Congress of the United States

Washington, DC 20515

October 20, 2023

The Honorable Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Dear Secretary Buttigieg,

We are writing to respectfully request changes to the proposed rule, "Pipeline Safety: Gas Pipeline Leak Detection and Repair," published by the Pipeline and Hazardous Materials Safety Administration (PHMSA) on May 18, 2023. We believe the proposed rule could be strengthened to better meet Congress's aim in the Protecting Our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2020, and to improve safety and environmental protection consistent with PHMSA's statutory directives, by considering more comprehensive methane detection requirements described below. Natural gas is composed primarily of methane, and any leakage or operational releases from natural gas pipelines contribute to the climate crisis by increasing harmful methane emissions. PHMSA should act promptly to finalize a comprehensive rule consistent with the agency's authority to set minimum pipeline standards designed to meet the need for pipeline safety and environmental protection and fulfill recent Congressional mandates in the PIPES Act of 2020.

PHMSA must set minimum standards for gas pipelines that are "designed to meet the need for" "gas pipeline safety" and "protecting the environment" [49 U.S.C. § 60102(b)(1)(B)]. Congress first instituted the requirement that these standards ensure safety and environmental protection in 1992, and updated that directive in 1996 with the language in place today. The mandates set forth in the PIPES Act of 2020 were intended to safeguard public health *and* the environment. The PIPES Act requires minimum performance standards for leak detection and repair programs "that reflect the capabilities of commercially available advanced technologies." However, the recent set of performance standards proposed by PHMSA for leak detection do not reflect comprehensive requirements for detection technologies, potentially allowing for unnecessary and unacceptable amounts of methane to escape into the atmosphere.

Therefore, we offer the following recommendations for inclusion in the proposed PHMSA rule:

1. **Advanced detection technologies**—The specified minimum leak detection sensitivity in the proposed rule is 5 parts per million (ppm). However, commercially available leak detection technologies offer detection limits ~1,000 times less than 5 ppm, and many advanced leak detection technologies can measure the leak flow rate or emissions rate (i.e., kilograms/hour) rather than gas concentration (i.e., ppm). These technologies can offer increased environmental protection in addition to public safety.
    - **Recommendation 1:** The proposed rule should specify lower leak detection limits using advanced leak detection technologies, and should incorporate a leak

emissions-rate standard in addition to a gas concentration standard, with consideration of the operational requirements and exceptions described below.

2. **Include the role of atmospheric conditions in advanced leak detection**—Wind speed directly influences the extent to which leaking methane is diluted downwind. Because the proposed rule does not explicitly consider the impact of local atmospheric conditions on various detection technologies, the minimum sensitivity threshold alone may lead to missed or miscategorized leaks.
    - **Recommendation 2:** The proposed rule should consider requirements to ensure accurate operation of advanced leak detection technologies in realistic conditions that accommodate wind speed and direction.

3. **Include sensor response time requirements**—The proposed rule lacks specific mention of measurement time or averaging intervals for the leak-detection technology, which are necessary parameters when describing detection sensitivity. This omission limits the accuracy, coverage and thus effectiveness of leak detection efforts.
    - **Recommendation 3:** The proposed rule should consider specifying maximum response times of the leak detection technology to enable reliable identification of transient sources or mobile surveys.

4. **Evaluate cross-sensitivity of the detection technology**—Many sensor technologies can detect methane, but they may be sensitive to other hydrocarbons and gases, such as water vapor, as well as ambient temperature changes, leading to inaccurate readings.
    - **Recommendation 4:** The proposed rule should require that vendors of methane leak detection equipment disclose the equipment's sensitivity to other hydrocarbons, water vapor, changes in ambient temperature, and other potential interferences.

5. **Include validation and verification protocols for advanced leak detection technologies**—Without specific guidance and protocols for validation, it becomes challenging to verify claims regarding leak detection performance. Inclusion of validation measures will help ensure compliance and minimize the use of ineffective technologies.
    - **Recommendation 5:** The proposed rule should establish validation standards, developed and verified by independent entities, and procedures that provide customers with quantitative and/or qualitative performance metrics on which to base rational purchasing decisions. These performance metrics should include (but not be limited to) methane detection sensitivity, measurement time response, and cross sensitivity to other gases.

6. **Clarify criteria for exceptions**—Liberal use of exceptions or vague exception guidelines could hinder efforts to identify and mitigate methane leaks effectively and undermine the intent of the PIPES Act.

- **Recommendation 6:** The proposed rule should specify guidelines and conditions for exceptions to minimum performance standards and clarify that any exceptions do not absolve responsibility for methane emissions.

We urge the Department of Transportation and PHMSA to address these considerations in the proposed rule to help make our gas pipeline system safer for our communities and environment. We look forward to working with you and your administration to achieve these objectives.

Sincerely,

Martin Heinrich
United States Senator

Edward J. Markey
United States Senator

Sheldon Whitehouse
United States Senator

John Hickenlooper
United States Senator

Seth Moulton
Member of Congress