Welcome to the Informational Webinar for Section 114 of the PIPES Act of 2020

Section 114
PIPES Act of 2020
Informational Webinar

February 17, 2022

Webinar Objective

- Informational Webinar
- Overview of Section 114 requirements
- Inspection Program

➢ Presentation Materials to be posted

➢ Illustrative Inspection Questions to be posted

Webinar Agenda

1. Introduction & Objective, Byron Coy
2. Opening Remarks & Timeline, Alan Mayberry
3. Section 114 Requirements, Sayler Palabrica
4. Natural Gas Emission Data, Sayler Palabrica
5. Break
6. Applicability & Inspection Program, Byron Coy
7. lllustrative Inspection Questions, Rod Seeley
8. Enforcement & Conclusion, Byron Coy

Opening Remarks

- Natural Gas is principally comprised of methane, a potent Greenhouse Gas (GHG)
- Greater impact on climate change than carbon dioxide
- Natural Gas breaks down faster than CO_2
- Congressional Mandate to:
  - Reduce Natural Gas Emissions
  - Repair/Replace Leak-Prone Pipe

Timeline of Significant Milestones

- Publication of The PIPES Act, December-2020
- Advisory Bulletin, June-2021
- PHMSA builds Inspection Program in 2021
- Operators compliant by late December-2021
- Illustrative Inspection Questions on Web Site in February-2022
- Program & Procedures Inspections starting in 2022
- Implementation Inspections begin in 2023

The PIPES Act of 2020 – Sect. 114

Summary

- The PIPES Act of 2020 was signed on December 27, 2020
  - (Pub. L. 116-260).
- Section 114 contains self-implementing requirements for operators with respect to their inspection and maintenance plans.
- The requirements appear in the Act itself and 49 U.S.C. 60108.

Main Points

- The requirements apply to operators of all regulated pipeline facilities, including (but not limited to) DOT-jurisdictional storage facilities and LNG (part 193) facilities.
- By Dec 27, 2021, operators must update their inspection and maintenance plans to address:
  - Eliminating hazardous leaks of natural gas
  - Minimizing releases of natural gas
  - Replacement or remediation of all pipelines that are known to leak
- PHMSA and state authorities must perform inspections in calendar year 2022.

Who must update their plans?

§ 114(a) of the PIPES Act of 2020 revises 49 U.S.C. § 60108. These slides put the amendments in context.

Unchanged, but defines the scope

49 U.S.C. § 60108

(a) Plans.--(1) Each person owning or operating a gas pipeline facility or hazardous liquid pipeline facility shall carry out a current written plan (including any changes) for inspection and maintenance of each facility used in the transportation and owned or operated by the person. […]

Who must update their plans?, cont'd

- Inspection and Maintenance Plan requirements in 49 U.S.C. 60108 apply to "each person owning or operating a *gas pipeline facility* or *hazardous liquid pipeline facility.*
- The requirement to eliminate hazardous leaks and minimize releases of natural gas from pipeline facilities applies to all operators of "pipeline facilities" under the Federal Pipeline Safety Laws —whether that facility transports natural gas or not
  - Could apply to a hazardous liquid pipeline facility that utilizes natural gas in the pipeline facility.
- The requirement to address the replacement or remediation of leak prone facilities is also not limited to gas pipeline operators.

What must be changed in the plans?

49 U.S.C. § 60108(a)(2)

In deciding on the adequacy of a plan, the Secretary or authority shall consider-

(A) relevant available pipeline safety information;

(B) the appropriateness of the plan for the particular kind of pipeline transportation or facility;

(C) the reasonableness of the plan;

(D) the extent to which the plan will contribute to—

(i) public safety;

(ii) eliminating hazardous leaks and minimizing releases of natural gas from pipeline facilities; and

(iii) the protection of the environment; and

(E) the extent to which the plan addresses the replacement or remediation of pipelines that are known to leak based on the material (including cast iron, unprotected steel, wrought iron, and historic plastics with known issues), design, or past operating and maintenance history of the pipeline.

49 U.S.C. 60108(a)(2)(D)(ii) and (E) are the amendments covered by the self-implementing mandate in § 114(b) of the PIPES Act of 2020

When must plans be updated?

Section 114(b) of the Act directly requires operators to update their plans.

(b) DEADLINE.—**Not later than 1 year after the date of enactment of this Act**, **each pipeline operator** shall update the inspection and maintenance plan prepared by the operator under section 60108(a) of title 49, United States Code, **to address the elements described in the amendments to that section made by subsection (a).**

Operators must update by December 27, 2021

Each person owning or operating a gas pipeline facility or hazardous liquid pipeline facility

- Eliminating hazardous leaks and minimizing releases of natural gas from pipeline facilities.
- Addresses the replacement or remediation of pipelines that are known to leak [...]

Inspection and Enforcement

49 USC § 60108(a) Continued

(3) Review of plans.—

(A) In general.—Not later than **2 years after the date of enactment of this subparagraph**, and not less frequently than once every 5 years thereafter, the Secretary or relevant State authority with a certification in effect under section 60105 **shall review each plan described in this subsection.**

(B) Context of review.—The Secretary may conduct a review under this paragraph as an element of the inspection of the operator carried out by the Secretary under **subsection (b).**

(C) Inadequate programs.—If the Secretary determines that a plan reviewed under this paragraph does not comply with the requirements of this chapter (including any regulations promulgated under this chapter), has not been adequately implemented, is inadequate for the safe operation of a pipeline facility, or is other inadequate, the Secretary **may conduct enforcement proceedings** under this chapter.

PHMSA/states must inspect for compliance by December 27, 2022

If PHMSA/states determine the procedures are inadequate, may take enforcement action

Other Statutory Requirements: Reports

- **Sec. 114(c): Comptroller Report**
  - Within 1 year after the Secretary's review of operator plans, GAO will audit PHMSA on inspection process
    - GAO report due December 2023
  - GAO will be looking at PHMSA data so they can include recommendations to further "minimize natural gas emissions without compromising pipeline safety"
- **Sec. 114(d): DOT Secretary Report**
  - 18 months after the date of enactment, the Secretary must issue a report on the *best available technologies, practices, and facility design to minimize venting emissions*.

Other Statutory Requirements: Rulemaking

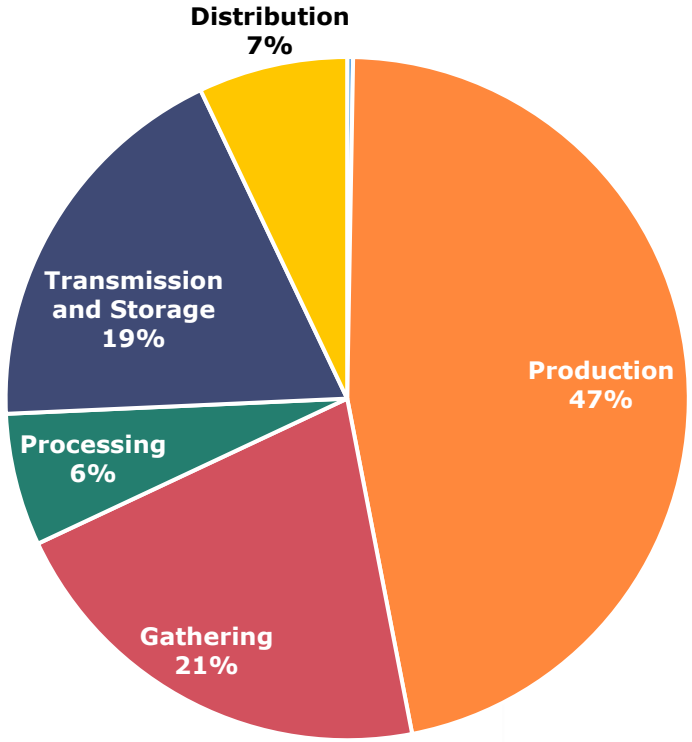
- **60102(q) Gas Pipeline Leak Detection and Repair**
  - 1 year after the date of enactment, PHMSA must issue final regulations regarding leak detection and repair for gas operators.
  - PHMSA is currently working on the regulations.
- **Sec. 114(d): DOT Secretary Rulemaking**
  - Up to 180 days after the date of the report on best available technologies, the Secretary shall update the pipeline safety regulations the Secretary has determined necessary to protect the environment without compromising pipeline safety.

NATURAL GAS TRANSPORTATION EMISSIONS

Natural Gas Industry Methane Emission Estimates

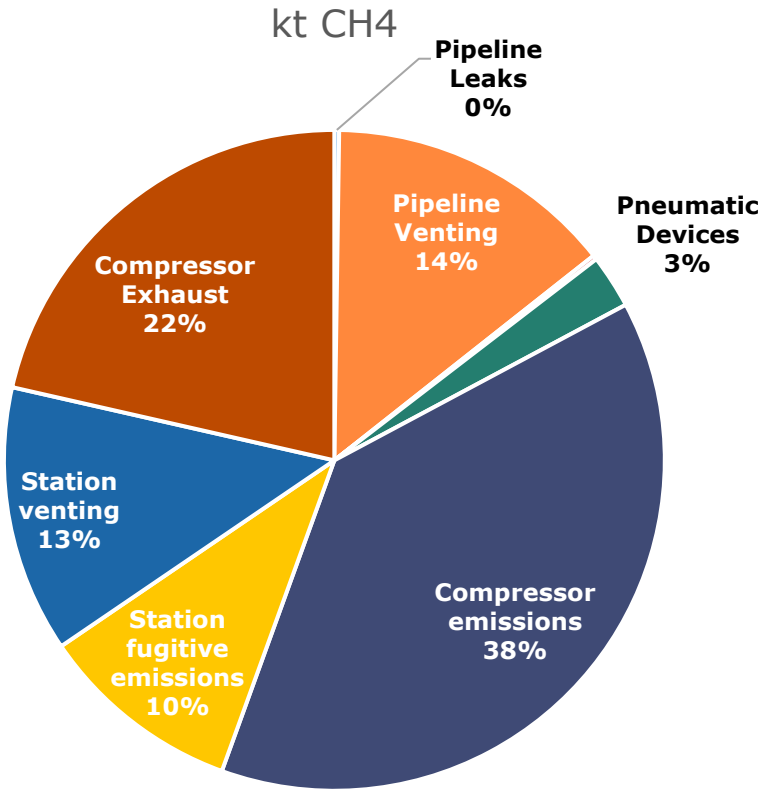
U.S. Environmental Protection Agency (EPA). Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks (GHG Inventory): 1990-2019. February 12, 2021.

Source	Kt CH4*	MMcf
Exploration	22	1,402
Production	3,700	235,856
Gathering	**1,670**	**106,454**
Processing	497	31,681
Transmission and Storage	**1,478**	**94,215**
Distribution	**560**	**35,697**
Total	7,927	505,306
Data for 2019		



Data – Gas Transmission

Source	Kt CH4	MMcf CH4
Pipeline Leaks	3.3	210
Pipeline Venting (maintenance and upset)	199.4	12,708
Pipeline Venting (normal operation)	3.0	193
Pneumatic Devices	36.9	2,355
Compressor emissions	541.0	34,486
Station fugitive emissions	140.6	8,961
Station venting	184.4	11,754
Compressor Exhaust	302.6	19,291
Total	**1,411.3**	**89,959**



Data – Gas Transmission Compressor Stations

Source	kt CH4
Fugitive emissions	140.6
Reciprocating compressor	406.5
Centrifugal compressor (wet seals)	56.9
Centrifugal compressor (dry seals)	77.7
Engine Exhaust	287.0
Turbine Exhaust	1.6
Generator Engines (inc. storage)	14.0
Generator Turbine	.004
Station venting	184.4

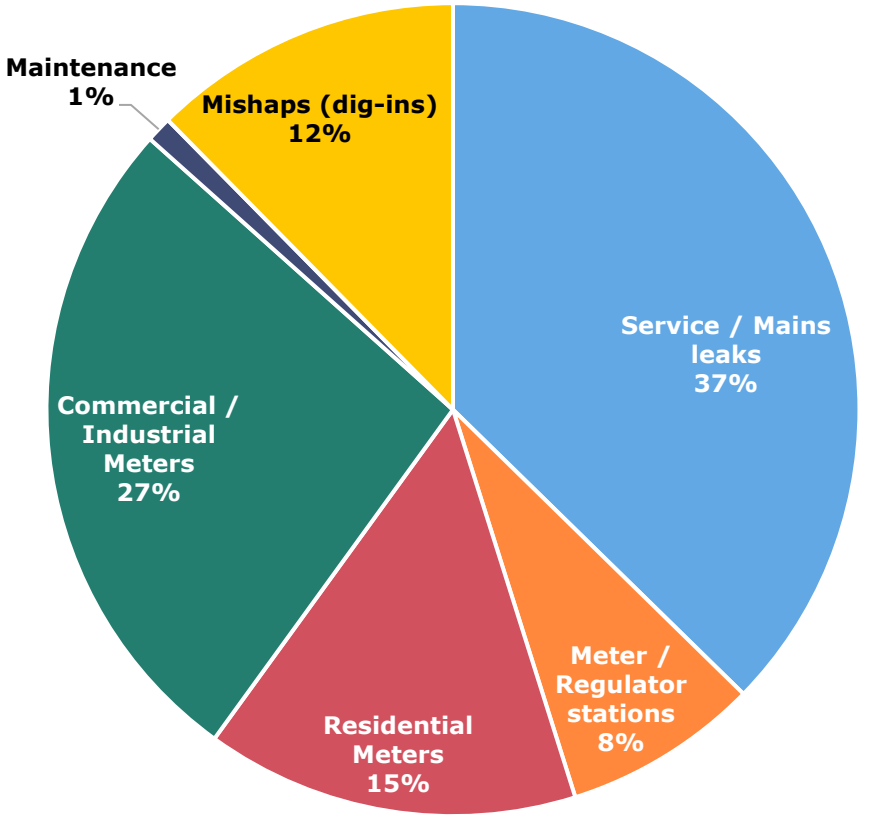
Vented Emission - Sources

Most gas transmission emissions are vented emissions. Vented emissions sources include:

- Blowdowns associated with repairs / maintenance, and replacement / construction,
- Vents from equipment such as pressure relief devices, regulators (gas use), emergency shut down devices (ESD),
- Venting from ruptures, upset conditions and third-party damage,
- Current facility / equipment designs, and
- Section 114(d) study to help identify pipeline facilities' vented emissions sources.

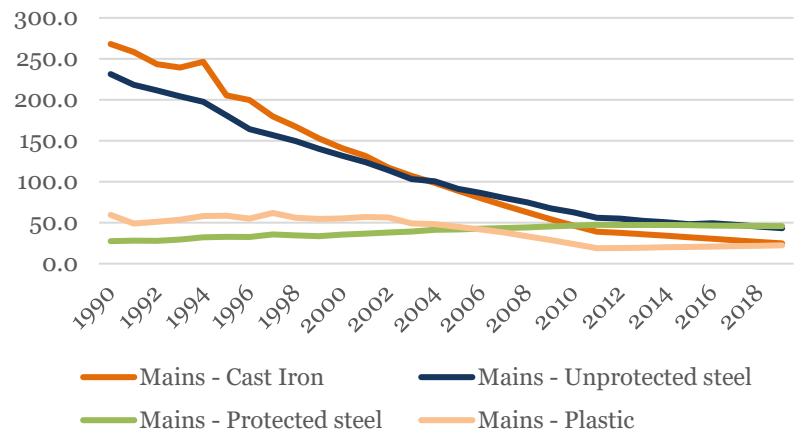
Data – Gas Distribution

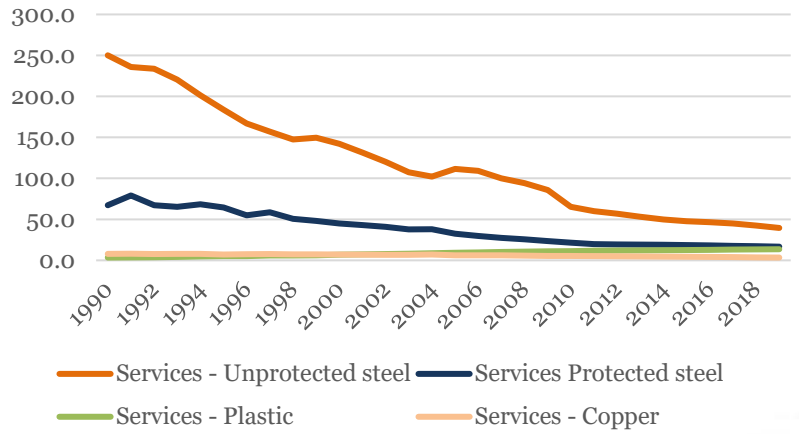
Source	Kt CH4*	MMcf
Service / Mains leaks	209.0	13,321
Meter / Regulator stations	43.7	2,786
Residential Meters	83.1	5,300
Commercial / Industrial Meters	149.0	9,500
Maintenance	5.7	364
Mishaps & Third-Party Damage	69.3	4,417
Total	**559.9**	**35,688**



Data – Gas Distribution Leaks

Material	Kt CH4 from Main Leaks	Kt CH4 from Service Line Leaks
Cast Iron	24.6	N.Q.
Unprotected Steel	43.3	39.6
Protected Steel	22.3	16.6
Plastic	39.6	13.5
Copper	N.Q.	3.3





Fugitive Emissions - Sources

Most gas distribution emissions are 'fugitive emissions.' Fugitive emissions sources include:

- Leak-prone pipe, especially cast iron and bare-steel systems, or plastic systems with known problems.
- Commercial/industrial meter sets.
- Compressor stations.
- Residential meter sets.
- Excavation damage and other incidents.

Links – EPA emissions data

- GHG inventory vs GHG Reporting Program
- EPA GHG Inventory and Sinks:
  - Draft 2021 GHG inventory and sinks
  - 2021 GHG inventory and sinks methodology table
- EPA GHG Reporting Program: Oil and Gas Industry
  - High Level: O&G Sector Industrial Profile
  - Facility Level: FLIGHT

Applicability to Section 114

- Natural Gas Emissions
  - Gas Transmission
  - Underground Natural Gas Storage
  - Liquified Natural Gas
  - Natural Gas Distribution Companies & Master Meters
  - Gas Gathering & Boosting
  - Part 192/195 Pipeline Facilities for Commodities other than Natural Gas
    - But using natural gas as fuel, power, appurtenance or instrument gas
- Leak-Prone Pipe
  - All Regulated Operators

Inspection Program
Pilot Inspections Conducted in 3Q-2021

State refers to Operator's main office location

Operator's program/procedures often applied to assets in multiple states

State	GT	GD	MM	UNGS	LNG	GG	HL
IL		X		X	X		
AK							X
TX				X			
OH						X	
UT	X						
OH		X					
FL			X				
CT	X						
TX							X
TX			X				
TX						X	
PA					X		
TX	X						

Inspection Program
Pilot Inspection Conclusions

- Many existing practices have been in place to minimize releases, prior to the enactment of Section 114.
- Some Operators may already be obliged by EPA regulations to have emissions reduction programs in place
- Voluntary industry methane reduction efforts are in place with some Operators
- Many Operators collect leak information, but fewer routinely analyze that data to identify leak-prone pipe and take remedial/replacement actions or modify their processes
- Identification of leak-prone pipe does not seem to be a recognized need by all operators

Inspection Program
Initial Inspections

- Programs & Procedures
- Well-suited for Virtual Format
- Mostly Stand-alone
- Could be Bundled with other Inspections

Inspection Program
Scope of Initial Inspections

- Inspections will focus on verifying operator procedures contain written, detailed, technically supported measures for Emission Reduction and replacement/remediation of Leak-Prone Pipe
- Inspections not focused on verifying compliance across the broad spectrum of PHMSA, State, and EPA regulations – but inspectors will not ignore violations discovered

Inspection Logistics

- Illustrative Inspection Questions
  - To be posted on Web Site
  - Subject to change and adaptation for different operators, by different inspectors
  - Inspectors may ask follow up questions, soliciting the precise content and supporting technical basis for Operator procedures
- One Inspection per Program
  - A single OPID may have multiple Programs
  - A single Program may cover multiple OPIDs
- Inspection by PHMSA or State Partners

2022 Inspection Process
EPA Programs & Regulations

- Adoption or compliance with EPA programs and regulations may address some Section 114 requirements
- Inspections not focused on compliance with EPA regulations or the universe of all PHMSA or State regulations -- but inspectors will not ignore violations discovered

Illustrative Inspection Questions Focus Areas

- Natural Gas Emission Reduction
  - Vented Releases
  - Fugitive Releases
- Leak-Prone Pipe
  - Remediation
  - Replacement

Inspection Program
2022 Inspection Topical Areas

Topic Areas	Questions
Scoping	4
Compressors	1
Drivers & Engines	1
Leaks & Releases	14
Leak Mitigation & Repair	5
Regulator Stations	2
Testing	2
Flaring	1
General	2

Illustrative Inspection Questions
Asset Group Table

Inspection	Asset Group	Topic Areas	Total Questions
Natural Gas Emissions	Gas Transmission	7	14
	Underground Natural Gas	5	11
	Liquified Natural Gas	6	18
	Distribution & Master Meters	6	12
	Gas Gathering & Boosting	6	12
	Non-Natural Gas Facilities	4	5
Leak-Prone Pipe	All Operators	2	4

Illustrative Inspection Questions
Scoping

- Inspection Coverage: What are your assets comprised of?
- Gas Transportation: Do you transport natural gas as a specific commodity (i.e., not a byproduct or constituent of another substance)?
- Driver or Engines: Do you use natural gas-fueled drivers or engines to compress natural gas?
- Use of Natural Gas: Do you use natural gas for fuel or power appurtenances or instruments on regulated facilities?

Illustrative Inspection Questions
Compressors

- Do the maintenance and operations procedures for compressors include provisions to minimize fugitive natural gas losses?

Illustrative Inspection Questions
Drivers & Engines

- Do maintenance procedures include measures for monitoring and correcting incomplete combustion of natural gas in driver or engine exhausts and taking corrective action if identified?

Illustrative Inspection Questions
Leaks & Releases

- Identification of Fugitive Emissions: Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?
- Venting: Do procedures identify measures for minimizing natural gas release volumes associated with non-emergency venting and blowdowns from operations and maintenance?
- Investigation of unanticipated vented releases: Do procedures provide for investigation of any unanticipated vented releases of natural gas, and if so, what are the associated actions?

Illustrative Inspection Questions
Leaks & Releases

- Leak Data Collection and Analysis: Do procedures include a methodology to collect, retain and analyze detailed information from detected natural gas leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?
- Leak Identification: Do procedures include instructions for personnel to detect leaks to help further reduce emissions in stations and along the right of way?

Illustrative Inspection Questions
Leaks & Releases

- Wellhead: Do procedures provide for periodic leakage surveys around the wellhead?
- Annulus: Do procedures provide for periodic checking of wellhead annuluses for indication of leaks (e.g., unexplained pressure variations) ?
- Field Integrity: Do procedures provide for leak surveys for well casing containment or geologic issues?

(These questions traditionally associated with UNGS)

Illustrative Inspection Questions
Leaks & Releases

- Tank Shell: Do procedures provide for monitoring for temperature variations on tank shells that could be indicative of leaks?
- Tank Disturbances: Do procedures for tank inspections after meteorological or geophysical disturbances include leak detection?
- Tank Cooldown: Do procedures provide that after cooldown stabilization is reached, flanges, valves and seals are checked for leaks?
- Tank Boil off: Do procedures provide for collection of boil-off gas from LNG tanks to avoid releases?

(These questions traditionally associated with LNG Facilities)

Illustrative Inspection Questions
Leak Mitigation & Repairs

- Repair Procedures: Do procedures provide alternatives to cutouts (to reduce emissions)?
- Do procedures define a process to identify, classify, mitigate and repair leaks?
- Lost & Unaccounted for Gas: Do procedures provide for review of Lost & Unaccounted for Gas (LAUF)? Do procedures specify actions to reduce the associated volume?

Illustrative Inspection Questions
Regulator Stations

- Do Operator maintenance or operational procedures contain measures for reduction of natural gas releases from regulators?
- Do Operator maintenance or operational procedures contain measures for identifying potential configuration changes that would reduce natural gas releases from regulators?

Illustrative Inspection Questions
Testing

- Emergency Shutdown Devices: Do procedures contain measures for ensuring ESD testing minimizes natural gas releases?
- Relief Valves: Do relief valve testing procedures include measures to minimize natural gas releases?

Illustrative Inspection Questions
Flaring

- Do procedures for flaring from pipeline facilities for transporting natural gas include measures for minimization of natural gas emissions?

(Limited to Transportation Facilities)

Illustrative Inspection Questions
General

- Feedback to Design/Configuration Practices: Do operation and maintenance procedures contain mechanisms for identifying potential design/configuration changes for reducing natural gas releases?
- Compressor Station: Do procedures contain mechanisms for minimizing natural gas emissions from operations and maintenance activities within a compressor station (i.e., beyond compressor/driver-specific procedures)?
- What procedures are in place to reduce natural gas emissions during normal maintenance activities on facilities that contain LNG?

Illustrative Inspection Questions
Leak-Prone: Leaks & Releases

- What procedures are in place to monitor for and identify pipe segments that are leak prone?
- What criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?

Illustrative Inspection Questions
Leak-Prone: Leak Mitigation & Repairs

- Example Section 114 Materials: Does the operator have procedures to identify cast iron, unprotected steel, wrought iron, and vintage plastic pipe, with known leak issues?
- Other Materials: Do the procedures clearly define a process to address replacement or remediation of pipe segments with known leak issues beyond those specifically identified in Section 114?

Enforcement Process
Citing the Act

- If violations of Section 114 are discovered, PHMSA and State partners will take appropriate enforcement action citing the Act or the regulations, as appropriate.

Enforcement Options

- Notice of Amendment – where an operator's plans or procedures are found to be inadequate
- Notice of Probable Violation – where an operator has failed to comply with the applicable requirements
- Other enforcement options, if appropriate, see 49 CFR part 190

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Thank You!

For Further Information

As noted in the Federal Register Notice for this Webinar, Contact:

Byron Coy PE
Sr. Technical Advisor
byron.coy@dot.gov
609-771-7810