

AGA-APGA

Natural Gas Distribution Utility Sector

PHMSA's Leak Detection & Repair Rulemaking (RIN 2137-AF51)

November 19, 2024

Gas Distribution Industry & Trade Association Participation

Name	Company / System	States	Customers	Distribution Main Miles
Corinne Byrnes	National Grid	NY, MA	3.49 M	32,500
Stephanie Cherng	SoCal Gas / SDG&E	CA	6.8 M	60,506
Bill DeFoor	Municipal Gas Authority of Georgia	GA	21 – 53,000	10 – 1,500
Carol Hager	Enbridge Gas (US Distribution Companies)	CO, OH, NC, UT, WY, ID	2.87 M	53,900
Joe Hawkinson	Philadelphia Gas Works	PA	510,000	3,050
Connor McGrath	NiSource	IN, OH, PA, VA, KY, MD	3.3M	55,000
Joan Porter	Rhode Island Energy	RI	270,000	3,200
Letty Quezada	Southern Company Gas	GA, IL, TN, VA	4.4 M	148,400
Matt Stennett	Middle Tennessee Natural Gas Utility District	TN	71,000	4,450
Connor Ward	WEC Energy Group	IL, MI, MN, WI	4.6 M	46,515
Ben Warren	Citizens Energy Group	IN	283,000	4,200
Stephanie Watson	Consumers Energy	MI	1.8M	28,277
Tom Webb	Peoples Gas / WEC	IL, MI, MN, WI	4.6 M	46,515

Name	Organization	Email	Membership
Erin Kurilla	American Public Gas Association	ekurilla@apga.org	Publicly & Community-Owned Gas Utilities
Alan Chichester	American Gas Association	achichester@aga.org	Local Distribution Companies
Timothy Parr	American Gas Association	tparr@aga.org	Local Distribution Companies

Gas Distribution Industry Trade Associations



200 Local Energy Companies that
Serve 180 million Americans



Over 740 Municipally, Publicly and
Community Owned Natural Gas Systems



Gas Distribution Industry Involvement

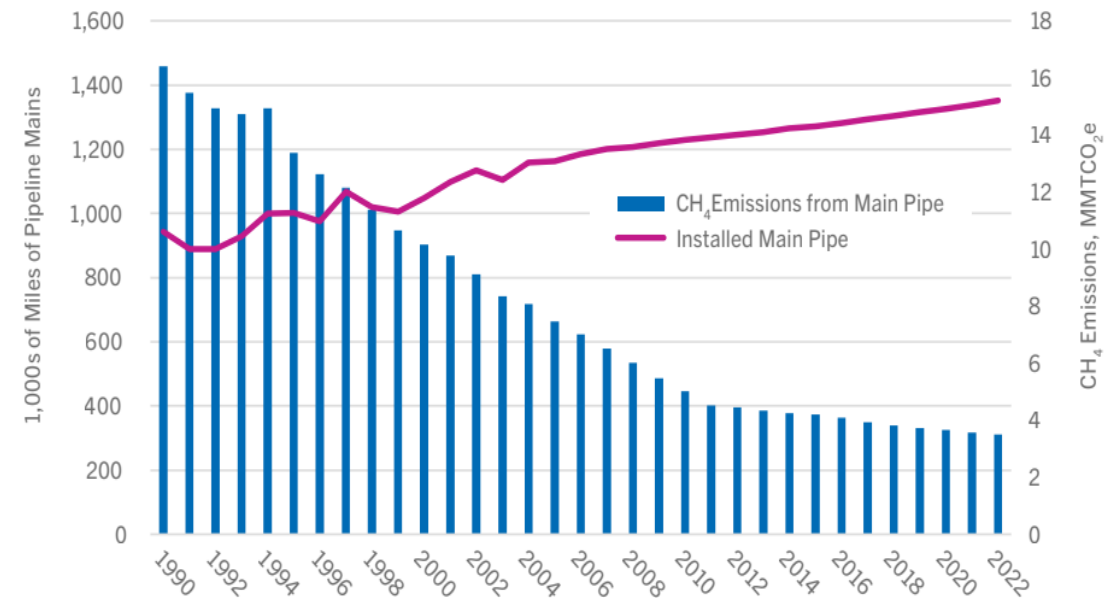
PHMSA Leak Detection & Repair Rule

PIPES Act of 2020	December 2020
PHMSA Leak Detection Workshop	May 2021
Post PHMSA Leak Detection Workshop Joint Industry Comments	June 2021
PHMSA Webinar on Section 114 Implementation	February 2022
Post PHMSA Webinar on Section 114 Joint Industry Comments	March 2022
NPRM Joint Industry Comments	September 2023
PHMSA Gas Pipeline Advisory Committee Participation	December 2023 & March 2024
Post GPAC Meeting Joint Industry Comments	April 2024

Commitment to Emission Reductions

- AGA, APGA, and their members have a proven track record of reducing GHG emissions.
 - Participation in voluntary technology and best practices programs (e.g., EPA's Natural Gas STAR and Methane Challenge) focused reducing methane emissions for more than 20 years.
 - Modernizing infrastructure and enhancing innovation.
 - Focus on reducing third-party damage.
- Because of these efforts, CH₄ emissions from the distribution segment have been declining since 1990, even as the size of the system has grown significantly.
 - Per the 2024 Greenhouse Gas Inventory, natural gas distribution system GHG emissions were 15.3 MMTCO₂e, representing 0.24% of total U.S. gross greenhouse gas emissions.
 - ***This is a 70 percent decline from 1990 levels.***

Figure 1: Distribution System Main Pipe – Activity and CH₄ Emissions



Source: Derived from Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022.
Annex Table 3.6.1 Environmental Protection Agency

Preliminary Regulatory Impact Analysis Concerns

Gas Distribution Pipeline Operators

- Declining to Quantify Safety Benefits
- Limited Consideration of Regulatory Alternatives
- Impacts on Small Entities
- Utilization of Weller Study v. Lamb Study for Assumed Leak Rates on Gas Distribution Pipelines

Preliminary Regulatory Impact Analysis

Declining to quantify safety benefits



49 U.S.C. § 60102 - (a)(2) *The Secretary shall prescribe minimum **safety** standards for pipeline transportation and for pipeline facilities.*

*“Due to the difficulty of predicting the probability of the leaks estimated above to result in injuries, fatalities, or other damages and the severity of the damages, **PHMSA did not monetize the safety benefits of the proposed rule** but notes that these benefits could be significant.”*

Preliminary Regulatory Impact Analysis

Limited Consideration of Regulatory Alternatives



Per Executive Order 12866, PHMSA is required to estimate costs and benefits of “*available* regulatory alternatives.”

Alternatives explored by PHMSA in PRIA:

1. No Action
2. Adjusted Leak Detection Survey Intervals for Plastic Distribution Mains
3. Annual Survey of All Distribution Mains
4. Exempt Transmission & Gas Gathering Compressor Stations Subject to EPA’s OOOOa

Consequential alternatives *not* considered:

1. Compliance Date alternatives
2. Alternative performance standards or minimum sensitivities for ALDP
3. Transmission leak survey & patrol frequencies
4. Leak grading & repair criteria and schedule, especially:
 - emissions-based criteria
 - Grade 3 leak repair schedules
 - exemptions for leaks planned for replacement

Preliminary Regulatory Impact Analysis

Impacts on Small Entities



“PHMSA developed the proposed rule to minimize and mitigate potential impact on small entities by setting performance standards for advanced leak detection but providing flexibility to operator to select the equipment and methods best adapted to their particular circumstances. **PHMSA did not identify significant alternatives to the proposed rule that would accomplish the methane emission reduction objectives in the PIPES Act of 2020 while minimizing the economic impact of the proposed rule on small entities.**”

Table 63: Gas pipeline systems by industry segment and type and size of owning entity					
Segment	Entity type	Number of operators by size of parent owner			Entity type as % of total
		Small	Large	Total	
Gathering and Transmission	Government	145	19	164	13%
	Privately-owned	680	464	1,144	87%
	Total	825	483	1,308	100%
	Size as % of total	63%	37%	100%	
Distribution	Government	871	42	913	69%
	Privately-owned	279	130	409	31%
	Total	1,150	172	1,322	100%
	Size as % of total	87%	13%	100%	
Total ¹	Government	959	49	1,008	42%
	Privately-owned	913	484	1,397	58%
	Total	1,872	533	2,405	100%
	Size as % of total	78%	22%	100%	
¹ The table defines as a “system” a unique combination of operator and state. The total does not add up due to some entities operating gathering and transmission and distribution pipelines in the same states. Source: PHMSA analysis					

Preliminary Regulatory Impact Analysis

Weller vs. Lamb Study for Distribution Leak Rates



EPA, in its May 2024 *Greenhouse Gas Reporting Rule: Revisions and Confidentiality Determination for Petroleum and Natural Gas Systems* final rule, acknowledged flaws in the 2020 Weller study and opted not to rely on the study when developing revisions to the Greenhouse Gas Reporting Program. See 89 Fed. Reg. 42,062, 42,175 (May 14, 2024).

Table ES-4: Comparisons of the total annualized costs and benefits of the proposed rule (million 2020\$)							
Discount Rate	Item	Gathering	Transmission	Distribution		Total ¹	
				Lamb et al. (2015)	Weller et al. (2020)	Low	High
3%	Benefits	\$553	\$12	\$515	\$1,754	\$1,081	\$2,320
	Costs	\$211	\$15	\$514	\$654	\$740	\$880
	Net benefits	\$343	-\$3	\$1	\$1,100	\$341	\$1,440
7% ²	Benefits	\$549	\$12	\$512	\$1,743	\$1,073	\$2,304
	Cost	\$209	\$15	\$530	\$677	\$753	\$900
	Net benefits	\$340	-\$3	-\$18	\$1,067	\$320	\$1,404

¹ Total costs and benefits are presented as a range to reflect different assumptions regarding leak incidence and methane emissions rate across pipe materials. The low estimate reflects distribution costs and benefits based on Lamb et al. (2015) whereas the high estimate reflects distribution costs and benefits based on Weller et al. (2020).

² Costs and benefits of natural gas losses are discounted at 7 percent, whereas climate benefits are based on the average SC-CH₄ at 3 percent discount. See section 5.1.3 for estimated climate benefits using other discount rates.

Source: PHMSA analysis

Technical Feasibility Concerns

Gas Distribution Pipeline Operators

- Gas Distribution Leak Grading and Repair
- Advanced Leak Detection Programs
- Minimizing Vented Emissions
- Effective Date of the Final Rule

Gas Distribution Leak Grading & Repair



Technical Concerns	Procedural Concerns
<ul style="list-style-type: none">• Industry is not prepared to define leaks based upon the volumetric flowrate of the leak.<ul style="list-style-type: none">• Tools to measure volumetric flow rate are advancing, but not yet readily available• The existing tools are costly & impractical for operators with relatively few leaks.• No technical basis for the establishment of a flow rate below 100 kg/hr (the min. flow rate selected by PHMSA under a Grade 1 leak) as being ‘hazardous or gravely hazardous to the environment’.<ul style="list-style-type: none">• The specified flow rates for Grade 2 leaks (10 SCFH) and Grade 3 leaks (5 SCFH) are arbitrary.	<ul style="list-style-type: none">• PRIA does not contemplate the net environmental impact of leak repair.<ul style="list-style-type: none">• The emission costs of performing the <u>construction activity</u> are absent.<ul style="list-style-type: none">• 9x the emissions to repair Grade 3 (11x or 18x under pavement)• The environmental impact of repairing a leak vs. waiting for a scheduled pipe replacement is not considered• PRIA fails to consider impacts due to the expanded leak grading criteria (i.e. cost to perform leak surveys, leak investigations, and the grading of leaks).

- **Estimating the number of leaks discovered.** Leak discovery is a function of the mileage surveyed and survey effectiveness, where survey effectiveness is relative to the methods used in the studies on which the incidence rate is based, *e.g.*, 85 percent effectiveness means that the survey will discover 85 percent of leaks that would have been discovered by Lamb *et al.* (2015) or Weller *et al.* (2020). PHMSA assumes the same survey effectiveness across all leak grades.
- **Dividing the leaks by grade.** PHMSA assumes a uniform proportion of leaks discovered are grades 1 and 2 (G1&G2) vs. grade 3 (G3).

Advanced Leak Detection Programs



Technical Concerns	Rulemaking PRIA Concerns
<ul style="list-style-type: none">Requirement to periodically re-evaluate (1-3 years) a program that meets requirements prescriptively outlined by other sections of regulation.<ul style="list-style-type: none">Tool selection - <i>given minimum tool sensitivity requirements</i>Leak survey frequency - <i>given prescribed leak survey frequencies</i>Leak repair timelines - <i>given prescribed leak repair timelines</i>Industry supports evaluating what has <u>changed</u> since the last program review was performed	<ul style="list-style-type: none">PHMSA fails to fully consider the cost of developing and reviewing this program.PHMSA includes two costs associated with ALDP:<ul style="list-style-type: none">Initial updating of leak survey and repair proceduresInitial selection of leak detection equipment

Advanced Leak Detection Programs



“PHMSA expects that all gas distribution system operators currently have a written procedure for grading and repairing leaks as part of their **Distribution Integrity Management Program (DIMP) or other programs but will need to revise their existing procedure to comply with the proposed rule requirements.** Similarly, all operators will need to document the analysis supporting the selection of leak detection equipment meeting performance requirements in the proposed rule. Following the approach described in section 4.1.5, **PHMSA assumed 61.5 hours and 23 hours,** respectively for developing or updating these documents. Each of the 1,338 unique distribution system operators is **expected to complete these revisions once at the start of the period of analysis.**”

Table 29: Incremental annualized costs of gas distribution system reporting and recordkeeping requirements					
Requirement	Costing assumptions			Annualized cost (Million 2020\$) ¹	
	Count	Burden (hours)	Life (years)	3%	7%
Written procedures for grading and repairing leaks	1,322	61.5	15	\$0.6	\$0.7
Requests for extension of leak remediation time	1,000	8.0	1	\$0.7	\$0.7
Leak detection equipment choice analysis	1,322	23.0	15	\$0.2	\$0.3
Report of incidents involving large volume releases of gas	200	12.0	1	\$0.2	\$0.2
Additional reporting of leaks in the Annual Distribution Report	1,322	6.0	1	\$0.7	\$0.7
Total ²				\$2.4	\$2.6

PRIA: One-time activity
PHMSA NPRM: Annual revaluation
GPAC Recommendation: Revaluation every 3-years

PHMSA PRIA. Pipeline Safety: Gas Leak Detection and Repair. Page 65.

Minimizing Vented Emissions



Technical Concerns

- The mandated Section 114 reports were not completed until well past the NPRM publication and comment periods.
- “Minimize” vs “Reduce”
 - “Minimize” suggests that operators must implement a solution that seeks minimization of emissions at the expense of all other considerations (cost, reliability of service, pipeline and employee safety, etc.)
- The LDAR Rule should avoid duplication with EPA’s 2024 Subpart W and OOOO Rules.

Procedural Concerns

- No cost is attributed to compliance with this section.
 - PRIA assumes that all required actions are already being taken per PIPES Act Section 114 mandate.

Table ES-6: Total annualized costs and benefits of the proposed rule relative to a pre-statutory baseline (million 2020\$, at 3 percent discount)						
Rule element	Annualized costs		Annualized benefits ¹		Net benefits	
	Low ²	High ²	Low ²	High ²	Low ²	High ²
Blowdown emissions		\$657		\$229		-\$429
Other requirements	\$739	\$878	\$1,061	\$2,301	\$324	\$1,423
Proposed rule total	\$1,396	\$1,535	\$1,290	\$2,530	-\$105	\$995
¹ Climate benefits based on estimate developed by the IWG of the average SC-CH ₄ at 3 percent discount.						
² The range reflects different leak incidence rates and emission factors for distribution pipelines. For the low estimate, distribution costs and benefits are based on distribution leak incidence rates and emission factors from Lamb <i>et al.</i> (2015). For the high estimate, distribution costs and benefits are based on distribution leak incidence rates and emission factors from Weller <i>et al.</i> (2020).						
Source: PHMSA analysis						

Effective Date of Final Rule



Technical Concerns	Procedural Concerns
<ul style="list-style-type: none">• The amount of time between publication date and effective date will impact the overall costs to comply.<ul style="list-style-type: none">• <i>Long Timeline:</i> Allows for updates to occur during ‘normal course of business’• <i>Short Timeline:</i> Requires dedicated resources & potential need for outside consultants to assist with compliance.• Ability for small operators to comply will be greatly impacted by availability of contractors/consultants.	<ul style="list-style-type: none">• PRIA does not contemplate how differing effective dates will impact the burden of compliance.

Thank You

Name	Organization	Email	Membership
Erin Kurilla	American Public Gas Association	ekurilla@apga.org	Publicly & Community-Owned Gas Utilities
Alan Chichester	American Gas Association	achichester@aga.org	Local Distribution Companies
Tim Parr	American Gas Association	tparr@aga.org	Local Distribution Companies