

Pipeline Safety Regulatory Updates and Advisories: NPRM and Final Rule Activity



2015 Western Regional Gas Conference
Tuesday, August 25TH 9:00 AM – 9:45 AM
Chris McLaren, Office of Pipeline Safety



Topics Areas for Discussion

- Latest Rules and regulations Updates
- Information Collection Activities
- Advisory Bulletin Updates
 - Overview of the 2014 & 2015 ADBs
 - Specific ADBs on Meaningful Metrics
- Safety Management Systems – API RP 1173



Rule Making Process

Rulemaking stages:

- Advanced Notice of Proposed Rule Making
- NPRM
- Final Rule
- Information Collection Activities
- Significant Rulemaking(s) status

www.dot.gov/regulations/report-on-significant-rulemakings



www.dot.gov/regulations/report-on-significant-rulemakings

Pipeline and Hazardous Materials Safety Administration

93. [Pipeline Safety: Enforcement of State Excavation Damage Laws](#)
94. [Hazardous Materials: Safety Requirements for External Product Piping on Cargo Tanks Transporting Flammable Liquids \(Wetlines\) \(MAP-21\)](#)
95. [Pipeline Safety: Safety of On-Shore Liquid Hazardous Pipelines](#)
96. [Pipeline Safety: Excess Flow Valves In Applications Other Than Single-Family Residences in Gas Distribution Systems](#)
97. [Pipeline Safety: Gas Transmission](#)
98. [Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains](#)
99. [Pipeline Safety: Operator Qualification, Cost Recovery, Accident and Incident Notification, and Other Changes \(RRR\)](#)
100. [Pipeline Safety: Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards](#)
101. [Hazardous Materials: Review and Update of Rail Carrier Regulations in Part 174](#)
102. [Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains](#)



Increased Regulatory Activity

- Over the past 7 months, PHMSA has published:
 - 3 Notices of Proposed Rulemakings (NPRMs)
 - 3 Final Rules
- Prior to this time, PHMSA published:
 - 1 Final rule in the previous 3 years
 - 3 NPRMs in the previous 3 years



Rulemaking

- Standards Update (Final Rule)
- Excavation Damage Prevention (Final Rule)
- Miscellaneous Rulemaking (Final Rule)
- EFV Expansion beyond Single Family Residences (NPRM)
- Operator Qualification, Cost Recovery and Other Pipeline Safety Proposed Changes (NPRM)
- Plastic Pipe (NPRM)
- Safety of Gas Transmission and Gathering Lines (NPRM)
- Safety of On-Shore Hazardous Liquid Pipelines (NPRM)
- Rupture Detection and Valve Rule-NPRM being developed



Safety of Gas Transmission and Gathering Lines

NPRM moved past PHMSA - ANPRM Published 8/25/2011

- Expansion of IM requirements beyond HCA's
 - Repair criteria for both HCA and non-HCA areas
- Assessment methods
- Corrosion control
- Gas gathering
- Integrity Verification Process – Pipe of Concern
 - Grandfather'ed and Legacy pipe
 - Pipe with inadequate records
 - Pipe tested below 1.1 MAOP



GT and GG IM Rule making

Effects:

Economically Significant
Major

Prompting action: 2011 Retrospective Regulatory Review

Legal Deadline: None

Rulemaking Project Initiated: 01/04/2011

Docket Number: PHMSA-2011-0023

Dates for NPRM:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST	03/25/2013	03/28/2014	03/12/2014
Returned to Mode			04/28/2014
Returned To OST		06/26/2014	06/27/2014
To OMB	04/25/2013	04/13/2015	04/27/2015
OMB Clearance	07/25/2013	07/27/2015	
Publication Date	08/05/2013	08/06/2015	
End of Comment Period	10/04/2013	10/06/2015	

Explanation for any delay: Additional coordination necessary



EFV Expansion beyond Single Family Residences

Excess Flow Valves for Multi-Person Dwellings (NPRM)
2137-AE71

- Publication Date - 7/15/2015
- End of Comment Period Date - 9/14/2015

Major Topics

- Rule will propose to require EFVs for:
 - branched service lines serving more than one single family residence
 - multi-family residential dwellings
 - commercial buildings
 - curb valves for flows > 1,000 SCFH



Operator Qualification Rule

Operator Qualification, Cost Recovery, Incident Notification, and Other Changes (NPRM) 2137-AE94

- Publication Date - 7/10/2015
- End of Comment Period Date - 9/8/2015

Major Topics

- Operator Qualification for new construction
- Incident Reporting
- Cost Recovery
- Renewal process for special permits
- API 1104 and in-service welding
- Includes Farm Taps



Plastic Pipe

Plastic Pipe Rule (NPRM) 2137-AE93

- Publication Date - 5/21/2015
- End of Comment Period Date - 7/31/2015

Major Topics

- AGA petition to raise design factor from 0.32 to 0.40 for PE pipe
- Enhanced Tracking and traceability
- Authorized use of PA12
- Miscellaneous revisions for PE and PA11 pipelines
- Additional provisions for fittings used on plastic pipe



Excavation Damage Prevention

Enforcement of State Excavation Damage Laws (final rule) 2137-AE43

- Publication Date - 7/23/2015
- Effective Date - 1/1/2016

Major Topics

- Pursuant to PIPES Act, PHMSA proposes criteria and procedures for determining if a State's enforcement of its excavation damage prevention laws is adequate.
- Excavation damage is a leading cause of pipeline failure incidents, and more effective enforcement of state excavation damage prevention laws is a key to reducing pipeline excavation damage incidents.
- Though all states have a damage prevention program, not all states adequately enforce their state damage prevention laws.



Miscellaneous Rulemaking

Miscellaneous Rule (final rule) 2137-AE59

- Publication Date - 3/11/2015
- Effective Date - 10/1/2015

Major Topics

- Performance of post-construction inspections
- Leak surveys of Type B onshore gas gathering lines
- Requirements for qualifying plastic pipe joiners
- Regulation of ethanol
- The transportation of pipe



Standards Update

Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments (final rule)
2137-AE85

- Publication Date - 1/5/2015
- Effective Date - 3/6/2015

Major Topics

- Addresses the set of IBR standards throughout Part 192, Part 193 and Part 195 code with updated revisions of standards from all standard organization bodies.
- This Rule impacts 22 of the 60+ IBR standards
- Per recent statute (Section 24, revised) all IBR standards pertaining to PSR must be available for free to the public. (Most SDOs comply) - ANSI IBR portal – ibr.ansi.org



Standards Update (continued)

Of specific interest is revision to PE standard:

- ASTM D2513–09a—PHMSA incorporates ASTM D2513–09a, “Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings,” except section 4.2, “Rework Material.”
 - No rework allowed.
 - Changes to UV exposure limits.
 - Bringing in PE 4710.



Valve installation and Minimum Rupture Detection Standards

Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards (NPRM) 2137-AF06

- Targeted Publication Date is Winter 2015/2016

This rule would propose installation of automatic shutoff valves, remote controlled valves, or equivalent technology and establish performance based meaningful metrics for rupture detection for gas and liquid transmission pipelines.



Valve installation and Minimum Rupture Detection Standards

- The overall intent is that rupture detection metrics will be integrated with ASV and RCV placement with the objective of improving overall incident response
- Rupture response metrics would focus on mitigating large, unsafe, uncontrolled release events that have a greater potential consequence
- The areas proposed to be covered include High Consequence Areas (HCA) for hazardous liquids and HCA, Class 3 and 4 for natural gas



DIMP Enforcement Guidance

- DIMP Enforcement Guidance is posted and publicly available on PHMSA's website with the other Enforcement Guidance documents at <http://www.phmsa.dot.gov/foia/e-reading-room>
- This posting allows Operators to understand Regulators' expectations with regards to the DIMP Regulation and other regulations and supports their implementation of their programs



Information Collection Activities

- Distribution Annual Report modifications to align leak causes with the Incident Report have initiated
- Other modifications are being discussed and solutions identified for their implementation, and these include:
 - Easier data input fields for mileages and services
 - Definition of the type of operator
 - Definition of the commodity transported.
 - New material category to gather information on the amount of cast iron that has been lined (e.g., cured in place liners).



Other Regulatory Developments

- NPMS Information Collection Activity for Transmission Pipelines
- Integrity Verification Process for Hazardous Liquids Pipelines
- PHMSA Responses to the Recommendations (22) from the NTSB Gas Transmission IM Safety Study
- Advisory Bulletins



Advisory Bulletins (ADB)

<http://www.phmsa.dot.gov/pipeline/regs/advisory-bulletin>



2014-2015 Advisory Bulletins

- 2015-02 - Potential for Damage to Pipeline Facilities Caused by the Passage of Hurricanes
- 2015-01 - Potential for Damage to Pipeline Facilities Caused by Flooding, River Scour, and River Channel Migration
- 2014-05 - Guidance for Meaningful Metrics
- 2014-04 - Guidance for Pipeline Flow Reversals, Product Changes and Conversion to Service
- 2014-03 - Notification(s) required prior to certain construction-related events
- 2014-02 - Lessons Learned from the Marshall, Michigan, Release
- 2014-01 - Guidelines for the Preparation of Part 194 On-shore Oil Spill Response Plans



Integrity Management Systems

- ADB 2014-05 - Guidance for Meaningful Metrics
 - ADB–2012-10 Using Meaningful Metrics in Conducting Integrity Management Program Evaluations
- ADB 2014-02 - Lessons Learned from the Marshall, Michigan, Release



NTSB Failure Investigation Report of San Bruno, CA incident

NTSB concluded that the company's self-assessments were "superficial and resulted in no improvements to the integrity management program."

As a result, NTSB recommended: "Assess every aspect of your integrity management program, paying particular attention to the areas identified in this investigation, and implement a revised program that includes, at a minimum, .."

Recommendation P-11-29 .. (4) an improved self-assessment that adequately measures whether the program is effectively assessing and evaluating the integrity of each covered pipeline segment



ADB – 2012-10

- Remind operators of their responsibilities, under Federal IM regulations, to perform evaluations of their IM programs using meaningful performance metrics. Program evaluation is a required integrity management program element as established in §192.911(i)
- A critical program element of an operator's integrity management program is the systematic, rigorous evaluation of the program's effectiveness using clear and meaningful metrics.
- When executed diligently, this self-evaluation process will lead to more robust and effective integrity management programs and improve overall safety performance.
- This process is critical to achieving a mature IM program and a culture of continuous improvement.



ADB – 2012-10

- Metrics that measures and provide insights into how well an operator's processes associated with the various IM program elements are performing.
- Specific threats that include both leading and lagging indicators for the important integrity threats on an operator's systems, including:
 - Activity Measures that monitor the surveillance and preventive activities that are in place to control risk
 - Deterioration Measures that monitor operational and maintenance trends to indicate if the program is successful or weakening despite the risk control activities in place
 - Failure Measures that reflect whether the program is effective in achieving the objective of improving integrity.



NTSB Failure Investigation Report of San Bruno, CA incident

NTSB Findings 25 & 26

25 - Effective and meaningful metrics were not incorporated as part of performance-based pipeline safety management programs, neither the operator nor regulator was able to effectively evaluate or assess the integrity of the operator's pipeline system

26 - Because PHMSA has not incorporated the use of effective and meaningful metrics as part of its guidance for effective performance-based pipeline safety management programs, its oversight of state public utility commissions regulating gas transmission and hazardous liquid pipelines needs improvement.



NTSB Failure Investigation Report of San Bruno, CA incident

NTSB Recommendation P-11-19-1 to PHMSA

(1) Develop and implement standards for integrity management and other performance-based safety programs that require operators of all types of pipeline systems to regularly assess the effectiveness of their programs using clear and meaningful metrics, and to identify and then correct deficiencies



ADB – 2014-05

- PHMSA developed guidance on the elements and characteristics of a mature program evaluation process that uses meaningful metrics
- Major topic areas addressed in the guidance document include:
 - Establishing Safety Performance Goals
 - Identifying Required Metrics
 - Selecting Additional Meaningful Metrics
 - Data Collection and Metric Monitoring
 - Program Evaluation Using Metrics



ADB – 2014-05 Guidance

- Tables 1 & 2 are lists of metrics required by Part 192 and ASME B31.8S-2004 **TO BE USED!**

Table 2 - Other Required Metrics for Gas Transmission and Distribution Systems

Required by §192.945 and ASME B31.8S-2004, Table 9 for Gas Transmission Pipelines:

Threat	Performance Metrics for Prescriptive Programs
External corrosion	Number of hydrostatic test failures caused by external corrosion
	Number of repair actions taken due to in-line inspection results
	Number of repair actions taken due to direct integrity assessment results
	Number of external corrosion leaks
Internal corrosion	Number of hydrostatic test failures caused by internal corrosion
	Number of repair actions taken due to in-line inspection results
	Number of repair actions taken due to direct integrity assessment results
	Number of internal corrosion leaks



ADB – 2014-05 Guidance

Table 3 - IM Programmatic Performance Metrics

Table 3 - IM Programmatic Performance Metrics

Program Element	Leading -----Indicators-----Lagging		
	Selected IM Process, Operational or Activity Metrics	Operational Deterioration Indicators	Failure or Direct Integrity Metrics
1. Identification of pipeline segments that could impact HCAs	● Frequency of updates to segment identification analysis ● Frequency and nature of reviews conducted to identify new HCAs ● Frequency of field district surveys or ROW inspections identifying new HCAs – or segments that could affect HCAs ● Frequency and nature of review of procedures and assumptions made in identifying segments that could affect HCAs ● Frequency of updates to aerial photography used for HCA segment analysis ● Frequency of contacts with public safety officials and others having local knowledge for information on potential "identified sites" or could affect segments	● No. of newly acquired or newly identified assets not incorporated within the IMP within the required timeframe ● No. of previously mis-identified HCAs identified as HCAs in updates to the segment identification analysis ● No. of PIR calculations using an inappropriate formula for product transported (Gas Trans) ● No. of new HCAs or could affect segments identified due to changing conditions (pipeline modifications, new public construction, change in public use of existing buildings, etc.) ● No. of abnormal weather conditions (e.g., stream flow rate) that exceed assumptions used in HCA or could affect segment identification	● No. of releases which reached an HCA from pipe that was not determined to be a "could affect" segment (Haz Liq) ● No. of releases with adverse impacts beyond the PIR (Gas Trans) ● No. of releases which had different impacts to HCAs than determined by the "could affect" analysis ● No. of releases which reached different HCAs than determined by the "could affect" analysis ● No. of releases that exceeded the highest estimated volume that could be released in a segment (Haz Liq)



ADB – 2014-05 Guidance

Table 4 - System and Threat-Specific Performance Measurement

Table 4 - System and Threat-Specific Performance Measurement

	Leading -----Indicators-----Lagging		
Failure Mechanism	Selected Process or Operational Activities for Threat Prevention or Management	Deterioration Indicators	Failure or Direct Integrity Metrics
<i>Mechanical Damage</i>			
First-party (operator) and second-party (contractor) damage	● Operator procedures for excavation on or near its own pipeline ● Contractor procedures for excavation on or near the pipeline ● Use of current system / facility maps	● No. of improper locates ● No. of excavations outside locate area ● No. of incidents / accidents where procedures were not followed or where appropriate care was not exhibited ● No. of damages not reported ● No. of enforcement actions taken by enforcement authority ● Increase in frequency of damage	● Releases due to first or second party damage



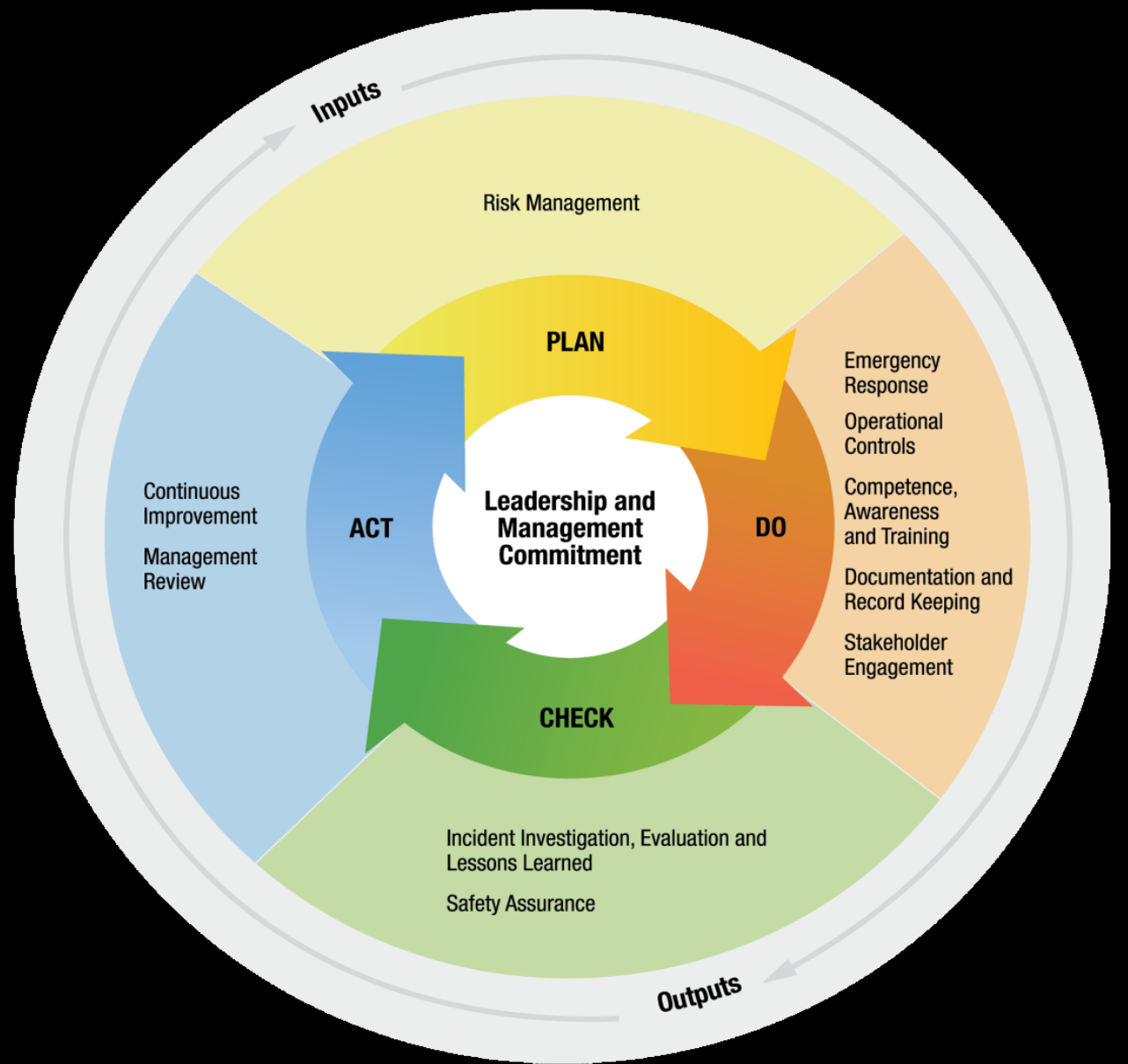
Safety Management Systems

- A 3rd Public Meeting was held April 22, 2012 to discuss the publication of API RP 1173
<http://primis.phmsa.dot.gov/meetings>
- API RP 1173 embodies the Best of a Dozen Other Approaches from Other High Hazard Industries
- The goal of this document is to provide pipeline operators with a framework to review an existing PSMS or develop and implement a new PSMS.
- The document is designed to provide a framework that is allows for flexibility to meet an operators unique operating environment and scalable from small to large systems



Plan, Do, Check, Act - The core of SMS in API RP 1173

**Continuous
Improvement
is the
Goal of the
standard**



PHMSA Safety Posture Initiative

- PHMSA's mission is to protect people and the environment from the risks of hazardous materials transportation. Safety is PHMSA's number one priority.
- The Office of the Chief Safety Officer (CSO) has initiated the PHMSA Safety Posture Initiative that supports DOT's strategic priorities, and builds upon DOT's legacy of safety.
- The CSO serves as the primary advocate for safety within PHMSA and is the safety conscience of the agency.
 - Establishes and reviews PHMSA-wide safety and security policies,
 - Evaluates risk and agency performance,
 - Coordinates and harmonizes PHMSA's emergency planning and incident response, and
 - Fosters continuous improvement in PHMSA's safety programs and the safety of PHMSA's employees



Safety Initiative Goals

- Continue to pursue and foster non-regulatory approaches to effect continuous improvement in safety, such as Safety Management Systems, Safety Culture, and incentivizing regulated entities to move beyond mere compliance with regulations by adopting and institutionalizing voluntary, meaningful, comprehensive programs that will advance safety.
 - API RP 1173
 - Safety Culture implementation is first step



Safety Culture

- Safety Culture is defined by DOT as the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands.
- Move from Compliance to Minimum Safety Standards to the Choice to do the Right Thing
- Our world must move from a “checkbox” mentality to understanding the health of our pipeline systems by analyzing and understanding data and information and promptly acting to reduce risks



PHMSA Websites are One of Our Primary Forms of Communication





News & Updates

- > [PHMSA/FEMA Release Hazard Mitigation Planning: Practices for Land Use Planning and Development Near Pipelines](#)
- > [PHMSA Awards 2014 State One Call Grants](#)
- > [Pipeline Class Location Workshop Now Available on Youtube](#)
- > [PHMSA's Proposed Pipeline Penalties Hit All-Time High: Serious Pipeline Incident Count Hits All-Time Low](#)
- > [Pipeline Inspections 101](#)
- > [Briefing Room](#)

Find PHMSA Offices

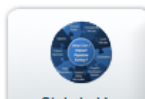
Headquarters

Regional Offices

[Federal & State Partners](#)



Promoting Safety



PHMSA Resources

Regulations

Regulations & interpretations, proposed rules, approvals & permits, and bulletins for pipeline and hazmat safety.

Data & Reports

PHMSA tracks data on the frequency of failures, incidents and accidents.

Inspection & Enforcement

Incident forms, regional office contacts, and general information on PHMSA enforcement programs.

NTSB Recommendations

Get information and updates for PHMSA responses to National Transportation Safety Board recommendations.

Online Services

PHMSA Pipeline Safety

<http://phmsa.dot.gov/pipeline>



Pipeline Technical Resources

**PHMSA**
U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

Pipeline Technical Resources
Return to Pipeline Safety Community

Home	Alternative MAOP	Cased Crossings and GWUT	Class Location	CRM	DIMP	Gas IM	
HL IM	High Volume EFV	Low Strength Pipe	OQ	Pipeline Construction	R&D	LNG Facility Siting	Public Meetings

What's New

PHMSA Pipeline Technical Resources

This site is administered by the Pipeline and Hazardous Materials Safety Administration (PHMSA). It provides technical and regulatory information concerning issues and recent rulemaking for selected pipeline safety topics. This site is oriented primarily toward operators to provide information useful for complying with PHMSA regulations. However, all stakeholders might find this material informative. The below links provide information for the latest rulemaking, advisory bulletin, and instructions for submitting required notifications. This site is updated as needed to reflect new developments and information pertinent to these issues.

Alternative MAOP

- Alternative MAOP web site

Cased Crossings & Guided Wave Ultrasonics (GWUT)

- Cased Crossings & Guided Wave Ultrasonics web site

Class Location Special Permits

- Class Location Special Permits web site

Control Room Management (CRM)

- Control Room Management web site

Gas Distribution Integrity Management Program (DIMP)

- Gas Distribution Integrity Management Program web site

Gas Transmission Integrity Management (GT IM)

- Gas Transmission Integrity Management web site

Hazardous Liquid Integrity Management (HL IM)

- Hazardous Liquid Integrity Management web site

High Volume Excess Flow Valves (EFV)

- High Volume Excess Flow Valve web site

Low Strength Pipe

- Low Strength Pipe web site

Operator Qualification (OQ)

- Operator Qualification web site

Pipeline Construction

- Pipeline Construction web site

Research & Development (R&D)

- Research & Development web site

Public Meetings

- Public Meeting web site

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<http://primis.phmsa.dot.gov/ptr.htm>



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

To Protect People and the Environment From the Risks of
Hazardous Materials Transportation



DIMP Home



Gas Distribution Integrity Management Program

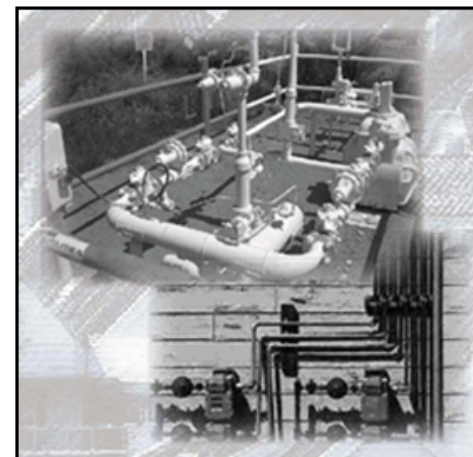
DIMP Menu

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- Regulations
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- Interpretations

The Pipeline and Hazardous Materials Safety Administration (PHMSA) published the final rule establishing integrity management requirements for gas distribution pipeline systems on December 4, 2009 (74 FR 63906). The effective date of the rule is February 12, 2010. Operators are given until August 2, 2011 to write and implement their program.

PHMSA previously implemented integrity management regulations for [hazardous liquid](#) and [gas transmission](#) pipelines. These regulations aim to assure pipeline integrity and improve the already admirable safety record for the transportation of energy products. Congress and other stakeholders expressed interest in understanding the nature of similarly focused requirements for gas distribution pipelines. Significant differences in system design and local conditions affecting distribution pipeline safety preclude applying the same tools and management practices as were used for transmission pipeline systems. Therefore, PHMSA took a slightly different approach for distribution integrity management, following a joint effort involving PHMSA, the gas distribution industry, representatives of the public, and the National Association of Pipeline Safety Representatives to explore potential approaches.



<http://primis.phmsa.dot.gov/dimp/index.htm>



Public Meetings

<http://primis.phmsa.dot.gov/meetings/>

PHMSA Meeting Registration and Document Commenting

Current Meetings:

1. 09/09/2015 [PHMSA Pipeline Risk Modeling Methodologies Public Workshop](#) (Mtg #104)
2. 08/27/2015 [Hazardous Liquid Integrity Verification Process \(HL IVP\)](#) (Mtg #103)
3. 08/25/2015 [Joint Gas and Liquid Pipeline Advisory Committees](#) (Mtg #105)

All Pending and Recent Meetings:

1. 09/09/2015 [PHMSA Pipeline Risk Modeling Methodologies Public Workshop](#) (Mtg #104)
2. 08/27/2015 [Hazardous Liquid Integrity Verification Process \(HL IVP\)](#) (Mtg #103)
3. 08/25/2015 [Joint Gas and Liquid Pipeline Advisory Committees](#) (Mtg #105)
4. 04/22/2015 [Public Workshop on Pipeline Safety Management Systems](#) (Mtg #102)
5. 11/17/2014 [PHMSA National Pipeline Mapping System Public Meeting](#) (Mtg #101)



Questions?

