

**BEFORE THE
UNITED STATES DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
WASHINGTON, D.C.**

Pipeline Safety: Integration of Innovative	)	Docket No. PHMSA-2025-0118
Remote Sensing Technologies for Right-of-Way	)	RIN: 2137-AF79
Patrols on Gas and Hazardous Liquid Pipelines	)	

**COMMENTS ON
PIPELINE SAFETY: JOINT MEETING OF THE GAS PIPELINE ADVISORY
COMMITTEE
AND LIQUID PIPELINE ADVISORY COMMITTEE
(INTEGRATION OF INNOVATIVE REMOTE SENSING TECHNOLOGIES FOR
RIGHT-OF-WAY PATROLS)**

**FILED BY
INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA
AMERICAN PETROLEUM INSTITUTE
AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS
AMERICAN GAS ASSOCIATION
AMERICAN PUBLIC GAS ASSOCIATION
GPA MIDSTREAM ASSOCIATION
LIQUID ENERGY PIPELINE ASSOCIATION**

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I. Introduction

The Interstate Natural Gas Association of America (INGAA)¹, the American Petroleum Institute (API)², the American Fuel & Petrochemical Manufacturers (AFPM)³, the American Gas Association (AGA)⁴, the American Public Gas Association (APGA)⁵, GPA Midstream Association (GPA Midstream)⁶ and Liquid Energy Pipeline Association (LEPA)⁷ (jointly, “the Associations”) submit these comments for consideration by the Pipeline and Hazardous Materials Safety Administration (PHMSA or the Agency) concerning the joint meeting of the Gas Pipeline Advisory Committee (GPAC) and the Liquid Pipeline Advisory Committee (LPAC) (jointly, the Committees) held on July 30, 2026 to review and discuss PHMSA’s proposed rule, *Pipeline Safety: Integration of Innovative Remote Sensing Technologies for Right-of-Way Patrols on Gas*

¹INGAA is a trade association that advocates regulatory and legislative positions of importance to the interstate natural gas pipeline industry in North America. Comprised of 28 members, it represents the vast majority of the U.S. interstate natural gas transmission pipeline companies. INGAA’s members operate nearly 200,000 miles of pipelines and serve as an indispensable link between natural gas producers and consumers.

²API represents all segments of America’s natural gas and oil industry, which supports more than 11 million U.S. jobs and is backed by a growing grassroots movement of millions of Americans. Our approximately 600 members produce, process and distribute the majority of the nation’s energy, and participate in API Energy Excellence®, which is accelerating environmental and safety progress by fostering new technologies and transparent reporting. API was formed in 1919 as a standards-setting organization and has developed more than 800 standards to enhance operational and environmental safety, efficiency and sustainability.

³AFPM is a national trade association representing most U.S. refining and petrochemical manufacturing capacity. AFPM’s member companies produce the gasoline, diesel, and jet fuel that drive the modern economy, as well as the petrochemical building blocks that are used to make the millions of products that make modern life possible—from clothing to life-saving medical equipment and smartphones. As such, AFPM members strengthen economic and national security while supporting more than 3 million jobs nationwide. To produce these essential goods, AFPM members depend on all modes of transportation to move their products to and from refineries and petrochemical facilities and have made significant infrastructure investments to support and improve the safety and efficiency of the transportation system. AFPM member companies depend upon an uninterrupted, affordable supply of crude oil and natural gas as feedstocks for the transportation fuels and petrochemicals they manufacture. Pipelines are the primary mode for transporting crude oil and natural gas to refiners and petrochemical facilities and refined products from those same facilities to distribution terminals serving consumer markets.

⁴Founded in 1918, AGA represents more than 200 local energy companies committed to the safe and reliable delivery of clean natural gas to more than 180 million Americans. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and industry associates. Today, natural gas meets more than one third of the United States’ energy needs.

⁵APGA is the trade association representing more than 730 communities across the U.S. that own and operate their retail natural gas entities. These include not-for-profit gas distribution systems owned by municipalities and other local government entities, all locally accountable to the citizens they serve. Public gas systems focus on safely providing reliable and affordable energy to their customers and support their communities by delivering fuel to be used for cooking, clothes drying, and space and water heating, as well as for various commercial and industrial applications.

⁶GPA Midstream has served the U.S. energy industry since 1921 and represents approximately 45 domestic corporate members that directly employ 57,000 employees engaged in the gathering, transporting, processing, treating, storage, and marketing of natural gas, natural gas liquids, crude oil and refined products, commonly referred to as “midstream activities.” The work of our members indirectly creates or impacts an additional 470,000 jobs across the U.S. economy. In 2024, GPA Midstream members had an economic impact of \$191 billion through operating 502,900 miles of gas gathering pipelines, gathering more than 91 billion cubic feet per day of natural gas, and operating more than 342 natural gas processing facilities that delivered pipeline quality gas into markets across a majority of the U.S. interstate and intrastate pipeline systems.

⁷LEPA promotes responsible policies, safety excellence, and public support for liquids pipelines. LEPA represents pipelines transporting 97 percent of all hazardous liquids barrel miles reported to the Federal Energy Regulatory Commission. LEPA’s diverse membership includes large and small pipelines carrying crude oil, refined petroleum products, NGLs, and other liquids.

and Hazardous Liquid Pipelines (NPRM)⁸, together with the Agency’s associated regulatory analyses and the other materials in the public docket for this rulemaking.

The Associations support the NPRM. The proposed amendments to 49 C.F.R. §§ 192.705(c) and 195.412(a) would confirm what the regulations have always implied: that these sections are performance-based regulations, allowing operators to observe the surface conditions on the right-of-way (ROW) in a technology-neutral method, insofar as those methods achieve the regulation’s safety objectives. PHMSA codifying this neutrality removes any interpretive question that could have discouraged operators from deploying superior tools and technologies that improve safety and efficiency for ROW patrols. PHMSA’s Preliminary Regulatory Impact Analysis estimates annualized cost savings of \$26.2 million at a 3 percent discount rate and \$26.1 million at 7 percent (2024\$).⁹

This is PHMSA’s second attempt at this clarification. The Agency issued a direct final rule in July 2025 codifying the same change and withdrew it after receiving adverse comment.¹⁰ The current NPRM repropose the clarification with revisions responsive to that comment, retaining “appropriate” rather than “suitable” and adding “current” to describe the surface conditions operators must observe. The Associations regard both revisions as improvements and support the repropose text.

Both Committees voted unanimously to approve the proposed rule as technically feasible, reasonable, cost-effective, and practicable, and neither Committee attached conditions to its recommendation.^{11,12} That outcome followed a substantive discussion in which several points were raised and then resolved on the record rather than through amendment:

- A discussion concerning the area adjacent to the right-of-way was withdrawn once Agency representatives committed to clarify the point, and
- A request that PHMSA require operators to address performance and analysis timeframes was likewise left to the record rather than added to the motion.¹³

The Associations agree with that assessment and urge PHMSA to finalize the rule.

⁸Pipeline Safety: Integration of Innovative Remote Sensing Technologies for Right-of-Way Patrols on Gas and Hazardous Liquid Pipelines, 91 Fed. Reg. 22,107 (Apr. 24, 2026).

⁹PHMSA, “Pipeline Safety: Integration of Innovative Remote Sensing Technologies for Right-of-Way Patrols on Gas and Hazardous Liquid Pipelines: Preliminary Regulatory Impact Analysis,” Docket No. PHMSA-2025-0118-0010, at Table ES-1 (April 2026)

¹⁰“Pipeline Safety: Integration of Innovative Remote Sensing Technologies for Right-of-Way Patrols,” 90 Fed. Reg. 28,105 (July 1, 2025) (direct final rule), withdrawn 90 Fed. Reg. 47,626 (Oct. 2, 2025).

¹¹PHMSA, “Patrol Technology (2137-AF79) — Gas Pipeline Committee Voting Slides” and “Liquid Pipeline Committee Voting Slides,” slides 11–12, July 30, 2026 GPAC/LPAC meeting materials, Docket No. PHMSA-2026-1156 (approved July 30, 2026, 12-0 and 12-0).

¹² Transcript of Proceedings, Joint Meeting of the Gas Pipeline Advisory Committee and Liquid Pipeline Advisory Committee, U.S. Dep’t of Transportation, Pipeline & Hazardous Materials Safety Admin. (July 30, 2026) (Transcript), at 113–14 (LPAC), 114–19 (GPAC).

¹³ Transcript of Proceedings, Joint Meeting of the Gas Pipeline Advisory Committee and Liquid Pipeline Advisory Committee, U.S. Dep’t of Transportation, Pipeline & Hazardous Materials Safety Admin. (July 30, 2026) (Transcript), at 102–03, 117.

In summary, the Associations recommend PHMSA:

- Finalize technology-neutral, performance-based patrol methods at §§ 192.705(c) and 195.412(a), retaining “appropriate means” rather than prescribing specific tools or methods;
- Align the § 192.705(c) text with § 192.705(a) so that imagery-based patrols are confirmed to cover surface conditions on and adjacent to the right-of-way;
- Confirm in the preamble that patrol compliance is measured from the date observation data is captured, with analysis completed promptly under operator procedures;
- Confirm in the preamble that operators may use advanced analytics and AI-assisted review to prioritize field follow-up without additional prescriptive requirements; and
- Confirm in the preamble that patrols completed once safe access or safe remote observation becomes available are not treated as compliance failures.

II. PHMSA Should Codify Technology-Neutral, Performance-Based Patrol Methods

The patrol requirements have never specified a technology. Sections 192.705(a) and 195.412(a) set intervals and require the operator to observe surface conditions; the method has always been the operator’s to select, subject to the obligation that it be capable of achieving the required observation. What the NPRM adds is explicit recognition that observation or imaging from unmanned aircraft systems, satellites, and comparable platforms can satisfy that obligation.

Agency representatives made this point directly during the Committee proceedings, observing that a performance standard is already embedded in both regulations and that the rulemaking does no more than confirm that certain technologies meeting that standard may be used.¹⁴ Agency representatives further cautioned against treating the introduction of a newer technology as an occasion to layer additional regulatory requirements on its use. The Associations share that concern. Requirements addressed to a particular technology would attach obligations to remote sensing that do not apply to the walking, driving, and flying methods the regulations have always permitted, and would do so without any finding that remote sensing performs less well.

Absent codification operators face inconsistent interpretation of whether remote sensing satisfies the patrol requirement. Inconsistency itself can deter adoption. An operator weighing a capital commitment to a satellite or UAS program would consider the possibility that the regulator could later treat the resulting patrol records as non-compliant. Therefore, PHMSA’s codification does not lower the performance standard; it removes uncertainty about how the standard may be met.

The Associations urge PHMSA to retain “appropriate means” and to resist any suggestion that the final rule prescribe minimum resolution thresholds, sensor specifications, or approved platforms.

¹⁴Transcript at 96–98.

Sensing and analytics capabilities are advancing faster than the rulemaking cycle. A rule that fixes today's specifications in regulatory text will, within a few years, exclude better tools than the ones it authorizes.

For the same reason, the Associations do not support a requirement that remote sensing supplement rather than replace traditional patrols. A supplement-only rule would convert a cost-saving, safety-neutral modernization into a net cost increase, and it presumes that direct observation is categorically superior. It is not. Satellite and UAS methods cover broader areas, in some cases at higher revisit frequency, and generate a durable, reviewable record. In addition, some satellites and UAS methods may improve safety by using other technologies to aid in the identification of possible ROW concerns (radar, infrared, multispectral, etc.) and do not rely entirely on visual cues to identify possible ROW concerns. Neither is a new reporting requirement warranted. Operators are already subject to patrol recordkeeping obligations, and a technology-specific report would impose exactly the kind of platform-tied requirement the rule should avoid.

III. PHMSA Should Confirm “On and Adjacent To” Coverage

Section 192.705(a) requires operators to observe surface conditions on and adjacent to the right-of-way, and § 195.412(a) separately requires inspection of surface conditions on or adjacent to the right-of-way.¹⁵ Proposed § 192.705(c), however, refers only to conditions “in the right-of-way.” Read in isolation, that phrasing could be taken to describe a narrower area than paragraph (a) requires.

This point was raised during the Committee proceedings and resolved. Agency representatives noted that the adjacent-area language continues to appear in paragraph (a) of both § 192.705 and § 195.412, and committed to follow up and ensure the point is clarified.¹⁶ On the strength of that commitment, the Committee member who raised the issue declined to add it to the motion. The Associations confirm that understanding and encourage PHMSA to carry the clarification into the final rule text.

IV. Patrol Compliance Should Be Measured From the Date of Data Capture and Analysis

The NPRM states that the Agency is not proposing any revision to patrol frequencies or deadlines, but welcomes comments on the potential benefits of clarifying whether the patrol deadlines apply to the date patrol data is collected, the date it is analyzed, or both.¹⁷ During the Committee meeting, agency representatives explained that public comment had asked the Committees to consider whether PHMSA should further clarify, in the final rule, performance expectations for imaging-based patrol methods — including what constitutes data completion for documenting compliance,

¹⁵49 C.F.R. § 192.705(a); 49 C.F.R. § 195.412(a).

¹⁶Transcript at 102–03.

¹⁷91 Fed. Reg. at 22,108.

and what procedures and timelines operators should follow for analyzing data after it is captured.¹⁸ The Associations appreciate the invitation to comment and recommend that PHMSA confirm in the preamble that patrol compliance is measured from the date observation data is completed and analyzed, with the analysis timeframe defined under operator procedures.

The Associations agree that the interval should not be open-ended and that the expectation should be clear to operators and inspectors alike. For a walking, driving, or flying patrol, the compliance date has always been the date the patrol was performed — not the date any resulting review was completed, or any flagged condition was investigated in the field. However, for patrols using advanced imagery, the analysis is different and more complicated. For example, some images can require secondary analysis or processing to remove pixilation or improve clarity. Certain satellite technologies combine imaging from multiple satellite types: radar satellites that see through clouds and darkness, multi-spectral satellites for vegetation changes, and high-resolution optical satellites for detailed confirmation. These imaging vendors then use AI algorithms to filter data to highlight only genuine risks with high accuracy. Based on vendor and operator procedures, the date of the final report varies.

Operator procedures are the right instrument for defining when a patrol is complete for two reasons. First, operators are already required to establish and follow written procedures governing patrols, and those procedures are subject to PHMSA and State inspection. Operators using imagery-based methods today already document in their procedures when the review occurs and how flagged indications are referred for field verification, and this practice was described on the record.¹⁹ Second, the appropriate interval is not uniform. It depends on the sensing method, the volume of data generated, the terrain, and the threat profile of the segment.

The Associations therefore recommend that the final rule confirm that the patrol deadline applies to the date patrol data is collected, and that PHMSA state in the preamble that operators are expected to address, in their written procedures, the timeframe from data capture to completion of analysis and to any resulting field verification.

V. Screening and Weather

The Associations address the following points because they were the substance of the concern raised at the Committee meeting. The concern, principally from the emergency response perspective, was that remote sensing might be used *in place of* human observation: that a drone flown in poor conditions could return degraded imagery, that no one qualified might review it. Agency representatives asked an operator to describe how these patrol programs work so the Committees could assess that concern against practice.²⁰ The Associations set out that account

¹⁸Transcript at 88.

¹⁹Transcript at 90–91, 105.

²⁰Transcript at 103–04.

here, in the Agency’s rulemaking record, because it answers the concern and because the concern is the principal reason additional prescriptive requirements are often considered.

Operators fuse multiple data types — radar, multispectral, and high-resolution optical — and apply analytics to flag candidate indications with their locations; often sending field personnel to the site to determine what is actually there. That is the workflow operators have long used with helicopter patrols. What changes is the breadth and frequency of the screening, not the field verification behind it.²¹

This rulemaking also makes no change to operator qualification requirements associated with right-of-way patrol and the identification of potential issues.²² Personnel performing covered tasks remain subject to the same obligations regardless of how the observation data reaching them was collected. The Associations recommend that PHMSA confirm both points in the preamble: that operators may use analytics and AI-assisted review to prioritize field follow-up without additional prescriptive requirements, and that patrol-related qualification requirements are unchanged.

Weather is likewise not a new question. Operators already schedule aerial patrols around weather windows, and radar and multispectral methods return usable data through cloud cover, which is one reason operators combine data types. Where extraordinary conditions prevent a patrol, the Associations understand that the enforcement discretion long applied to conventional methods applies equally here, and do not ask PHMSA to create a new category of relief.²³

VI. Selection of Patrol Technology

Finally, the Associations urge PHMSA to preserve operator discretion to match technology and review cadence to threat profile, terrain, and local conditions; no single method suits every right-of-way. The Associations also support the Agency’s commitment to keep its technical staff current as these capabilities advance.²⁴

VII. Conclusion

The Associations commend PHMSA’s continuing commitment to pipeline safety and appreciate the opportunity to comment on the proceedings of the joint GPAC and LPAC meeting. This rulemaking modernizes the patrol regulations without reducing safety, and both Committees endorsed it unanimously and without conditions. The Associations urge PHMSA to finalize the rule, to carry into the final text the “on or adjacent to” clarification the Agency committed to at the meeting, and to confirm in the preamble that compliance runs from the date of data capture and analysis, and that the capture-to-analysis timeframe is governed by operator procedures rather than

²¹Transcript at 104–05.

²²Transcript at 106.

²³Transcript at 95, 99.

²⁴Transcript at 108–09.

a fixed regulatory interval, and that analytics and AI-assisted review are available tools that leave operator qualification requirements unchanged. The Associations look forward to continuing engagement with PHMSA as this rulemaking moves forward.

Respectfully submitted,

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