ORAL ARGUMENT NOT YET SCHEDULED

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA, *Petitioner*, v. PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION, et al., *Respondents*.	No. 23-1173

BRIEF OF PIPELINE SAFETY TRUST, PARTICIPATING AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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Pursuant to D.C. Circuit Rule 29 and the guidance set forth in Section IX.A.4 of the Court's Handbook of Practice and Internal Procedure, Pipeline Safety Trust hereby files this brief as *amicus curiae* in support of Respondents Pipeline and Hazardous Materials Safety Administration and U.S. Department of Transportation in this matter.

INTEREST OF *AMICUS CURIAE* AND AUTHORITY TO FILE

Pipeline Safety Trust is a not-for-profit organization dedicated to promoting pipeline safety through education and advocacy, increased access to information, and partnerships with residents, safety advocates, government, and industry. The organization undertakes these activities to achieve safer communities and a healthier environment.

Pipeline Safety Trust submits this *amicus curiae* brief to provide context to the rulemaking at issue in this case, which is part of a broader and comprehensive effort to address regulatory gaps at the root of many pipeline failures. Pipeline Safety Trust seeks to demonstrate how the rulemaking incorporates lessons learned from a 2010 catastrophic failure in San Bruno, California, and other notable incidents, and reflects the agency's continuously evolving understanding of how such disasters occur and how best to prevent similar incidents in the future.

Pipeline Safety Trust itself came into existence because of a 1999 pipeline disaster in Bellingham, Washington, which killed three children and prompted

community calls for a perpetually funded oversight organization to ensure safer pipelines nationwide. As part of its mission, Pipeline Safety Trust has consistently encouraged government authorities to be proactive and innovative in their approaches to accident prevention. It also represents the critical voice of communities located in around pipeline infrastructure, who pay a heavy price when pipeline safety measures are inadequate or poorly followed.

All parties have consented to the filing of this brief. To Pipeline Safety Trust's knowledge, there are no other *amicus curiae* appearing in this case.

INTRODUCTION

On September 9, 2010, a natural gas transmission pipeline owned by PG&E ruptured in a residential area of San Bruno, California, producing a 72 by 26-foot crater and sending a 3,000-pound section of pipe flying a distance of 100 feet. The rupture released natural gas into the air, which ignited and caused a fire that destroyed 38 homes and damaged 70. The disaster killed 8 people, injured approximately 60 others, and prompted a massive evacuation. 87 Fed. Reg. 52,224, 52,226 (Aug. 24, 2022). The incident also triggered a major reckoning with respect to regulation of pipeline safety in the United States.

In its investigation of the San Bruno explosion, the National Transportation Safety Board ("NTSB") found that "among several causal factors was that PG&E had an inadequate integrity management program ("IM") program that failed to

detect and repair or remove a defective pipe section on its gas transmission line." PHMSA-2011-0023-0637, at 10. The evaluation of San Bruno and the regulatory and compliance issues that contributed to the pipeline failure also uncovered numerous problems with the way operators conducted data analysis, data integration, threat identification, and risk assessment. Congress included its response to the San Bruno incident in the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, which directed the Department of Transportation to reexamine many of its safety requirements, including the expansion of integrity management regulations for transmission pipelines. 81 Fed. Reg. 20,722, 20,729 (Apr. 8, 2016). That reexamination revealed that problems similar to those that contributed to the San Bruno incident were more widespread than previously believed and prompted the yearslong rulemaking process that led to the promulgation the rule challenged in this case. 81 Fed. Reg. at 20,730.

San Bruno was not the first major pipeline failure to draw widespread attention to issues of pipeline safety. In 2004, in response to multiple pipeline failures, including a hazardous liquid incident in Bellingham, Washington, that killed three children, and a gas transmission incident in Carlsbad, New Mexico, that killed twelve people, PHMSA promulgated integrity management regulations that require pipeline operators to conduct comprehensive analyses to identify, prioritize, assess, evaluate, repair, and validate the integrity of gas transmission

pipelines. 81 Fed. Reg. at 20,725, 20,742. These regulations applied only to the operation of pipelines in high-consequence areas, which are areas in which the population tends to be highly concentrated and where a failure would be most devastating. Unfortunately, pipelines continue to experience failures due to factors the integrity management regulations are supposed to address, and "severe pipeline accidents have occurred in areas outside of [high-consequence areas] where the application of [integrity management] principles is not required." 81 Fed. Reg. at 20,724.

Over the last ten years, the risk of pipeline incidents has only become more salient, due to increased and changing usage patterns, age, exposure to weather, and other longstanding factors. 81 Fed. Reg. at 20,728. Shifts in supply and demand for natural gas have led operators to use existing infrastructure more intensively. Operators often respond to increasing strain on U.S. pipeline infrastructure by raising average operating pressures and consequently exposing previously hidden defects. 81 Fed. Reg. at 20,726-27. These challenging circumstances, along with longstanding problems with the application of integrity management principles, further raised the stakes for this rulemaking.

The Final Rule entitled "Pipeline Safety: Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments" ("Final

Rule")[1] is a product of PHMSA's continuing effort to learn from San Bruno, and its evolving understanding of what is required to successfully mitigate threats that could cause another such tragedy. It addresses specific lessons learned from San Bruno and other pipeline incidents, incorporating technical analysis, input from stakeholders, and advisory committee recommendations. The regulatory changes PHMSA made reflect the reality that operators were not always in compliance with general requirements, prompting the agency to decide that more specificity would lead to better compliance and safer outcomes. Accordingly, the Final Rule "strengthens protocols for [integrity management], including protocols for repairing anomalous conditions, and improves and streamlines information collection to help drive risk-based identification of the areas with the greatest safety deficiencies." PHMSA-2011-0023-0637, at 11.

The Final Rule's overarching purpose, shared in common with the several other rules that PHMSA promulgated in the wake of San Bruno, is to reduce the incidence of pipeline failures, protecting communities from the devastating effects of these avoidable events. 87 Fed. Reg. at 52,224. PHMSA also expects the Final Rule to "reduce threats to the environment (including, but not limited to, reduction of greenhouse gas emissions released during natural gas pipeline incidents)." *Id.*.

[1] 87 Fed. Reg. at 52,224.

Based on historical averages, PHMSA estimates that "each natural gas pipeline incident in the U.S. avoided by the final rule would . . . prevent release of 25.3 million cubic feet . . . of methane into the atmosphere." PHMSA-2011-0023-0635, at 23. Finally, the agency anticipates that the rule will "promote environmental justice for minority populations, low-income populations, and other underserved and disadvantaged communities that are located near interstate gas transmission pipelines." 87 Fed. Reg. at 52,224.

ARGUMENT

Petitioner Interstate Natural Gas Association of America ("Petitioner") challenges specific subsections of the Final Rule, obscuring how each contributes to broader safety standards designed to combat known problems that cause pipelines to fail. In doing so, they ignore the important context of how those provisions interact with the sections in which they sit and how they developed from the proposal and subsequent engagement with stakeholders, including Petitioner. PHMSA's Final Rule strengthened integrity management and corrosion control requirements critical to addressing the problems identified in the wake of tragedies such as San Bruno. In doing so it considered and incorporated public comment and advisory committee recommendations and complied with its statutory obligation to assess the costs and benefits associated with the regulatory updates.

I. PHMSA's Strengthened Integrity Management Requirements Increase Pipeline Safety.

The investigation into the San Bruno incident exposed problems with the way operators collected and managed data on the operational and physical characteristics of their pipelines. 81 Fed. Reg. at 20,727. Operators who use inadequate or erroneous information may arrive at a skewed or incomplete understanding of pipeline risk and thereby engage in poor risk mitigation decision-making. Because pipeline integrity management is an inherently iterative process, these types of compounding errors raise the risk of catastrophic failure. In the case of San Bruno, the NTSB determined that PG&E's integrity management program used inaccurate or incomplete information about its pipeline, did not consider relevant pipeline failure risk factors, and ignored previously identified cracking along certain pipe seam welds, which in turn led PG&E to employ a pipeline assessment method that could not detect the seam weld defects that eventually led to pipeline failure. 87 Fed. Reg. at 52,226. The Final Rule addresses these issues through a variety of changes to the integrity management regulations, identifying specific pipeline attributes that operators must consider in their risk analysis, and requiring operators to verify and validate pipeline data and integrate that information into their pipeline integrity strategy. 87 Fed. Reg. at 52,225.

Of particular relevance in this case, the Final Rule aims to improve operators' integrity management processes by (i) establishing explicit procedures

that operators must use when assessing their pipelines for the presence of a dangerous condition called stress corrosion cracking, and (ii) prescribing specific criteria and timelines for repairing defects or anomalies that are known to contribute to pipeline failure.

A. The Final Rule's Pipeline Assessment Requirements Are Critical for the Detection of Pipeline Threats.

Stress corrosion cracking is a form of degradation that can occur when a pipeline is operating under a combination of high pressure and exposure to corrosion. Left unchecked, cracks can grow and multiply around the pipeline, weakening overall pipeline strength and potentially causing or contributing to pipeline failure. Because stress corrosion cracking has caused "numerous pipeline failures in hazardous liquids pipelines," PHMSA recognizes that improvements in the prevention, detection, assessment, and remediation of stress corrosion cracking are critical for reducing pipeline failures. 81 Fed. Reg. at 20,781. Accordingly, the Final Rule sets forth specific minimum requirements for performing pipeline assessments, as part of an overall enhanced integrity management approach.

There are three generally accepted ways to inspect a pipeline for the presence of stress corrosion cracking. One method, called in-line inspection, involves the use of special tools being pushed through a pipeline by the pressure of the pipeline's contents. Another method, called a pressure test, involves putting a

test medium in the pipeline and pressurizing to a level greater than normal operating pressure to check for leaks. A third method, called direct assessment, involves review of records, indirect inspections, or mathematical models and environmental surveys to estimate where corrosion is likely occurring. These spots are then excavated and examined. In-line inspection and pressure testing are generally considered more effective than direct assessment at identifying stress corrosion cracking, given that direct assessment cannot always give an accurate representation of the condition of entire pipeline segments. 81 Fed. Reg. at 20,727.

While PHMSA continues to allow pipeline operators to use direct assessment to determine the presence of stress corrosion cracking under certain circumstances, the Final Rule establishes explicit requirements for applying this methodology, incorporating and building upon existing industry consensus standards. 87 Fed. Reg. at 52,243. Of particular relevance here, the Final Rule requires operators to conduct a minimum of three excavations per covered pipeline segment (a pipeline segment located in a high-consequence area). As the government explains in its principal brief, record evidence also shows that "3 excavations" at the appropriate locations would "drop the probability of [stress corrosion cracking] from 90% to 1%." Respondents' Brief at 26-27, citing PHMSA-2011-0023-0763 (Francois Ayello et al., NACE Int'l Paper No. 9346, How Many Excavations Are Required to Confirm the Absence of SCC on a

Pipeline? 5 (2017)). Given that the selection of locations to excavate necessarily relies upon some degree of guesswork, minimum excavation requirements also ensure that operators perform a sufficient number of examinations to yield reliable information about the condition of the pipeline.

B. The Final Rule's Repair Criteria for Pipeline Anomalies Are Critical for Preventing Pipeline Failures and Reflect Consideration of Public Comment.

Prompt repair of known pipeline defects or anomalies is another key element of effective pipeline integrity management. The pipeline safety regulations allow operators to triage pipeline defects based upon the severity of the issue, giving greatest priority to those conditions that put a pipeline at acute risk of failure. Accordingly, the regulations prescribe immediate, one-year and two-year repair conditions based on enumerated criteria. Designating the appropriate line between immediate or point-of-failure conditions, and scheduled or even monitored conditions is thus an important factor in preventing another San Bruno-type incident.

The Final Rule updates and makes explicit certain repair criteria and remediation timelines for high-consequence areas. The Rule also establishes, for the first time, nearly identical repair criteria for non-high-consequence areas, albeit with slightly longer repair timelines for non-immediate repair conditions. 81 Fed. Reg. at 20,815. PHMSA adopted these revised repair requirements "to provide

greater assurance that operators will repair injurious anomalies and defects before those defects grow to a size that leads to a leak or rupture." 81 Fed. Reg. at 20,754.

Of particular relevance to this case, the Final Rule's immediate repair criteria reflect PHMSA's accumulated learnings as to which specific pipeline conditions can reasonably be expected to put a pipeline at imminent risk of failure. The Final Rule operationalizes these learnings by adding or updating the list of immediate repair conditions in line with industry practice and the best available science.

1. Corrosion Affecting a Longitudinal Seam Associated with Latent Defects. Pre-existing pipeline safety regulations did not recognize corrosion affecting a longitudinal seam with latent manufacturing defects as an immediate repair condition, despite it being a known "time-sensitive integrity threat[]." 87 Fed. Reg. at 52,261. According to PHMSA's records, there have been "at least 22 reportable incidents on gas transmission pipeline caused by manufacturing or seam defects." 81 Fed. Reg. at 20,790. Longitudinal seam failures have been responsible for major incidents such as a 2009 failure in Palm City, Florida, and the 2010 San Bruno explosion. *Id.* In the course of investigating several hazardous liquid pipeline failures in the 1980s, PHMSA learned that manufacturing defects along electric resistance welded seams in pre-1970 pipe contributed to pipeline failure. *Id.* PHMSA then commissioned studies on all forms of electric resistance welded pipe

and learned that these manufacturing flaws "entail heightened vulnerability to cracking when corrosion is introduced at the longitudinal seam" and can afflict both low-frequency and high-frequency electric resistance pipe. PHMSA-2011-0023-0649, at 12. The agency also considered evidence that high-frequency and low-frequency welded pipe experienced similarly high rates of failure, as did other welding techniques, such as direct current and flash welding. *See* Respondents' Brief at 53-54 (providing a non-exhaustive list of record evidence regarding seam weld failures). Due to the overall picture of vulnerability for seam formed using these weld techniques, PHMSA reasonably concluded it was in the interest of pipeline safety to require immediate repairs upon discovery of corrosion along those seams. *See* 49 C.F.R. § 192.714(d)(1)(iv) / § 192.933(d)(1)(iv).

2. Cracks or Crack-Like Defects. Prior to the Final Rule, the pipeline safety regulations contained no immediate repair criteria for cracking despite the well-known seriousness of this condition and its probable role in a crude oil pipeline rupture that occurred in Marshall, Michigan. *See* 81 Fed. Reg. at 20,819. The NTSB investigation into the incident found that inadequate integrity management procedures allowed well-documented cracks around corroded pipe sections to grow and multiply until the pipeline failed, spilling hundreds of thousands of gallons of oil into the Kalamazoo River. *See* PHMSA-2011-0023-0748, at xii. Given that substantially advanced cracking is an imminent safety concern, the Final Rule

requires immediate repair of a crack or crack-like anomaly where "(A) Crack depth plus any metal loss is greater than 50 percent of pipe wall thickness; (B) Crack depth plus any metal loss is greater than the inspection tool's maximum measurable depth; or (C) "[the crack] has a predicted failure pressure . . . that is less than 1.25 times MAOP." 49 C.F.R. § 192.714(d)(1)(v) / § 192.933(d)(1)(v). Criteria (A) and (B) relate to crack depth because "[e]ngineering modeling demonstrates that crack depth is a principal factor contributing to potential for catastrophic integrity failure of cracks on a gas transmission pipeline." PHMSA-2011-0023-0649, at 3. Immediate crack repair criteria (C) therefore "functions as a backstop" to the other criteria, with "a safety margin" that can account for failure pressure calculation errors and differences between individual pipelines. *Id.; see also* Respondents' Brief at 45-46 (explaining the significance of safety margins). The immediate repair criteria for cracks are thus designed "to provide a robust margin against integrity failures" from this type of defect. PHMSA-2011-0023-0649, at 3.

Petitioner's claim to have been blindsided by this backstop safety provision contradicts the record and obscures its own role in the process. The Notice of Proposed Rulemaking explicitly listed "[a]ny indication of significant stress corrosion cracking (SCC)" as an immediate repair condition for pipeline segments in high-consequence and non-high-consequence areas. *See* 81 Fed. Reg. at 20,839,

20,846. Petitioner was among three commenters who "strongly opposed" the significant stress corrosion cracking immediate repair criteria and urged PHMSA to scrap the broad "any indication" language in favor of a more flexible, factor-based assessment "that capture[d] the severity of the defect, such as predicted failure pressures or maximum depth." 87 Fed. Reg. at 52,247; *see also* PHMSA-2011-0023-0407 attach. 1, at 92-95. Petitioner also participated in the meeting where PHMSA presented to the advisory committee its response to industry comments—a set of revised crack repair criteria based around crack depth and predicted failure pressure. *See* PHMSA-2011-0023-0660 attach. 5, at 225. Petitioner therefore must have been well aware that PHMSA might adopt an updated version of the immediate repair criteria for cracks. Indeed, Petitioner even had the opportunity to comment on the change that ended up in the Final Rule when the advisory committee—two members of which belong to Petitioner member companies—discussed and recommended adoption of the change. *See* PHMSA-2011-0023-0660 attach. 8, at 62 (Petitioner representative is the first member of the public to comment on the final voting language for crack repair criteria).

3. Dents. PHMSA initially proposed to leave unchanged existing regulations' repair criteria for dent anomalies. However, industry commenters, including Petitioners, criticized what they saw as a "one-size-fits-all-approach" to

dent repair and urged the agency to consider a more individualized approach. Responding to this input, PHMSA determined that technological developments had advanced sufficiently to allow pipeline operators the flexibility of using an engineering critical assessment method to evaluate the criticality of dent anomalies on a case-by-case basis. 87 Fed. Reg. at 52,249-50. PHMSA ultimately revised the dent repair criteria to incorporate an engineering critical assessment approach, building upon a 2019 regulation[2] that established assessment methods for a variety of pipeline anomalies.

The Final Rule's dent assessment procedures require operators to estimate the remaining life of the pipeline, with a safety factor indicating how soon a pipeline must be reassessed for safety. *See* Respondents' Brief at 18. The dent assessment procedures specify that estimations of fatigue life for a pipe with a dent anomaly must assume a reassessment safety factor of 5 or greater for the reassessment interval. 49 C.F.R. § 192.712(c)(9). A safety factor of 5 is at the higher, "more conservative" end of consensus industry dent assessment recommendations,[3] "in light of the potential for significant variations among

[2] Final Rule, Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments, 84 Fed. Reg. 52,180 (Oct. 1, 2019).

[3] While this rulemaking was pending, the American Petroleum Institute published its Recommended Practice 1183, "Assessment and Management of Dents in

[engineering analysis] outputs . . . and the characteristics of pipe and anomalies being evaluated." PHMSA-2011-0023-0649, at 9. Since the promulgation of the Final Rule, scrutiny of the industry dent assessment recommendations themselves suggest the safety factor PHMSA settled on, while more protective than what Petitioner would have liked, remains too low.[4] Given that the most recent research indicates that a safety factor of 5 may not be protective enough, the agency should not accept an engineering critical assessment for dent assessment with anything less than a safety factor of 5. In addition, because the engineering critical assessment procedures for dents are built around the safety factor, should the Court grant Petitioner's petition for review as to the dent assessment provision, the appropriate remedy would be to vacate § 192.712(c) altogether and allow the agency to reconsider those regulations in light of the best available information. *See* Respondents' Brief at 58-59.

PHMSA decided to incorporate an engineering critical assessment methodology for determining the nature and timing of dent repairs in part because industry representatives (including Petitioner) asked the agency to make dent

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Pipelines" (Nov. 2020), which, among other things, provided guidance on "applying engineering assessment methods to evaluate the fitness-for-service of dents, including the reassessment interval." 87 Fed. Reg. at 52,249.

[4] B N Leis & A Eshraghi, Commentary on API RP 1183 – Dent Assessment and Management, Pipeline Pigging and Integrity Management Conference, Feb. 12-16, 2024, https://doi.org/10.52202/072781-0004.

repair criteria less prescriptive. 87 Fed. Reg. at 52,249 (commenters urged PHMSA to "allow operators to use an [engineering critical assessment] to evaluate dents as an alternative to following the prescribed repair criteria."); PHMSA-2011-0023-0660 attach. 5, at 241 (Petitioner echoed other commenters' views that operators should be able to use engineering critical analysis to determine immediacy of dent repairs). As with the crack immediate repair criteria, Petitioner actively participated in the discussions of the development of this engineering critical assessment option for dent assessments.

C. PHMSA Reasonably Concluded that the Benefits of Strengthening Integrity Management Requirements Justified the Costs and that Doing so was Practicable.

As required by statute, PHMSA published a final regulatory impact assessment along with the Final Rule. The regulatory impact assessment evaluates the costs and benefits associated with the Rule and compared the Rule's provisions to a "No Action Alternative" (*i.e.*, making no changes to the pipeline safety regulations). PHMSA found that the Final Rule's expected benefits to public safety, the physical environment, and environmental justice were substantial in comparison to the No Action Alternative, even considering the Rule's costs. PHMSA-2011-0023-0637, at ES-3.

In general, the regulatory impact assessment notes that the Final Rule's "[c]larifications to the threat identification processes, baseline assessment methods,

preventive and mitigative measures, and periodic evaluations and assessments," and "[c]larifications to pipeline repair criteria" are important to "the continuous improvement of [integrity management]." PHMSA-2011-0023-0637, at 19, 40. Together, these updates and revisions to the integrity management provisions of the pipeline safety regulations serve to "emphasize the functions that must be accomplished, elaborate on the elements of effective processes, and clearly articulate PHMSA's expectations." *Id.*

Regarding repair requirements more specifically, the Final Rule's revised requirements for conducting integrity assessments and remediating discovered anomalies are integral to the prevention of pipeline failures, including catastrophic incidents, that could jeopardize public safety and damage the environment. *See* PHMSA-2011-0023-0637, at 40-41. Based on the 1,260 pipeline incidents that have occurred since 2010, PHMSA estimates that the total average per-incident damages, "including average property damages, deaths and serious injuries per incident," is an astonishing $1.6 million. *See* PHMSA-2011-0023-0637, at 40. Reducing the frequency and severity of such incidents through improved integrity management requirements is an undeniable benefit to communities situated along the path of gas transmission pipelines.

On the other hand, because the Final Rule's integrity management provisions as a whole represent "clarifications, with few limited exceptions, [that]

would not alter, change or revise [existing requirements]," PHMSA does not expect such clarifications to result in measurable costs to pipeline operators. *See* PHMSA-2011-0023-0637, at 35 ("the final changes to § 192.933(d) . . . will not impose an additional cost burden on pipeline operators since they are already required.") & 36 ("PHMSA determined that the rule will not impose new requirements or costs for these repairs."). The only integrity management revisions expected to result in measurable costs to operators are requirements that accelerate repairs for certain types of one-year repair conditions. PHMSA duly performed a cost analysis for these provisions but did not find these costs unjustifiable in light of the Rule's overall benefits. *See* PHMSA-2011-0023-0637, at 37-40.

II. PHMSA's Improved Corrosion Control Requirements Increase Pipeline Safety.

A. The Final Rule Adds Corrosion Monitoring and Mitigation Requirements.

Corrosion is a serious threat to pipeline integrity and was a significant factor in the Carlsbad, New Mexico, pipeline explosion in 2000. 87 Fed. Reg. at 52,234. Corrosion is also, as mentioned *supra* at 12-14, a significant causal factor in the occurrence of stress corrosion cracking, a condition that weakens pipelines and can make them more susceptible to failure.

In the Notice of Proposed Rulemaking, PHMSA observed that existing corrosion control provisions were too general in nature and did not include

provisions that, in the agency's experience, are important for protecting pipelines from corrosion damage. 81 Fed. Reg. at 20,781. The Final Rule addresses these issues by implementing provisions that require operators to look for and mitigate compromised pipe or pipe coatings caused by damage from construction, and to perform surveys to detect the presence of interference from stray electrical current, which can undermine the effectiveness of corrosion prevention systems. 87 Fed. Reg. at 52,235-37. Of particular relevance to this case, the Final Rule targets the threat of internal corrosion by specifying the steps that pipeline operators must take to determine whether corrosive gas is being transported.

Although pre-existing regulations already required operators to monitor for internal corrosion if corrosive gas was being transported, if operators did not know there was corrosive gas in the pipeline, they would not necessarily think to monitor for corrosion. Changes in circumstances can also cause corrosive contaminants to enter the gas stream during the normal course of pipeline operations, which can result in corrosive gas being transported where there previously was none. Some pipelines thus escaped monitoring requirements simply "because an initial assessment did not identify the presence of corrosive gas." 87 Fed. Reg. at 52,237.

To fill this regulatory gap, the Final Rule requires operators to "monitor gas stream quality . . . and to mitigate deleterious gas stream constituents such as contaminants or liquids." 87 Fed. Reg. at 52,237-38. Corrosive constituents

entering the gas stream, such as carbon dioxide or liquid water, can "particularly, in combination with each other . . . corrode the gas." PHMSA-2011-0023-0649, at 10. To avoid the negative consequences of gas turning corrosive, the Final Rule requires operators to be vigilant against the potential "introduction of corrosive constituents through system changes, changing gas supply, upset conditions, or other changes" and take prompt action to address any resulting safety concerns. 87 Fed. Reg. at 52,237. Corrosive constituent monitoring and mitigation procedures thus help prevent internal corrosion from manifesting at all. Given that "[b]etween 2002 and November 2012, 206 incidents have been reported that were attributed to internal corrosion," these provisions constitute an important contribution to pipeline safety. 81 Fed. Reg. at 20,810.

B. PHMSA Reasonably Concluded that the Benefits of Strengthening Corrosion Control Requirements Justified the Costs and that Doing so was Practicable.

As with integrity management improvements, the primary benefit of strengthening corrosion control requirements is reducing the number of releases and incidents attributed to corrosion, which "continue to occur at a high rate." PHMSA-2011-0023-0637, at 29. PHMSA calculates that "[f]rom 2010 to 2021 there have been a total of 149 incidents, including over $197 million in damages associated with incidents where internal and external corrosion was identified as the primary cause across all locations," with "an average of over $1.3 million in

total damages per incident." *Id*. These figures do not include costs associated with environmental impacts. Again, the benefits of avoiding corrosion-related releases and incidents accrue to communities living near or alongside gas transmission pipeline infrastructure, and to the public more generally with respect to the environmental effects of methane releases.

At the same time, PHMSA acknowledges costs associated with the Final Rule's provisions regarding interference surveys, external corrosion monitoring, and external corrosion surveys and performed a cost analysis accordingly. *See* PHMSA-2011-0023-0637, at 27-29. In the context of the Rule's overall benefits to public safety and the environment, PHMSA reasonably concluded that the benefits justified the costs.

III. PHMSA's Rulemaking Process Properly Noticed Petitioners, Incorporated Public Comment, and Complied with Statutory Requirements

As this Court consistently recognizes, it is the nature of our regulatory process for a final rule to differ from the proposal. *City of Waukesha v. E.P.A.*, 320 F.3d 228, 245 (D.C. Cir. 2003). Indeed, the rulemaking process is designed for agencies to learn from public comment and provide opportunities for stakeholders to engage with the agency's decision-making and respond to the variety of viewpoints expressed by other stakeholders and advisors. At each step in the process, Petitioner had an opportunity to provide input, and did so. PHMSA's Final

Rule reflects the fruits of this deliberative process. PHMSA made technical adjustments to the final requirements that it felt appropriate in response to commenters such as Petitioner while maintaining the overall safety aims of the rulemaking.

As the government's brief effectively explains, PHMSA did this while also fulfilling its requirements to weigh the benefits and costs of the rulemaking in accordance with this Court's decision in *GPA Midstream Ass'n v. U.S. Dep't of Transp.*, 67 F.4th 1188 (D.C. Cir. 2023); Respondents' Brief at 34-38. Petitioner's application of *GPA Midstream* would require separate economic analysis on such a granular level as to bring any technical rulemaking to a halt.

CONCLUSION

The Final Rule applies the lessons learned from San Bruno, other pipeline incidents, and the investigations that followed them to better protect the communities that live near gas transmission pipelines. The changes implemented address now apparent gaps in the regulatory structure that did not ensure operators were taking the steps necessary to protect lives, property, and the environment. PHMSA implemented these changes with an open and deliberative process in accordance with the law that demonstrated the significant benefits and minimal costs of such changes. The Pipeline Safety Trust calls on the Court to grant Respondents' request and deny this petition for review.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit by using the appellate CM/ECF system on March 4, 2024.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

/s/ *Adrienne Y. Lee*
Adrienne Y. Lee

CIRCUIT RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure and D.C. Circuit Rule 26.1, *amicus curiae* states that it is a non-profit organization without any parent corporation or stock.

Dated: March 4, 2024

/s/ *Adrienne Y. Lee*
Adrienne Y. Lee

CIRCUIT RULE 29(A)(4)(E) STATEMENT

Pursuant to D.C. Circuit Rule 29(a)(4)(E), *amicus curiae* states that no party's counsel authored any part of this brief, no party or party's counsel contributed money that was intended to fund preparing or submitting this brief, and no person other than the amicus curiae, its members, or its counsel, contributed money that was intended to fund preparing or submitting this brief.

Dated: March 4, 2024

/s/ *Adrienne Y. Lee*
Adrienne Y. Lee

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMIT

Pursuant to Federal Rule of Appellate Procedure 32(g)(1), counsel hereby certifies that the foregoing Brief of Amicus Curiae Pipeline Safety Trust in Support of Respondents contains 5,000 words, as counted by counsel's word processing system, and thus complies with the 6,500-word limit. *See* Fed. R. App. P. 29(a)(5).

Further, this document complies with the typeface and type-style requirements of the Federal Rules of Appellate Procedure, 32(a)(5) and (a)(6), because this document has been prepared in a proportionally spaced typeface using **Microsoft Word for Microsoft 365** using **size 14 Times New Roman** font.

Dated: March 4, 2024

/s/ *Adrienne Y. Lee*
Adrienne Y. Lee