discovery of pipe anomalies and the use of direct assessment as the sole integrity assessment method has numerous limitations. Compared to their interstate counterparts, intrastate pipeline operators rely more on direct assessment and less on ILI.

FINDINGS

1. There has been a gradual increasing trend in the gas transmission significant incident rate between 1994–2004 and this trend has leveled off since the implementation of the integrity management program in 2004.
2. From 2010–2013, gas transmission pipeline incidents were overrepresented on high consequence area pipelines compared to non-high consequence area pipelines.
3. While the Pipeline and Hazardous Materials Safety Administration's gas integrity management requirements have kept the rate of corrosion failures and material failures of pipe or welds low, there is no evidence that the overall occurrence of gas transmission pipeline incidents in high consequence area pipelines has declined.
4. Despite the intention of the gas integrity management regulations to reduce the risk of all identified threats, high consequence area incidents attributed to causes other than corrosion and material defects in pipe or weld increased from 2010–2013.
5. Despite the emphasis of integrity management programs on time-dependent threats, such as corrosion, gas transmission pipeline incidents associated with corrosion failure continue to disproportionately occur on pipelines installed before 1970.
6. From 2010–2013, the intrastate gas transmission pipeline high consequence area incident rate was 27 percent higher than that of the interstate gas transmission pipeline high consequence area incident rate.
7. Approaches used during integrity management inspections of gas transmission pipelines conducted in state inspections vary among states and whether this variability affects the effectiveness of integrity management inspections has not been evaluated.
8. The Pipeline and Hazardous Materials Safety Administration (PHMSA)'s resources on integrity management inspections for state inspectors, including existing inspection protocol guidance, mentorship opportunities, and the availability of PHMSA's inspection subject matter experts for consultation, are inadequate.
9. Federal-to-state and state-to-state coordination between inspectors of gas transmission pipelines is limited.
10. The lack of high consequence area identification in the National Pipeline Mapping System limits the effectiveness of pre-inspection preparations for both federal and state inspectors of gas transmission pipelines.
11. There is a considerable difference in positional accuracy between interstate and intrastate gas transmission pipelines in the National Pipeline Mapping System, and this discrepancy, combined with the lack of detailed attributes, may reduce state and federal inspectors' ability to properly prepare for integrity management inspections.

12. The discrepancies between the Pipeline and Hazardous Materials Safety Administration's National Pipeline Mapping System, annual report database, and incident database may result in state and federal inspectors' use of inaccurate information during pre-inspection preparations.
13. The lack of published standards for geospatial data commonly used by pipeline operators limits operators' ability to determine technically sound buffers to increase the safety margin and also hinders integrity management inspectors from evaluating the buffer's technical validity.
14. The lack of a repository of authoritative sources of geospatial data for identified sites may contribute to operators' inaccurate high consequence area identification.
15. Inappropriate elimination of threats by pipeline operators can result in undetected pipeline defects.
16. The prevalence of inappropriate threat elimination as a factor in gas transmission pipeline incidents cannot be determined because the Pipeline and Hazardous Materials Safety Administration does not collect threat identification data in pipeline incident reports.
17. The inadequate evaluation of interactive threats is a frequently cited shortcoming of integrity management programs, which may lead to underestimating the true magnitude of risks to a pipeline.
18. The prevalence of interactive threats in gas transmission pipeline incidents cannot be determined because the Pipeline and Hazardous Materials Safety Administration does not allow operators to select multiple, interacting root causes when reporting pipeline incidents.
19. Inspectors lack training to effectively verify the validity of an operator's risk assessment.
20. Many pipeline operators do not have sufficient data to successfully implement probabilistic risk models.
21. A lack of incident data regarding the risk assessment approach(es) used by pipeline operators limits the knowledge of the strengths and limitations of each risk assessment approach.
22. Whether the four approved risk assessment approaches produce a comparable safety benefit is unknown.
23. Sufficient guidance is not available to pipeline operators and inspectors regarding the safety performance of the four types of risk assessment approaches allowed by regulation, including the effects of weighting factors, calculation of consequences, and risk aggregation methods.

24. Professional qualification criteria for pipeline operator personnel performing integrity management functions are inadequate.
25. The use of in-line inspection as an integrity assessment method for intrastate pipelines is considerably lower than for interstate pipelines (68 percent compared to 96 percent) in part due to the operational and configuration differences.
26. A much higher proportion of integrity assessments is conducted by direct assessment for intrastate pipelines than for interstate pipelines partly due to operational and configuration differences.
27. Of the four integrity assessment methods, in-line inspection yields the highest per-mile discovery of anomalies that have the potential to lead to failure if undetected.
28. In-line inspection is able to inspect the integrity of the pipeline segments susceptible to multiple threats.
29. Improvements in in-line inspection tools allow for the inspection of gas transmission pipelines that were previously uninspectable by in-line inspection.
30. Operators may limit the use of in-line inspections due to operational complications.
31. There are many limitations to direct assessment, including that (1) it is limited to the detection of defects attributed to corrosion threats, (2) it only covers very short sub-segments of the pipeline, (3) it relies on the operator's selection of specific locations for excavation and direct examination, and (4) it yields far fewer identifications of anomalies compared to in-line inspection.
32. The selection of direct assessment by the pipeline operator as the sole integrity assessment method must be subject to strict scrutiny by the inspectors due to its numerous limitations.
33. Pipeline operators view geographic information systems as the preferred tool for effective data integration, as it can be used as a system of records and a source of authoritative data.

RECOMMENDATIONS

New Recommendations

To the Pipeline and Hazardous Materials Safety Administration:

1. Assess (1) the need for additional inspection protocol guidance for state inspectors, (2) the adequacy of your existing mentorship program for these inspectors, and (3) the availability of your subject matter experts for consultation with them, and implement the necessary improvements.

2. Modify the overall state program evaluation, training, and qualification requirements for state inspectors to include federal-to-state coordination in integrity management inspections.
3. Work with the National Association of Pipeline Safety Representatives to develop and implement a program to formalize, publicize, and facilitate increased state-to-state coordination in integrity management inspections.
4. Increase the positional accuracy of pipeline centerlines and pipeline attribute details relevant to safety in the National Pipeline Mapping system.
5. Revise the submission requirement to include high consequence area identification as an attribute data element to the National Pipeline Mapping System.
6. Assess the limitations associated with the current process for identifying high consequence areas, and disseminate the results of your assessment to the pipeline industry, inspectors, and the public.
7. Work with the Federal Geographic Data Committee to identify and publish standards and specifications for geospatial data commonly used by gas transmission pipeline operators, and disseminate the standards and specifications to these operators and inspectors.
8. Work with the appropriate federal, state, and local agencies to develop a national repository of geospatial data resources for the process for high consequence area identification, and publicize the availability of the repository.
9. Establish minimum criteria for eliminating threats, and provide guidance to gas transmission pipeline operators for documenting their rationale for all eliminated threats.
10. Update guidance for gas transmission pipeline operators and inspectors on the evaluation of interactive threats. This guidance should list all threat interactions that must be evaluated and acceptable methods to be used.
11. Develop and implement specific risk assessment training for inspectors in verifying the technical validity of risk assessments that operators use.
12. Evaluate the safety benefits of the four risk assessment approaches currently allowed by the gas integrity management regulations; determine whether they produce a comparable safety benefit; and disseminate the results of your evaluation to the pipeline industry, inspectors, and the public.
13. Update guidance for gas transmission pipeline operators and inspectors on critical components of risk assessment approaches. Include (1) methods for setting weighting factors, (2) factors that should be included in consequence of failure calculations, and (3) appropriate risk metrics and methods for aggregating risk along a pipeline.

14. Revise 49 *Code of Federal Regulations* section 192.915 to require all personnel involved in integrity management programs to meet minimum professional qualification criteria.
15. Revise Form F7100.1, Annual Report Form, to collect information about which methods of high consequence area identification and risk assessment approaches were used.
16. Revise Form F7100.2, Incident Report Form, (1) to collect information about both the results of previous assessments and previously identified threats for each pipeline segment involved in an incident and (2) to allow for the inclusion of multiple root causes when multiple threats interacted.
17. Develop a program to use the data collected in response to Safety Recommendations [15] and [16] to evaluate the relationship between incident occurrences and (1) inappropriate elimination of threats, (2) interactive threats, and (3) risk assessment approaches used by the gas transmission pipeline operators. Disseminate the results of your evaluation to the pipeline industry, inspectors, and the public annually.
18. Require that all natural gas transmission pipelines be capable of being in-line inspected by either reconfiguring the pipeline to accommodate in line inspection tools or by the use of new technology that permits the inspection of previously uninspectable pipelines; priority should be given to the highest risk transmission pipelines that considers age, internal pressure, pipe diameter, and class location. (Supersedes Safety Recommendation P-11-17, which is classified "Closed—Superseded.")
19. Revise Form F7100.1, Annual Report Form, to collect information on the mileage of both HCA and non-HCA pipeline that can accommodate in-line inspection tools.
20. Identify all operational complications that limit the use of in-line inspection tools in piggable pipelines, develop methods to eliminate the operational complications, and require operators to use these methods to increase the use of in-line inspection tools.
21. Develop and implement a plan for eliminating the use of direct assessment as the sole integrity assessment method for gas transmission pipelines.
22. Develop and implement a plan for all segments of the pipeline industry to improve data integration for integrity management through the use of geographic information systems.

To the American Gas Association:

23. Work with the Interstate Natural Gas Association of America to collect data that will support the development of probabilistic risk assessment models, and share these data with gas transmission pipeline operators.

24. Work with the Interstate Natural Gas Association of America to develop and implement a strategy for increasing the use of in-line inspection tools as appropriate, with an emphasis on intrastate pipelines.

To the Interstate Natural Gas Association of America:

25. Work with the American Gas Association to collect data that will support the development of probabilistic risk assessment models, and share these data with gas transmission pipeline operators.
26. Work with the American Gas Association to develop and implement a strategy for increasing the use of in-line inspection tools as appropriate, with an emphasis on intrastate pipelines.

To the National Association of Pipeline Safety Representatives:

27. Work with the Pipeline and Hazardous Materials Safety Administration to develop and implement a program to formalize, publicize, and facilitate increased state-to-state coordination in integrity management inspections.

To the Federal Geographic Data Committee:

28. Work with the Pipeline and Hazardous Materials Safety Administration to identify and publish standards and specifications for geospatial data commonly used by gas transmission pipeline operators, and disseminate the standards and specifications to these operators and to inspectors.

Previously Issued Recommendations Reiterated in this Report

As a result of this Safety Study, the National Transportation Safety Board reiterates the following previously issued recommendation:

To the US Department of Transportation:

Ensure that PHMSA amends the certification program, as appropriate, to comply with the findings of the audit recommended in Safety Recommendation P-11-6.

Previous Recommendation Reclassified in This Study

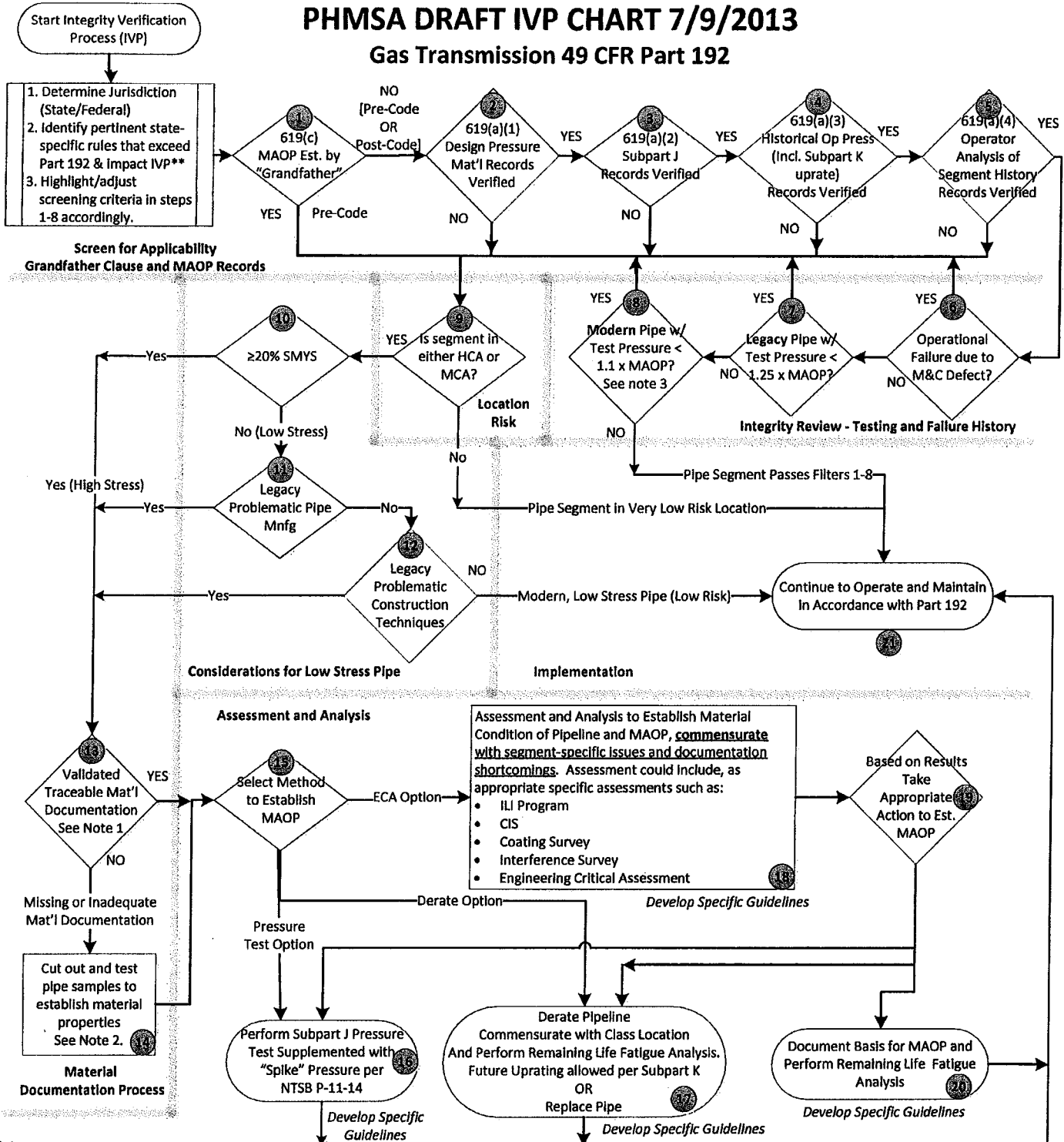
As a result of this Safety Study, the National Transportation Safety Board reclassifies the following previously issued recommendation:

To the Pipeline and Hazardous Materials Safety Administration

Require that all natural gas transmission pipelines be configured so as to accommodate in-line inspection tools, with priority given to older pipelines. (P-11-17) Reclassified
Closed – Superseded

PHMSA DRAFT IVP CHART 7/9/2013

Gas Transmission 49 CFR Part 192



Notes:

Legacy Pipe means LFERW, SSAW, Flash Weld (AO Smith), or pipe w/ joint factor < 1 (e.g., lap welded pipe) regardless of date of manufacture.

Modern Pipe means post-code pipe not manufactured with any techniques listed under Legacy Pipe.

Legacy Problematic Construction Techniques means wrinkle bends, miter > 3 degrees, Dresser Couplings, non-standard fittings, arc welds, oxyacetylene welds, bell spigots, puddle weld repairs, etc.

Moderate Consequence Area (MCA) means non-HCA pipe in Class 4, 3, 2, locations & Class 1 locations with [TBD] houses/sites in PIR.

Note 1: Required for Pipe, Fittings, Valves, Flanges & Components.

Note 2: Validated mat'l properties req'd for X42 and greater & pipe ≥ 2" OD if on the mainline.

Note 3: Revise 619(a) to require min. 1.25 MAOP pressure test for new pipe

Note 4: Validation of MAOP per 619(d), Alt MAOP, not considered a problem and not addressed in IVP requirements

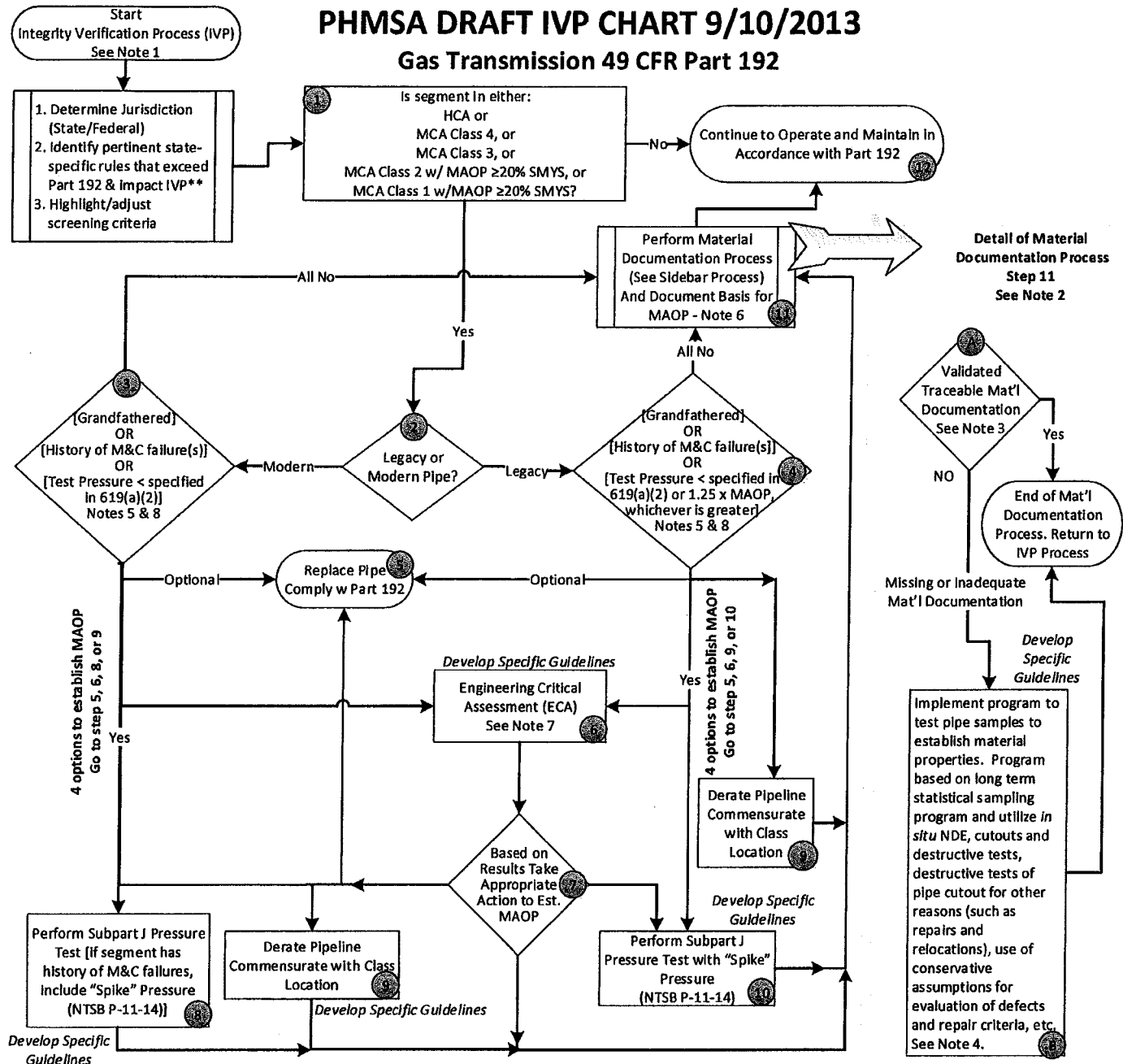
PROPOSED DEADLINES FOR COMPLETING INTEGRITY VERIFICATION						
Location	≥ 50% SMYS		20 – 50% SMYS		< 20% SMYS	
	Legacy	Modern	Legacy	Modern	Legacy	Modern
HCA	TBD	TBD	TBD	TBD	TBD	na
MCA Class 4	TBD	TBD	TBD	TBD	TBD	na
MCA Class 3	TBD	TBD	TBD	TBD	TBD	na
MCA Class 2	TBD	TBD	TBD	TBD	TBD	na
MCA Class 1	TBD	TBD	TBD	TBD	TBD	na

**Some state requirements exceed Part 192. For example:

- Pressure test at 150% MAOP to establish MAOP, or
- All gas transmission (GT) to be classified and constructed to Class 4 requirements, or
- Define as GT if MAOP > 125 psig, etc.

PHMSA DRAFT IVP CHART 9/10/2013

Gas Transmission 49 CFR Part 192



Notes:

Grandfathered means pipe segments installed before July 1, 1970 with MAOP established in accordance with 192.619(c).

High Consequence Area (HCA) as defined in 192.903.

Legacy Pipe means pipe manufactured using LFERW, SSAW, Flash Weld (AO Smith), or pipe w/ joint factor < 1 (e.g., lap welded pipe) regardless of date of manufacture, OR pipe constructed or repaired using problematic construction techniques such as wrinkle bends, miter > 3 degrees, Dresser Couplings, non-standard fittings, arc welds, oxyacetylene welds, bell spigots, puddle weld repairs, etc.

Modern Pipe means pipe other than Legacy Pipe.

Moderate Consequence Area (MCA) means non-HCA pipe in Class 4, 3, or 2 locations, & Class 1 locations with 1 house/occupied site in PIR.

Note 1: Validation of MAOP per 192.619(d), Alt MAOP, while applicable, is not anticipated to be a problem and not addressed in IVP flow chart.

Note 2: Validated mat'l properties req'd for line pipe of X42 grade and greater, and pipe ≥ 2"OD if on the mainline, and fittings, valves, flanges & components.

Note 3: If operator does not have design & material documentation in accordance with 192.619(a)(1) per ADB 11-01 & 12-06, segment is deemed to not have adequate documentation for purposes of this determination. Required records include mill test reports (or equivalent) showing test results for chemical & mechanical properties.

Note 4: Sampling to cover each unique combination of pipe type and vintage.

Note 5: If operator does not have pressure test records in accordance with 192.619(a)(2) per ADB 11-01 & 12-06, segment deemed to not have a valid pressure test.

Note 6: If operator chooses ECA option, material documentation process must be conducted as part of the ECA process step 7.

Note 7: ECA consists of material documentation, assessment, and analysis to establish material condition of pipeline and MAOP, commensurate with segment-specific issues and documentation shortcomings. Assessment could include, as appropriate: ILI Program, CIS, Coating Survey, Interference Survey Remaining Life Fatigue Analysis, etc.

Note 8: Revise 192.619(a) to require min. 1.25 MAOP pressure test for new pipe.

****Some state requirements exceed Part 192. For example: (i) pressure test at 150% MAOP to establish MAOP, or (ii) all gas transmission (GT) to be classified and constructed to Class 4 requirements, or (iii) define as GT if MAOP > 125 psig, etc.**

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 NAPSRS 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, NAPSRS 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.

***Resolution Encouraging Natural Gas Line Investment and the Expedited Replacement of
High-Risk Distribution Mains and Service Lines***

WHEREAS, NARUC and its members have long focused on pipeline safety, led by the Committee on Gas, established in 1964, the Staff Subcommittee on Pipeline Safety, the Task Force on Pipeline Safety, and the newly created Subcommittee on Pipeline Safety; *and*

WHEREAS, NARUC enjoys a close working relationship with the National Association of Pipeline Safety Representatives (NAPSR), a national organization representing the State pipeline inspection workforce throughout the country; *and*

WHEREAS, NAPSR in November 2011 released an exhaustive compendium of State pipeline safety programs which exceed the minimum federal standards States must meet in order to receive funding from the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA); *and*

WHEREAS, NARUC and the Committee on Gas maintain a strong cooperative partnership with PHMSA, which is essential to ensure State and federal safety regulators work closely on pipeline safety; *and*

WHEREAS, More than two million miles of natural gas distribution pipelines crisscross the United States, connecting homes and businesses with one of America's most important energy resources. These pipelines are the safest, most reliable and cost-effective way to transport this essential fuel across the country; *and*

WHEREAS, The safe and reliable delivery of natural gas to homes and businesses and its use in providing new products and services is vital to the U.S. and of paramount importance to members of NARUC; *and*

WHEREAS, By law, the utilities are charged with knowing the location, material, age and condition of their systems. Developing essential data to evaluate the integrity of the systems is the foundation for any determination over what regulators need to fund in rates, as well as what rate recovery methodology best suits a particular case; *and*

WHEREAS, Many States and distribution utilities are undergoing significant pipeline replacement programs to replace aging pipe; *and*

WHEREAS, Many distribution companies are being proactive about replacing their aging pipelines through a risk-based approach focusing on prioritizing safety, asset replacement, and rate impact; *and*

WHEREAS, Alternative rate-recovery mechanisms may help expedite the replacement and expansion of the pipeline systems by promoting more timely rate recovery for investments in infrastructure, safety and reliability; *and*

WHEREAS, Alternative rate recovery mechanisms may help eliminate near-term financial barriers of traditional ratemaking policies such as “regulatory lag” and promote access to lower-cost capital; *and*

WHEREAS, The adoption of alternative rate policies may be very effective for advancing critical safety and reliability infrastructure upgrades, *and*

WHEREAS, Notwithstanding the positive advances in innovative ratemaking and proactive remediation by many distribution companies, utility management bears ultimate responsibility for their respective systems and should seek to work, in ways permissible under their respective State rules and law, collaboratively with Commissioners and/or Commission staff to prioritize asset replacement based upon asset risk, available technology, public safety risk, rate impact, *and*

WHEREAS, Ensuring pipeline safety is about more than just replacement and cost recovery. It is also about effective communication, enforcement, risk sharing, and establishing a long range strategic plan that ensures a safe and reliable gas pipeline system; *and*

WHEREAS, As evidenced in the NAPSRS 2011 Compendium, State commissions and inspectors are best suited to determine how best to finance system improvements because each State is different and the needs and financial circumstances of each utility system are unique; *now, therefore be it*

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners, convened at the 2013 Summer Committee Meetings, in Denver, Colorado, 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, *and be it further*

RESOLVED, That NARUC encourages its members to reach out to PHMSA, NAPSRS, industry, State and local officials, and the general public about pipeline safety and replacement programs.

*Sponsored by the Committee on Gas and the Committee on Critical Infrastructure
Adopted by the NARUC Board of Directors July 24, 2013*