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PIPELINE SAFETY *ALERT*

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PHMSA Proposes New Valve Installation and Minimum Rupture Detection Standards for Gas and Hazardous Liquid Pipelines

On February 6, 2020, the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a notice of proposed rulemaking (NPRM) in the *Federal Register* containing new valve installation and minimum rupture detection standards for gas and hazardous liquid pipelines. The NPRM would require the installation of automatic shutoff valves (ASV), remote-control valves (RCV), or equivalent technology, on certain gas transmission and hazardous liquid pipelines. The NPRM also contains proposed requirements for rupture detection and mitigation, including provisions for improving emergency response and conducting failure investigations and analyses. Public comments must be filed in response to the NPRM on or before April 6, 2020. Additional background information and a brief summary of PHMSA's proposals are provided below.

Why Did PHMSA Issue the NPRM?

In 2010, a pair of significant pipeline incidents occurred in Marshall, Michigan, and San Bruno, California. The resulting NTSB investigations led to the issuance of safety recommendations relating to the use of ASVs and RCVs and other measures to improve rupture detection and response. Also, in the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (2011 Act), Congress added mandates to the Pipeline Safety Act directing PHMSA to conduct studies and, if appropriate, establish regulations to address the concerns identified in NTSB's safety recommendations. In the years following the 2011 Act, PHMSA commissioned the studies required by the congressional mandates and received separate recommendations from GAO on the need to improve pipeline incident response. PHMSA also issued two ANPRMs after the 2010 pipeline incidents asking for public comment on the need to amend the pipeline safety regulations for valve installation and rupture detection. All of these factors culminated in this NPRM.

What's in the NPRM?

Valve Requirements

- ***Installation Requirements for New Pipelines:*** Pursuant to 49 C.F.R. § 192.179(a), the NPRM would require operators to install ASVs, RCVs, or equivalent technology, on all new natural gas transmission and hazardous liquid pipelines 6 inches or greater in nominal diameter, unless the operator demonstrates that installation of a manual valve is justified for reasons of economic, technical, or operational infeasibility. However, there are conflicting statements in the Preliminary Regulatory Impact Analysis covering the scope of the NPRM that may warrant clarification.
- ***Spacing Requirements for New Pipelines.*** For new natural gas transmission lines that meet or exceed the 6-inch diameter threshold, the valves would need to be spaced at the intervals provided in 49 C.F.R. §§ 192.179 or proposed 192.634, as applicable. For new hazardous liquid pipelines that meet or exceed the 6-inch diameter threshold, the valves would need to be spaced at intervals of 15 miles or less for pipeline segments that could affect high

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consequence areas (HCAs) and 20 miles or less for pipeline segments that could not affect HCAs. Additional spacing limitations apply to valves protecting HCAs as preventive and mitigative measures under the integrity management regulations, valves protecting certain water crossings, and valves on highly volatile liquid pipelines.

- ***Installation Requirements for Existing Pipelines:*** The NPRM would also require operators to install ASVs, RCVs, or equivalent technology, on existing natural gas transmission lines and hazardous liquid pipelines 6 inches or greater in nominal diameter that are "entirely replaced", unless the operator demonstrates that installation of a manual valve is justified for reasons of economic, technical, or operational infeasibility. The phrase "entirely replaced" is limited to situations where two or more contiguous miles of pipe are replaced with new pipe.
- ***Spacing Requirements for Existing Pipelines.*** Replacements of gas transmission lines that meet these criteria would need to have rupture mitigation valves spaced at intervals specified in 49 C.F.R. §§ 192.179 or 192.634, as applicable. New rupture-mitigation valve spacing intervals would apply to replacements of hazardous liquid pipelines that meet the criteria as well.

Requirements for Gas Transmission Lines that Undergo a Change in Class Location: The proposed rule states that if a change in class location requires a pipe replacement under the maximum allowable operating pressure regulations, the operator would need to comply with the proposed valve installation, spacing, and shut-off requirements applicable to the new class location. Any necessary valves would be required to be installed within 24 months of the class location change.

Other Requirements

In addition to the proposed valve installation and spacing requirements, the NPRM contains provisions for gas and hazardous liquid pipelines relating to valve shut-off time for rupture mitigation, valve shut-off capability, valve shut-off methods, valve monitoring and operation capabilities, valve shut-off status, valve maintenance, and use of ASVs, RCVs, or equivalent technology, as preventive and mitigative measures under the integrity management regulations.

Of note, PHMSA proposes to require operators to identify a rupture as soon as practicable but no longer than 10 minutes after initial notification or indication of a rupture. PHMSA also proposes a full rupture-mitigation valve shut off within 40 minutes of identification, including where manual valves are used. The NPRM also proposes response time validation and verification requirements and would establish remedial measures for inoperable valves.

Rupture Mitigation

- ***Definition of "Rupture":*** The NPRM proposes to define the term "rupture" in the gas and hazardous liquid pipeline safety regulations for purposes of the new requirements to include certain events that involve an uncontrolled release of a large volume of gas or hazardous liquids. The definitions focus on the point when a release of gas, hazardous liquid, or carbon dioxide is first observed or reported to the pipeline operator and include events that result in unanticipated or unplanned changes in pressure or flow rate that exceed a specified threshold (10 percent or greater) during a specified time interval (15 minutes or less) or that are otherwise representative of these events. PHMSA notes that its use of the term "rupture" elsewhere in the regulations or the incident reporting forms does not refer to this specific definition.
- ***Emergency Response Plans and Post-Incident Analysis:*** The NPRM proposes to modify existing regulations for gas and hazardous liquid pipelines to include new provisions for interacting with 911 call centers and emergency response officials. PHMSA included similar provisions in the "Communication During Emergency Situations" Advisory Bulletin issued in 2012. Operators would be required to expand their procedures for investigating and

analyzing incidents and accidents to identify and implement post-accident lessons learned and review ruptures involving the closure of rupture mitigation valves.

Areas for Potential Clarification

The NPRM raises many questions.

- How do the valve installation requirements for new pipelines interact with the existing valve installation requirements for replacements, particularly with respect to the various spacing intervals?
- Is the proposed 6-inch diameter threshold for the use of ASVs, RCVs, or equivalent technology, appropriate? What about the proposed 2-mile limitation for pipeline replacements? And the proposed 10-minute identification and 40-minute shutoff times for ruptures?
- Can PHMSA improve the organization and clarity of the proposed rule by defining "rupture mitigation valve" at the outset of the gas and hazardous liquid pipeline safety regulations?
- Are the requirements to perform annual validation drills for valves that will be manually operated reasonable?
- Has PHMSA quantified the benefits of the NPRM in accordance with its statutory mandate to do so?

What's Next?

PHMSA is providing a 60-day comment period. The deadline is April 6, 2020, subject to PHMSA granting any requests for an extension. After the close of the public comment period, PHMSA will consider the information provided and decide whether to present the NPRM to the Pipeline Advisory Committees for consideration. The Pipeline Advisory Committees are 15-member federal advisory committees that review and provide non-binding recommendations to PHMSA on proposed changes to the pipeline safety regulations. Because the NPRM includes proposed changes to the regulations for gas and hazardous liquid pipelines, both of the Pipeline Advisory Committees (Gas and Liquid) would need to consider the proposals. Once that process is complete, PHMSA can develop a final rule for consideration by the Office of the Secretary and Office of Management and Budget and eventual publication in the *Federal Register*. At that point, any new regulations for valve installation and minimum rupture detection will have the force and effect of law, subject to any applicable effectives dates for the final rule and compliance deadlines for particular provisions.

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Led by three former Pipeline and Hazardous Materials Safety Administration (PHMSA) attorneys, our Pipeline and Hazardous Materials Safety practice group counsels pipeline and midstream companies, gas utilities, terminal operators, investors, trade associations, and other stakeholders, throughout the United States. James Curry, Keith Coyle and Brianne Kurdock together have more than 25 years of experience with a multitude of pipeline safety issues. They partner with client engineering and legal personnel to address day-to-day compliance questions and develop business and regulatory strategies.