U.S. House of Representatives
Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines and Hazardous Materials
"PIPES Act of 2016 Implementation: Oversight of Pipeline Safety Programs"

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June 21, 2018

Good morning Chairman Denham, Ranking Member Capuano, and Members of the Subcommittee. Thank you for the opportunity to speak today about implementation of the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2016. The oil and natural gas industry proactively and collaboratively engages with the Pipeline and Hazardous Materials Safety Administration (PHMSA) to help ensure the safe and efficient transportation of our products. We recognize and appreciate PHMSA's efforts to implement the 2016 PIPES Act, but more work needs to be done to help ensure practical and performance-based regulations are instituted. The development of efficient and effective pipeline safety regulations ensures that we are taking proper actions to protect the public and environment while at the same time continuing the U.S. energy renaissance that provides American consumers with access to affordable energy.

The American Petroleum Institute (API) is the only national trade association representing all facets of the oil and natural gas industry, which supports 10.3 million jobs and 8 percent of the U.S. economy. API's more than 625 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, and marine businesses and service and supply firms. As Group Director of API Midstream and Industry Operations, I am responsible for all energy infrastructure issues, including those related to the gathering, processing, storage, and transportation of oil and natural gas.

The United States is leading the world both in the production and refining of oil and natural gas[1] and in the reduction of carbon dioxide emissions, which are at their lowest levels in 25 years.[2] Carbon dioxide emissions from electricity generation have declined 28 percent since 2005 and are at their lowest level in 30 years; more than 60 percent of the decrease in power generation-related CO2 emissions since 2005 was due to fuel switching to natural gas.[3] In the past decade, we have transitioned from an era of energy scarcity and dependence to one of energy abundance and security. In 2008, the U.S. was producing only 5 million barrels per day of oil. Just this April, the U.S. produced a record 10.5 million barrels per day[4], a doubling of production. Along with this growth in production, there's been a corresponding growth in U.S. crude and petroleum product exports, which reached a record high of 7

[1] https://www.eia.gov/beta/international/
[2] U.S. DOE, Energy Information Administration, Monthly Energy Review May 2018. Lowest since 1992
[3] http://energytomorrow.org/blog/2017/03/31/energy-and-declining-emissions
[4] U.S. DOE, Energy Information Administration, Weekly U.S. Field Production of Crude Oil

million barrels per day in April, primarily driven by growing exports of crude oil.[5] A similar transformation has occurred in natural gas production, which has grown by almost 50 percent since 2008.[6] This energy renaissance has helped U.S. families save on their energy bills, created greater job opportunities for American workers, bolstered U.S. manufacturing, strengthened our economy, and helped to enhance our national security interests abroad.

When taken together, the U.S. is the largest producer of oil and natural gas in the world. We have seen the benefits of being an energy superpower manifest themselves here at home in the form of energy security and reliability. And as global commodities, the oil and natural gas we have produced here in the U.S. have provided benefits far beyond our borders, throughout the world. None of this would be possible were it not for the midstream sector of our industry, which ensures that we can get the oil and natural gas from the areas where they are produced to where they are processed, refined and ultimately used. Our energy infrastructure is a critical component of the oil and natural gas supply chain, consisting of terminals, underground storage facilities, pipelines, railcars, trucks, ships, and barges. Ensuring we have a robust energy infrastructure system that keeps pace with growing production and demand is essential to helping provide American families and businesses with reliable access to affordable energy. A recent study found that the U.S. will need up to $1.3 trillion in energy infrastructure investment through 2035. This investment, on average, will support up to 1 million jobs annually and add up to $100 billion to GDP annually.[7] Whether it is powering our nation's electricity grid, delivering natural gas to heat homes during harsh winters, or providing emergency fuel for first responders during natural disasters, this investment will ensure that these critical fuels are delivered when and where they are needed most.

Safety is our industry's core value. Our operators are committed to enhancing the safety of our workers and protecting the community and environment. At API, we establish industry standards and disseminate best practices across the industry to ensure the highest level of safety and achieve our collective goal of operating with zero incidents. In fact, since 1924, API has been the leader in developing voluntary, consensus, internationally recognized, industry standards that promote safety and reliability. Our standards program is accredited by the American National Standards Institute (ANSI), the same organization that accredits similar programs at several national laboratories. In creating these industry consensus standards and recommended practices (RPs), API partners with the best and brightest technical experts from government, academia, and industry. This work supports the fulfillment of the National Technology Transfer and Advancement Act (NTTAA), which mandates that federal agencies use technical standards developed and adopted by voluntary consensus standards bodies, as opposed to using government-unique standards. Currently, API has more than 600 standards that are used globally by oil and natural gas operators. Here in the United States, these standards are referenced more than 430 times in federal regulations, covering multiple government agencies, including PHMSA. Additionally,

[5] U.S. DOE, Energy Information Administration, Weekly Petroleum Status Report
[6] U.S. DOE, Energy Information Administration, U.S. Natural Gas Marketed Production (monthly)
[7] ICF, "U.S. Oil and Gas Infrastructure Investment Through 2035" (2017)

API's standards are the most widely cited petroleum industry standards by state regulators, with 240 API standards cited over 4,130 times in state-based regulations. Finally, API's standards are also the most widely cited standards by international regulators in the 14 major producing regions.[8]

THE IMPORTANCE OF SCIENCE AND PERFORMANCE-BASED STANDARDS

To ensure that American consumers and workers continue to benefit from the U.S. energy renaissance and that infrastructure operates safety and efficiently, we need rational and science-based energy policies that recognize that the oil and natural gas industry is part of the solution to advancing U.S. economic and national security goals. Well-designed policies are predicated on following a formal process—established by the Administrative Procedures Act—that provides all stakeholders with the opportunity to provide input for consideration. Additionally, wherever possible, collaborative engagement by the public sector with the experts in the regulated community ensures that policies are using the latest information available. If done well, effective and efficient policies can be established that contribute to the economy without hindering growth while at the same time significantly advancing safety.

Historically, PHMSA has pursued performance-based regulations versus prescriptive ones. This is compliant with direction provided by the Office of Management and Budget (OMB) to give preference to performance-based standards. A performance-based regulatory model allows operators to utilize the latest advances in inspection and detection technologies as soon as it is practicable. Additionally, a performance-based approach regulation recognizes that there is great variability throughout the industry and that a one-size-fits-all approach could actually prevent companies from taking advantage of engineering assessment options that most effectively manage and advance safety in industry operations. For instance, PHMSA issued Integrity Management (IM) regulations that provide operators with the ability to use different in-line inspection (ILI) tools that are better at detecting a defect in specific types of pipe. This flexibility is essential given the continuous advances in tool technology, complexity of pipelines and differences in operating environment, which vary greatly from operator to operator and system to system. Therefore, as PHMSA continues to pursue rulemakings for gas and liquid pipeline safety, it is imperative that these rules incorporate a more comprehensive, risk-based approach that allows for consideration of all factors (previous integrity assessment results, pipe size, material, manufacturing information including seam type, coating type and condition, cathodic protection history, product transported, operating pressure, corrosivity of soil, susceptibility to subsidence, and geo-technical hazards) to ensure proper tools and engineering analysis are used to take preventive measures and, if necessary, make repairs. Although API and its members appreciate the emphasis PHMSA has placed on addressing mandates and National Transportation Safety Board (NTSB) recommendations, we strongly encourage PHMSA to act in a timely manner and not lose sight of the importance of a holistic, performance-based regulatory approach that maximizes the industry's ability to utilize the latest advances in new technologies and techniques to manage pipeline safety risk.

[8] OGP Report No. 426, Regulators' Use of Standards, March 2010

PIPELINE SAFETY

Pipelines safely and efficiently move crude oil, natural gas, and other products from production areas to consumers, delivering energy and feedstocks for everyday goods, affordable heat for homes, and fuel for power generation and motor vehicles. In addition to the benefits derived from the delivery of oil, natural gas and their products, pipeline companies support the economy during construction of the pipeline by hiring skilled construction and building trades workers to build and operate the pipeline. While these jobs provide salaries well above the national average, the tax revenue generated by the pipeline itself supports communities through which the pipelines pass.

Industry's commitment to safe operations is evident by the strong safety record of the pipeline system that delivers oil, natural gas and petroleum products. Protecting the public and the environment is the top priority for pipeline operators and a central component to pipeline design, construction and maintenance. Ultimately, the development of a comprehensive pipeline safety system is the product of a shared commitment from key entities in the stakeholder community. The first element involves the federal and state governments, which provide the safety regulations for the industry. Next, is the contribution of the industry trade associations that develop the industry guidance, recommendations and best practices. The third key entity is the individual company, which makes the commitment to develop and implement an effective safety program. While each individual function is critically important to advancing safety in the pipeline industry, the true effectiveness of the pipeline safety program exists because these three functions complement one another through the coordination and collaboration of all three of these entities.

API, our allied oil and natural gas trades and members are fully committed to maintaining the highest standards and establishing a strong foundation with the public by continually striving for improvement through enhanced safety operations. And while 99.999 percent of oil, natural gas and their products reach their destination without incident, pipeline companies are striving to address the remaining 0.001 percent to reach our shared industry-wide goal of zero incidents. To successfully achieve this objective, there is commitment to continually develop its (1) people and (2) equipment. The people component will enable the development and implementation of the right combination of prevention, mitigation, and response strategies based on several factors that are most appropriate for their unique assets. Education and training are constantly provided to ensure that a culture of safety is established in the individuals that operate a pipeline. Similarly, the equipment will depend on the effective use of state-of-the-art technology. The industry's commitment to continual development and implementation of the equipment and materials we use in the construction and operation of our nation's pipeline system is driven by a constant desire to maintain the safest systems possible in the most efficient and effective manner.

With a new DOT and PHMSA leadership has come a renewed interest in innovation and technology. The leadership of both organizations continues to articulate the importance they place on the use of inspection technology as a "transformative" tool to drive our industry's safety performance and address the remaining 0.001 percent of pipeline incidents. Our industry continues to place a great deal of emphasis and resources on research and development. Specifically, improvements to pipeline integrity

inspection capabilities are a strategic objective that has driven our industry to invest in furthering in-line inspection tool detection, ultimately preventing accidents from occurring. For example, API is facilitating a more dynamic and interactive process between pipeline operators and technology vendors to ensure there is a unified approach to addressing challenges and maintaining the focus on achieving safer pipelines. This effective application of technology in improving pipeline safety performance is a shared goal of PHMSA and the industry. As such, industry stands willing to explore opportunities to further strengthen collaboration with PHMSA on research and development, collectively shaping a longer-term strategy that drives innovation, informs regulations, and ultimately improves pipeline safety performance.

Absent certainty in the regulatory process, the industry is not standing idly by. API continues to develop and revise critical standards and recommended practices for prevention, mitigation, and response activities to address pipeline safety. Specifically, API has developed a number of standards to address pipeline safety in close coordination with subject matter experts from government, academia and industry. API Recommended Practice (RP) 1173, *Pipeline Safety Management Systems*, provides the framework for managing complex operations with safety as the top priority. It provides operators with established guidelines to manage risk, promote best practices, continuously improve safety performance and build a strong organizational safety culture from the leader of a company all the way to an individual working in the field. As U.S. production continues to grow and pipeline capacity advances to keep pace, operators are motivated to develop a management system that ensures new pipelines are built to the appropriate specifications, keeping safety a priority. API RP 1177, *Steel Pipeline Construction Quality Management Systems*, outlines the steps needed for constructing safe steel pipelines, from purchasing the correct material to completing the right inspections prior to initiating operation.

While pipeline operators are taking significant steps to meet the goal of zero incidents, they must have a comprehensive mitigation strategy to reduce the impact should a release occur. Developed with industry and regulator input, API RP 1175, *Pipeline Leak Detection - Program Management*, outlines how to use multiple leak detection tools -- such as aerial overflights, ground patrols, and computational pipeline monitoring -- to create a robust and holistic program to identify a leak as soon as it occurs. In addition, the RP encourages senior leaders within companies to enforce a leak detection culture that promotes safety. Properly trained employees will also aid in mitigating incidents. Pipeline operator qualifications (OQ) ensure companies properly prepare their personnel to perform high-risk duties. Continuous testing to verify the skills of qualified employees is a critical effort of operators. API has developed RP 1161, *Pipeline Operator Qualification*, to give operators direction on ensuring those individuals performing high-risk tasks are appropriately trained and competent.

Should an incident occur, pipeline operators are ready to respond. Through coordinated emergency response programs with federal, state and local first responders and agencies, operators ensure timely, seamless and effective responses. API RP 1174, *Onshore Hazardous Liquid Pipeline Emergency Preparedness and Response*, completed by operators, regulators, and first responders, seeks to improve emergency response capabilities by providing a framework for immediate notification and continued

coordination with first responders. These RPs are just a few of the available documents developed in collaboration with federal and state regulators, academics and interested stakeholders, which through effective implementation and training will help improve safety across the industry.

NATURAL GAS TRANSMISSION AND GATHERING LINE RULE

API members are dedicated to a risk-based approach to pipeline safety—one that strives for continuous improvement through addressing known, quantifiable risks. Importantly, that is the same approach that Congress has used over the decades in its directives to DOT and PHMSA for regulating pipeline safety.

In 2016, PHMSA published a Notice of Proposed Rulemaking (NPRM) - Safety of Gas Transmission and Gathering Pipelines. The NPRM responded to mandates set forth in the Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011 and recommendations to PHMSA from the NTSB and the Government Accountability Office (GAO). The NPRM was the largest rulemaking issued by PHMSA to date. As published, the NPRM is unnecessarily burdensome and inefficient. It fails to follow a risk management approach, as directed by Congress, targeted toward eliminating the most significant risks posed to public safety and the environment. As an example, the PHMSA proposal could potentially add risk by requiring additional excavation at times when increased, non-intrusive monitoring will suffice. Further, the NPRM suggests that the implementation costs would only be $597 million and are greatly outweighed by an equally surprising high estimate of benefit, between roughly $3.2 billion and $3.7 billion. By PHMSA's own accounting however, roughly $3 billion of the benefits are cost savings to industry - not safety or environmental benefits. API sought an external party to further evaluate PHMSA's work, which evaluated the benefits and cost impacts of the proposed rule and found that when properly accounted for, the total cost of the proposed rule increases by almost two orders of magnitude from $597 million to $33.4 billion to achieve safety and environmental benefits of approximately $437 million.

Since the publication of the NPRM in 2016, API -- along with industry, the public, and PHMSA -- has made significant strides to improve the efficiency and effectiveness of the proposed rule through PHMSA's Gas Pipeline Advisory Committee (GPAC). The GPAC, which is comprised of members from the public, government, and industry, is charged with reviewing PHMSA's proposed regulations to assess technical feasibility, reasonableness, cost-effectiveness, and practicability. PHMSA held five separate meetings over the past two years to discuss and finalize the gas transmission proposals within the NPRM. These GPAC sessions on the transmission proposals were constructive and collaborative and allowed PHMSA and the public to fully understand how industry operates and how proposed changes in regulations impact industry operations. This information will be critical to the agency as it begins its review of the gathering line proposals within the NPRM later this fall.

API and its members strongly support the collaborative approach to review and finalize regulations through the GPAC process and encourage PHMSA to adopt the transmission proposals as discussed by the GPAC. As a part of the GPAC review process, PHMSA agreed to break up the NPRM into three separate rules—two on transmission and one on gathering lines. API agrees with this approach. PHMSA's NPRM, as written, improperly imposed new requirements on gathering lines that were

intended for transmission operations. By combining gathering and transmission into one rule, the agency applied the same rules to both pipelines. However, there are significant differences between the construction of gathering and transmission lines, and by breaking up the NPRM, operators will be able to more effectively implement safety measures that are appropriately designed for the construction type through a risk-based approach.

API, along with other industry trade associations, has provided substantial comments on the transmission proposals throughout the GPAC meetings, and we look forward to working with PHMSA as the industry begins to address the proposed regulations for gathering lines through the GPAC review process. This process is another example where the regulator has an opportunity to collaborate with stakeholders to adopt a performance-based RP. In the NPRM, PHMSA commented on concerns with an API document used for gathering line regulations. In response, API and its members are now in the process of modifying the RP to properly address those concerns. This work needs to be considered in upcoming GPAC meetings on gathering lines, as it will complement new regulations and provide a holistic, risk-based approach to the safety of gathering lines. Pipeline safety regulations should be based on sound data collection and risk analyses that support increases in safety for the public and minimize impacts to the environment. Further, PHMSA should issue focused and effective regulations that are workable and will allow for immediate improvements in pipeline safety.

HAZARDOUS LIQUID PIPELINES RULE

Industry shares PHMSA's goal of increasing pipeline safety and is supportive of completing the ongoing rulemaking process. We also appreciate PHMSA's desire to move liquid pipeline safety regulations that address Congressional mandates and NTSB recommendations that have lagged in some instances since 2011. However, as an industry that heavily relies upon the benefits of technology to advance safety, companies need the ability to implement the latest tools and methodologies to help them appropriately manage the safety risk associated with their assets. It is also important that operators are afforded flexibility to conduct engineering analysis to ensure proper tools—many of which contain technologies developed in recent years—and data integration are used to take appropriate preventive measures, including to defer the remediation of non-injurious repairs, or if necessary, make repairs based on industry recommended repair criteria. Also, a risk-based approach to repairs based on sound data and engineering analysis results in less disruption to landowners and a reduction in potential safety and environmental impacts due to low risk, unnecessary repairs. Therefore, as PHMSA continues to pursue liquid pipeline safety regulations through multiple rulemakings, it is imperative that PHMSA incorporate a comprehensive, risk-based approach that addresses industry's recommendations on repair criteria and use of engineering critical analysis.

UNDERGROUND NATURAL GAS STORAGE FACILITIES RULE

Underground natural gas storage facilities play a critical role in the reliable delivery of natural gas. They allow operators to store gas produced when demand is low, typically in the warmer months, and release it during periods of high demand, during the heating season in the winter. Prior to the Aliso Canyon storage facility incident in the fall of 2015, API along with the Interstate Natural Gas Association of America (INGAA) and the American Gas Association (AGA), published two recommended practices on

underground storage facilities. After the incident, API, INGAA, and AGA created a joint industry task force to cooperatively address storage safety. This task force has been working cooperatively with PHMSA and state agencies to further address ways to improve the safety of storage facilities. Unfortunately, PHMSA's interim final rule on underground natural gas storage facilities, released in December 2016, improperly incorporates by reference the RPs by "adopting the non-mandatory provisions of API RPs 1170 and 1171 in a manner that would make them mandatory (i.e., provisions containing the word 'should' or other non-mandatory language will be considered mandatory)" and by requiring compliance within 12 months of the issuance of the rule. This unwisely takes a performance-based standard and attempts to make it prescriptive. Under this model, industry could be required to divert their focus away from higher risk functions to instead focus on functions that pose little to no threat on the surrounding environment and communities. While PHMSA has tried to address some of the shortcomings of the rule via Frequently Asked Questions (FAQs), we believe that changes should be made to the final version of the rule to incorporate by reference RPs 1170 and 1171 without modification, codify the reasonable implementation periods outlined in the current PHMSA Underground Storage FAQs 5 and 6, and incorporate underground natural gas storage facilities into a new "Part 19X," separate from Part 192. While PHMSA is working on finalizing the rule, they have put a stay on enforcement of these contested sections.

ENHANCING PIPELINE SAFETY

While the oil and natural gas industry continues to work proactively, through our standards development process and through collaboration with regulators and other stakeholders, to achieve our goal of zero incidents, there are additional reforms that we believe will help to enhance pipeline safety. As previously noted, there are more than 430 API standards referenced in Federal regulation. As these standards are improved through the ANSI-certified process, Federal regulators may not be able to update these standards in a timely manner. For example, approximately 50 percent of the instances where PHMSA cites API standards are not referencing the most recent version of those standards. As API standards are updated, or new ones are developed, PHMSA should execute a timely review process that can utilize the existing rulemaking processes, to incorporate by reference the latest edition or the first edition of appropriate standards.

Ensuring that operators can use the most recent and innovative technology will also help to bolster pipeline safety. Current regulations have no deadlines associated with PHMSA's review, notification, and issuance of special permits for new technology, which does not provide for efficiency. Operators are required to conduct timely assessments of pipeline integrity, and that may often be done more effectively with a new technology. However, there is hesitation to do so, given the burdensome special permit process. Requiring PHMSA to carry out the special permit process to review alternative safety technology permit applications within 90 days will help provide more certainty in the special permit process and allow operators to utilize the latest cutting-edge technologies to further pipeline safety. The

GPAC recently recommended[9] including this proposal in the proposed Safety of Gas Transmission and Gathering Lines rule, and PHMSA expressed agreement[10].

We are also concerned about efforts by third-party activists to willfully disrupt or damage pipeline infrastructure, which poses a potential threat to communities, our workers, and the environment. While we respect individuals' rights to free speech and peaceful protest, we need pipeline safety reforms that will help deter these dangerous and illegal activities.

Let me reemphasize that the oil and natural gas industry is committed to promoting safety in all its operations and helping to ensure that American families and businesses can safely and efficiently access affordable and reliable energy. Again, thank you the opportunity to appear before you today, and I am happy to answer any questions that you may have.

[9] https://primis.phmsa.dot.gov/meetings/FilGet.mtg?fil=931
[10] https://primis.phmsa.dot.gov/meetings/FilGet.mtg?fil=927