

Section 114 - Inspection Status

Data through November 1, 2022

November 2022



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

PHMSA: Your Safety is Our Mission



Status as of November 1, 2022

- Federal data obtained from Inspection Assistant (IA)

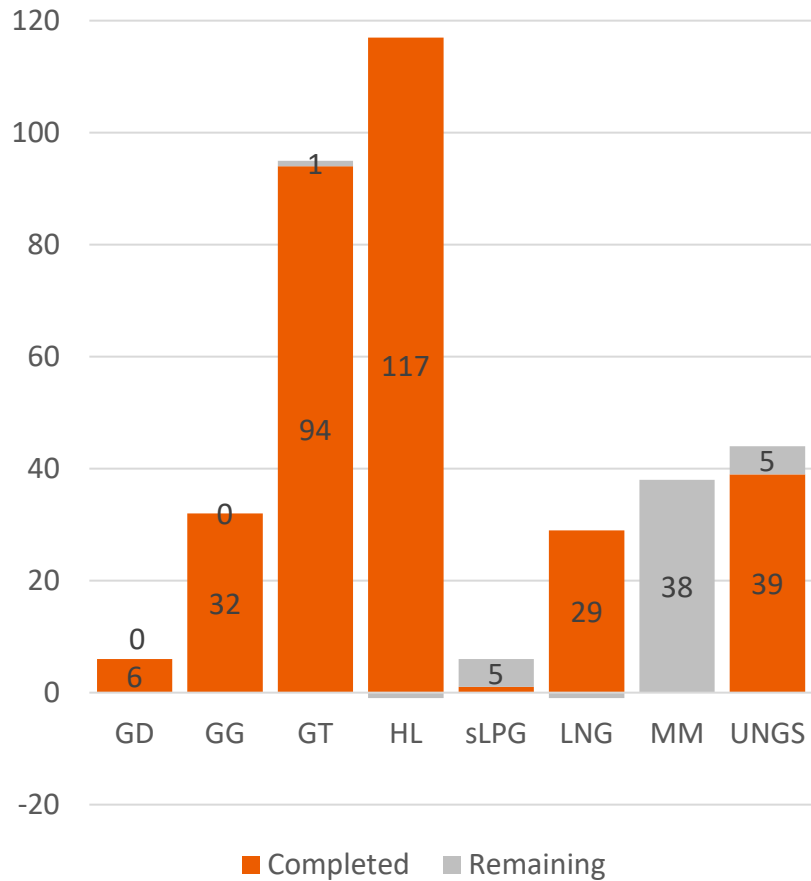
Inspection Org	Section 114 System	Inspections Completed	Inspections Assigned	Percent Complete	
				By Asset Type	Inspection Org
Federal	GD	6	6	100%	91%
	GG	32	15	213%	
	GT	94	95	99%	
	HL	117	116	101%	
	sLPG	1	6	17%	
	LNG	29	28	104%	
	MM	0	38	-	
	UNGS	39	44*	89%	

*Reduced by 13 to reflect transfer of responsibility to State Programs

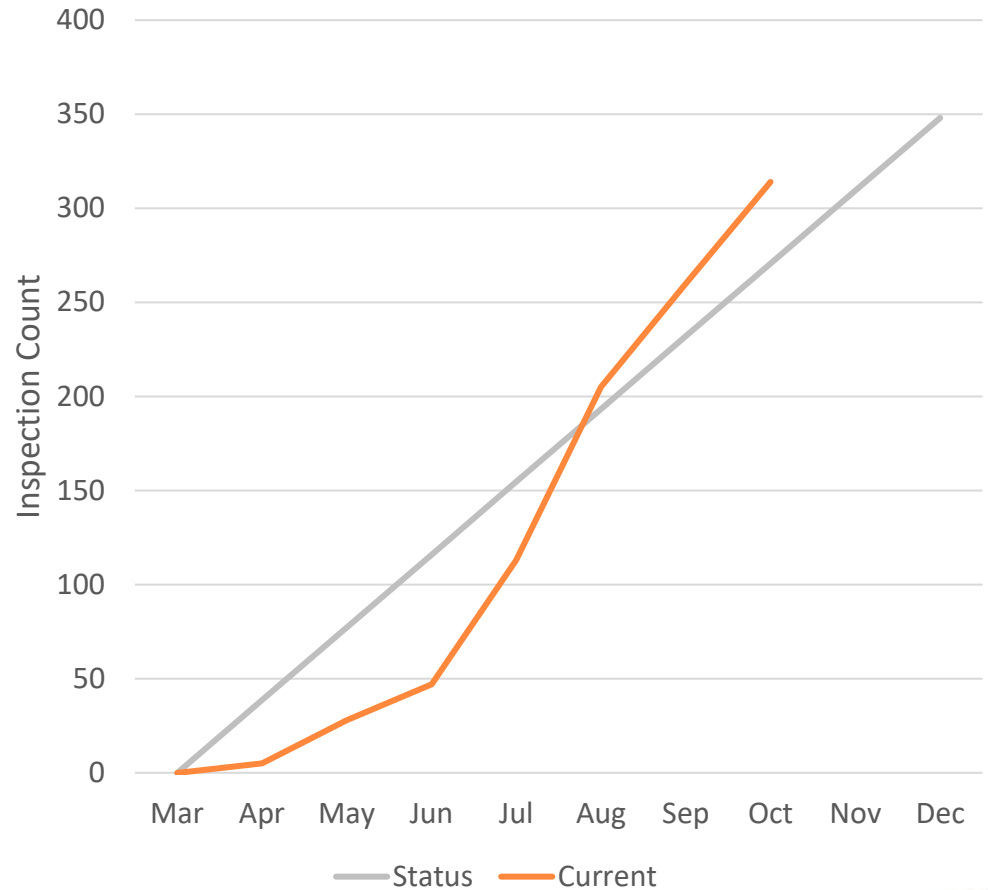


Federal Inspections

Inspection Completion by Section 114 Type

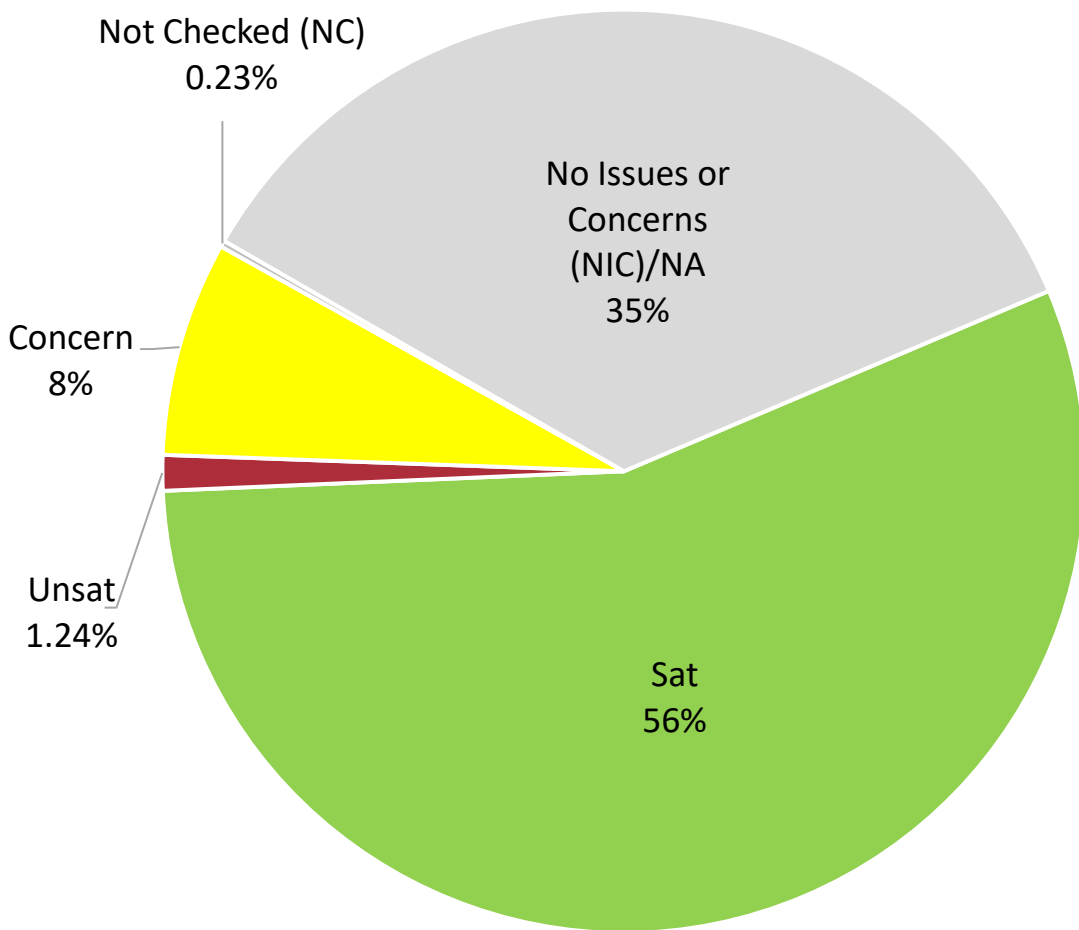


Overall Inspection Progress



IA Data - Federal

Overall Federal - IA Results



Satisfactory Results

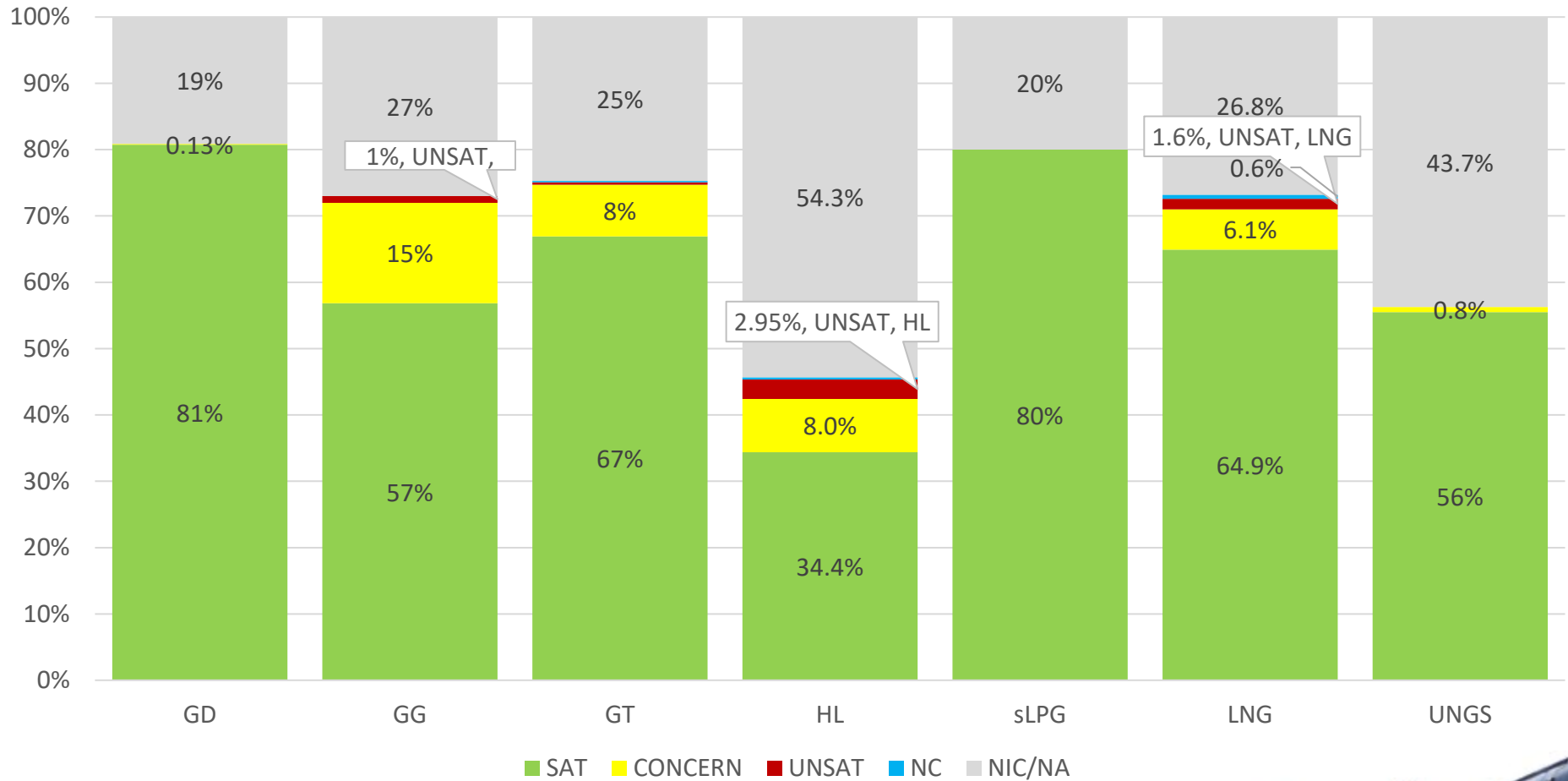
Attributed to:

- Existing Integrity Management Programs
- Existing Leak Management Programs
- Operator Initiatives
- New Section-114 Expectations
- EPA Requirements & Volunteer Programs



IA Data - Federal

Question Results by Section 114 Type



Federal Inspections

FEDERAL INSPECTIONS BY REGION			
Date December 7, 2022			
Region	# Assigned	# Completed	# Remaining
Central	44	44	0
Eastern	80	79	1
Southern	58	20	1 operator / 37 master meters
Southwest	111	110	1
Western	78	78	0

All non-master meter assignments will be inspected by December 30, 2022



IA Data – Federal Unsat

	QST_ID	Question	Std Issue	COUNT	
				TOT	UNSAT
GG	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	Process omission	8	1
GT	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	Process omission	634	54
HL	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	Process omission	630	86



IA Data – Federal Unsat

	QST_ID	Question	Std Issue	COUNT	
				TOT	UNSAT
HL	114.LEAKPRONE. LKMITGRPEXAMPLE.P	Do procedures identify cast iron, unprotected steel, wrought iron, and vintage plastic pipe with known leak issues?	Process omission	630	43
HL	114.LEAKPRONE. LKRLSLKDATA.P	Do procedures include a methodology to collect, retain and analyze detailed information from detected leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?	Process omission	630	42
HL	114.114. GNLDSGNCNFG.P	Do operation and maintenance procedures contain mechanisms for identifying potential design/configuration changes for reducing natural gas releases?	Process omission	621	39



IA Data – Federal Unsat

	QST_ID	Question	Std Issue	COUNT	
				TOT	UNSAT
HL	114.114.DRIVERENGINE.P	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?	Process omission	620	12
HL	114.LEAKPRONE.LKMITGRPROTHER.P	Do procedures clearly define a process to address replacement or remediation of pipe segments with known leak issues beyond those specifically identified in Section 114?	Process omission	630	3
LNG	114.114.LKRLSID.P	Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?	Process deficiency (paperwork/documentation)	32	1
LNG	114.114.LKRLSLKDATA.P	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?	Process deficiency (paperwork/documentation)	33	1



IA Data – Federal Unsat

				COUNT	
	QST_ID	Question	Std Issue	TOT	UNSAT
LNG	114.114.LKRLSTNKSHELL.P	Do procedures provide for monitoring for temperature variations on tank shells that could be indicative of leaks?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114.TESTESD.P	Do procedures contain measures for ensuring ESD testing minimizes natural gas releases?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114.GNLDSGNCNFG.P	Do operation and maintenance procedures contain mechanisms for identifying potential design/configuration changes for reducing natural gas releases?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114.LKRLSVENT.P	Do procedures identify measures for minimizing natural gas release volumes associated with non-emergency venting and blowdowns from operations and maintenance?	Process deficiency (paperwork/documentation)	33	1



IA Data – Federal Unsat

	QST_ID	Question	Std Issue	COUNT	
				TOT	UNSAT
LNG	114.114.TESTRELIEFVLV.P	Do relief valve testing procedures include measures to minimize natural gas releases?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114.COMPRESSOR.P	Do the maintenance and operations procedures for compressors include provisions to minimize fugitive natural gas losses?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114.DRIVERENGINE.P	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?	Process deficiency (substantive)	33	1
LNG	114.114.GNLLNG.P	What procedures are in place to reduce natural gas emissions during normal maintenance activities on facilities that contain LNG?	Process deficiency (paperwork/documentation)	33	1



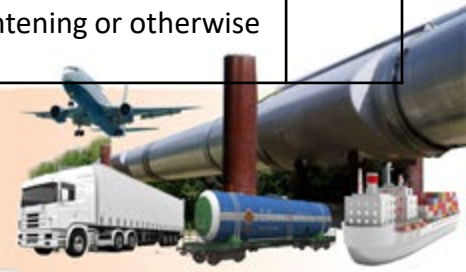
IA Data – Federal Unsat

	QST_ID	Question	Std Issue	COUNT	
				TOT	UNSAT
LNG	114.114. LKRLSDETECTLK.P	Do procedures include instructions for personnel to detect leaks to help further reduce emission in stations and along the right of way?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114. LKRLSUNEXPCTVENT.P	Do procedures provide for investigation of any unanticipated vented releases of natural gas, and if so, what are the associated actions?	Process deficiency (paperwork/documentation)	33	1
LNG	114.114. LKRLSTNKCOOLDOWN.P	Do procedures provide that after cooldown stabilization is reached, flanges, valves and seals are checked for leaks?	Process deficiency (paperwork/documentation)	31	1



IA Data – Federal Concern $\geq 10\%$

	QST_ID	Question	%
GD	114.114.LKRLSID.P	Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?	15%
GG	114.114.LKMITGRPRREPAIR.P	Do procedures provide alternatives to cutouts (to reduce emissions)?	50%
GG	114.114.FLARE.P	Do procedures for flaring from pipeline facilities for transporting natural gas include measures for minimization of natural gas emissions?	25%
GG	114.114.LKRLSLKDATA.P	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?	25%
GG	114.114.TESTESD.P	Do procedures contain measures for ensuring ESD testing minimizes natural gas releases?	25%
GG	114.114.TESTRELIEFVLV.P	Do relief valve testing procedures include measures to minimize natural gas releases?	25%
GG	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	25%
GG	114.114.LKRLSDETECTLK.P	Do procedures include instructions for personnel to detect leaks to help further reduce emission in stations and along the right of way?	17%
GG	114.114.DRIVERENGINE.P	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?	13%
GG	114.114.LKRLSID.P	Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?	13%
GG	114.LEAKPRONE.LKRLSLKDATA.P	Do procedures include a methodology to collect, retain and analyze detailed information from detected leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?	13%



IA Data – Federal Concern $\geq 10\%$

	QST_ID	Question	%
GT	114.114.LKRLSLKDATA.P	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?	21%
GT	114.LEAKPRONE.LKRLSLKDATA.P	Do procedures include a methodology to collect, retain and analyze detailed information from detected leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?	18%
GT	114.114.GNLCMPSTATION.P	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)?	17%
GT	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	16%
GT	114.114.DRIVERENGINE.P	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?	14%
GT	114.114.GNLDSGNCNFG.P	Do operation and maintenance procedures contain mechanisms for identifying potential design/configuration changes for reducing natural gas releases?	12%
GT	114.114.TESTRELIEFVLV.P	Do relief valve testing procedures include measures to minimize natural gas releases?	12%
GT	114.114.LKMITGRPRREPAIR.P	Do procedures provide alternatives to cutouts (to reduce emissions)?	11%
GT	114.114.FLARE.P	Do procedures for flaring from pipeline facilities for transporting natural gas include measures for minimization of natural gas emissions?	11%



IA Data – Federal Concern $\geq 10\%$

	QST_ID	Question	%
GT	114.114.TESTESD.P	Do procedures contain measures for ensuring ESD testing minimizes natural gas releases?	11%
GT	114.114.COMPRESSOR.P	Do the maintenance and operations procedures for compressors include provisions to minimize fugitive natural gas losses?	10%
HL	114.LEAKPRONE.LKRLSLKDATA.P	Do procedures include a methodology to collect, retain and analyze detailed information from detected leaks, including those eliminated by lubrication, adjustment, tightening or otherwise below thresholds for regulatory reporting?	30%
HL	114.LEAKPRONE.LKRLS.P	What procedures are in place to monitor for and identify pipe segments that are leak-prone, and what criteria (e.g., frequency of leak or failure events) are specified for determining a pipeline segment is leak-prone?	24%
HL	114.114.LKRLSID.P	Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?	14%
HL	114.LEAKPRONE.LKMITGRPROTHER.P	Do procedures clearly define a process to address replacement or remediation of pipe segments with known leak issues beyond those specifically identified in Section 114?	13%



IA Data – Federal Concern $\geq 10\%$

	QST_ID	Question	%
LNG	114.114.LKRLSID.P	Do procedures provide a methodology for identifying sources of fugitive natural gas emissions in the system?	13%
LNG	114.114.LKRLSLKDATA.P	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?	12%
LNG	114.114.LKRLSTNKDISTURB.P	Do procedures for tank inspections after meteorological or geophysical disturbances include leak detection?	12%
LNG	114.114.LKRLSTNKSHELL.P	Do procedures provide for monitoring for temperature variations on tank shells that could be indicative of leaks?	12%
LNG	114.114.TESTESD.P	Do procedures contain measures for ensuring ESD testing minimizes natural gas releases?	12%



Section 114 – Lessons Learned Regional Review

December 2022



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

PHMSA: Your Safety is Our Mission



Consolidated List

The reporting of Safety Program Relationship (SPR) assisted PHMSA in organizing the Section 114 inspections. As much as possible, coordination and effective use of both PHMSA and pipeline operator resources was achieved. Having all Operator IDs under a given SPR inspected by a single region prevented duplication of effort in most cases. Extra effort to coordinate with PHMSA Regions, UNGS, and State Programs reduced the number of inspections Operators were asked to answer same questions.



Lessons Learned

Inspections sparked conversations surrounding the implementation of engineering controls and operational practices to mitigate fugitive natural gas emissions and prevent hazardous leaks.

A very small number hazardous liquid (HL) operators had natural gas engines as drivers for pumps, while several used natural gas for standby generators as backup electric power.

Many operators had questions about Section 114's applicability to hazardous liquids (HL) pipelines. Explaining the process in detail of the Act was beneficial, but there were still questions regarding the applicability to HL systems esp. if there are no natural gas connections.



Lessons Learned (cont.)

Many operators were unclear about the term “leak prone” ...

- Said they didn’t have any “leak prone” pipe because:
 - It hadn’t been identified anywhere in their pipeline system
 - They have an Integrity management program (*but IM doesn’t cover all pipe*). It took discussion for operators to understand the need to expand their vision and develop procedures to include annual evaluation of all pipe that could be “leak prone”.
 - Pipe is cathodically protected, so assumed it’s not “leak prone”
- Many hadn’t defined “leak prone” in procedures
 - Didn’t know how to define it
 - Awaiting further clarification by PHSMA
- Many didn’t have procedures that pointed to remediation & replacement specifically tied to identification of leak issues



Lessons Learned (cont.)

Misunderstanding of the question *“Do procedures identify cast iron, unprotected steel, wrought iron, and vintage plastic pipe with known leak issues?”*

- Many said they didn't have these specific materials in their systems
- PHMSA inspectors had to explain that these were examples, and not an all-inclusive list.

Operators also need to self-identify other pipe that have leak issues.



Lessons Learned (cont.)

Collecting & analyzing leak data...

- HL operators collect data for leaks on pipeline & inside facilities, and analyzed the current year's leaks for trends
- Most gas transmission (GT) operators hadn't been collecting leak data for the entire system:
 - If the leak can be repaired while on site, they didn't report the leak into leak management & documentation systems.
 - They don't collect small leak data points. e.g., greasing valve stems to stop leaks, tightening flanges and/or small repairs.

Both HL and GT many operators weren't maintaining leak data for the life of the pipeline or analyzing data over multiple years.



Lessons Learned (cont.)

Most GT operators needed better procedures for checking emissions for fugitive natural gas.

GT operators had a variety of compressors from different manufacturers, so they were generic in their procedures for compressor and engine maintenance.

- Most GT operators reference following manufacturer's recommendations in their O&M.
- Most GT operators didn't have requirements for manufacturer's specifications to be located and followed at each facility for compressor and engine management.



Lessons Learned (cont.)

A mix of how Section 114 was incorporated into operator procedures...

- Separate section in procedural manual for Section 114, or
- Most operators integrated certain practices into IM and O&M procedures to accomplish Section 114 objectives

Many operators had questions about the future of 114...

- Will there be enforcement and/or enforcement guidance resulting from the 2022 inspections?
- Inspections in the future – e.g., records & observations review, or other inspections?
- Future Rulemaking by PHMSA?



Questions

