Questions Submitted for the Record for
Robin Rorick, Vice President of Midstream Policy, American Petroleum Institute
Committee on Energy and Commerce
Subcommittee Hearing on "Fueling America's Economy: Legislation to Improve Safety and Expand U.S. Pipeline Infrastructure"

The Honorable Michael C. Burgess, M.D.

Question: In your written testimony you spoke about how pipeline infrastructure is critical to American energy. How can pipeline safety initiatives benefit from innovation and new technology?

Response: Pipeline safety is founded on the application of technology and advancements through innovation. Since the inception of the pipeline integrity management rule over 20 years ago, there have been significant advancements in pipeline construction, inspection, maintenance, and repair technologies that have helped to substantially improve the pipeline safety record. As part of the pipeline industry's focus on the goal of zero incidents and continuous improvement through the Plan-Do-Check-Act (PDCA) process and Pipeline Safety Management Systems, the industry has supported the development of advanced technology to further enhance its safety record and advocated for the adoption of new methods, procedures, and technologies as part of regulations. The energy pipeline industry has developed recommended practices (RPs) reflecting the latest technological capabilities and engineering knowledge and advocates for the adoption in regulation of consensus industry standards that are based on research results. However, the pace of technological advancements that support improvements in pipeline safety is proceeding much more rapidly than the regulatory process, and pipeline safety regulations do not reflect the current state of industry research and technology. Through the pipeline safety reauthorization process, the industry is promoting reauthorization of the Technology Pilot Program. This program would facilitate operators' use of state-of-the-art technology, engineering practices, and risk-based approaches in assessing and carrying out pipeline inspections and repairs through leading industry practices, which we believe will enhance pipeline safety.

The Honorable Tim Walberg

Question: You testified that delaying the class location rule has made it difficult for operators to take advantage of technological advances that could improve pipeline safety. Can you elaborate on how PHMSA's failure to complete the class location rule is impacting your members?

Response: Over the last two decades, PHMSA and pipeline operators have demonstrated the value of integrity assessment programs. These programs require operators to leverage modern technologies to evaluate pipe condition and focus

further action accordingly. As such, these developments render the current class location change regulations, issued in 1970, obsolete. Gas transmission pipeline operators annually spend $200 - $300 million replacing less than 75 miles of pipe to satisfy the class change regulations. The opportunity to invest these resources in more modern programs would substantially advance our pursuit of zero-incident safety performance. For example, $250 million could instead be invested in running in-line inspection tools on 25,000 miles of pipe. Up to 800 million standard cubic feet of natural gas is released every year due to class change pipe replacements. This is equivalent to the gas used by over 10,000 homes annually. These releases would be largely eliminated under an assessment-based alternative for managing class changes. Integrity management through the use of technology versus replacement due to a class change also reduces disruption to landowners and improves safety for personnel required to conduct the digs and replacements.

The Honorable Greg Pence

Question: During the hearing, one of the witnesses testified that we should proceed with caution when it comes to transporting hydrogen via pipeline due to the different safety risks associated with hydrogen versus natural gas.

a. Does the pipeline industry have experience transporting hydrogen? If so, can you explain how operators account for hydrogen's unique properties to transport it safely?

Response:

There are over 1,600 miles of hydrogen pipelines operating in the US, most of which are limited in length (i.e., 25 miles or less), operate at pressures well below the maximum design limits, and were designed specifically for 100% hydrogen gas service. The transportation of hydrogen gas by pipeline has been regulated by PHMSA since 1970. Transportation of hydrogen by pipeline is regulated by PHMSA under 49 CFR §192, which provides a robust framework for hydrogen pipeline safety and reliability, including design, construction, operations and maintenance, and preventive and mitigative measures. Under these regulations, hydrogen pipeline operators are required to ensure that the materials used for piping and other components in the pipeline system and facilities are chemically compatible with hydrogen gas and other low-level impurities that may be present in the gas. Through advanced engineering, hydrogen pipeline systems have an excellent safety record, with only five reported incidents that involved regulated hydrogen pipelines, and no injuries or fatalities related to these incidents. These same factors are being considered as the industry continues to conduct extensive research and evaluate the potential impacts on natural gas pipeline infrastructure of blending hydrogen with natural gas. The research is focusing on understanding the susceptibility for hydrogen embrittlement to occur in pipeline steels, the effects of hydrogen on non-metallic

materials (seals, gaskets, valves) and metering systems, and evaluating modifications to existing natural gas compressor stations to accommodate hydrogen/natural gas blends.

b. What are the benefits of hydrogen as a fuel source?

Response:

The primary benefit of hydrogen as a fuel source is that it can be produced from a diverse range of domestic resources with the potential for near-zero greenhouse gas emissions. Hydrogen is increasingly recognized as a valuable pathway for meeting ambitious climate goals – particularly in reducing emissions from hard-to-abate sectors. Expanding the role of hydrogen in decarbonization requires cost-effective production of low-carbon hydrogen from all sources. Today, most hydrogen is produced from natural gas, which, if paired with carbon capture, utilization and storage (CCUS), offers a promising and scalable low-carbon fuel source. API advocates for and supports policies that advance hydrogen infrastructure buildout.

<u>The Honorable Troy Balderson</u>

Question: During the hearing, it was alleged that data shows no progress has been made in the last decade towards advancing pipeline safety and reducing safety incidents.

a. Do you agree with that statement? If not, what data or information can you provide to demonstrate that the industry has been making progress towards a zero-incident future?

Response: Pipelines – which are one of the safest, most environmentally responsible ways to transport energy to consumers – are in every U.S. state, totaling nearly three million miles of largely underground gathering, transmission and distribution pipelines. Our industry is committed to achieving an operating standard of zero incidents through comprehensive safety management systems and robust safety programs, including the deployment of advanced inspection and leak detection technologies. Even as energy product volumes delivered and pipeline mileage continue to increase, this strong safety record is improving. Over the last five years, total liquids pipeline incidents have decreased 28 percent while those incidents impacting people and the environment (IPE) have declined 16 percent. Incidents caused by equipment failure or incorrect operation are down 42 percent and 45 percent, respectively.[1] The IPE metrics were created by the liquid pipeline industry, the Pipeline Safety Trust and PHMSA based on a recommendation from the National

[1] 2 2023-2025 Pipeline Excellence Strategic Plan & 2022 Performance Report, 2023, https://www.api.org/-/media/APIWebsite/oil-and-natural-gas/primers/API_Pipeline_Report-NRS-Spreads.pdf

Transportation Safety Board to develop more meaningful metrics reflecting the highest impacts to people and the environment.

The Honorable August Pfluger

Question #1: In your testimony, you assert that API believes PHMSA exceeded its statutory mandate when drafting the agency's Leak Detection and Repair (LDAR) Notice of Proposed Rulemaking (NPRM) that was released last year. Yet, Deputy Administrator Brown insisted at the hearing that he believes PHMSA followed the law.

a. **Can you please elaborate on the specific portions of the NPRM that you believe are not in compliance with what Congress directed the agency to do?**

Response: PHMSA is exceeding the clear intent of Congress as laid out in Section 113 of the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act by applying the LDAR requirements to rural gas gathering lines in Class 1 locations, liquefied natural gas (LNG) facilities and requiring the identification and repair of all leaks, not just hazardous leaks. Section 113 of the PIPES Act requires operators of regulated non-rural gas gathering lines, new and existing gas transmission pipeline facilities, and new and existing gas distribution pipeline facilities to conduct leak detection and repair programs that meet the need for gas pipeline safety and protecting the environment.

Additionally, in the requirements for the leak detection and repair programs, Congress was specific that the programs should focus on the ability to "identify, locate, and categorize all leaks that – (i) are hazardous [emphasis added] to human safety or the environment; or (ii) have the potential to become explosive or otherwise hazardous to human safety." Section 113 also requires operators to use advanced leak detection technologies and practices and "include a schedule for repairing or replacing each leaking pipe, except a pipe with a leak so small that it poses no potential hazard" [emphasis added], with appropriate deadlines. Therefore, Congress made it clear that not all leaks were to be deemed hazardous and not all leaks should be required to be repaired. As the proposed rule is written, a leak would only be exempted from the "hazardous" designation and from repair scheduling if it is so small that it cannot be detected [emphasis added] by the very low minimum leak detection sensitivity threshold proposed by PHMSA. Thus, PHMSA's proposed rule does not follow the clear intent of Congress for Section 113.

Question #2: PHMSA is far behind schedule in completing the idled pipe rulemaking, which, as you know, was required by Congress to be promulgated by the end of December 2022. PHMSA should not continue to regulate idled and fully active pipelines the same – idled pipes do not actively carry hazardous materials, and they are disconnected from sources that allow for transporting hazardous materials, so the regulations should be

appropriately tailored to reflect the reduced risk of incident. Importantly, regulating idled pipelines the same as active pipelines means PHMSA must direct its limited resources here when the funds could be better used implementing other regulations. Will you elaborate on the industry impact that the Idled Pipe Rule will have?

Response: The impact of the Idled Pipe Rule will be significant to both the industry and PHMSA. As indicated in the question, PHMSA continues to include idled pipelines as part of its integrated inspection process and has not recognized the minimal risks represented by idled pipelines in the inspection process. Under current regulations, PHMSA only recognizes active (or in-service) pipelines and abandoned pipelines, where abandoned pipelines are permanently removed from service. Often, due to commercial and operational considerations, transportation of products through a pipeline/pipeline segment may be temporarily suspended and the line purged of its contents and physically isolated from other in-service lines or equipment. However, the operator may want to use the pipeline in the future and thus does not consider the line abandoned. Pipelines taken out of active service and considered abandoned versus idle can lose status under easement agreements and lose easement rights. As such, the industry has a great deal of interest in the Idled Pipe Rule to allow for that additional operating status. Recognizing the lack of specificity in existing regulatory requirements related to idled status, the industry proactively developed RP 1181 that takes into consideration critical risk factors surrounding integrity and safety of a pipeline no longer in use but not abandoned. The RP articulates additional steps that should be taken to address those factors and recommends activities that might be deferred based on the reduced risk of a pipeline that has been taken out of service for a period and purged of product. It should be noted that PHMSA has published guidance through an Advisory Bulletin (ADB –2016-05) that acknowledges the reduced risks represented by idled pipelines and a corresponding fit-for-purpose integrity management program for these assets.

Question #3: Pipeline technology has advanced, and industry is increasing its use of composite materials. Composite pipelines can offer several advantages including lower cost and the capability to retrofit steel pipelines to transport other fuels such as hydrogen.

a. **What are your views on composite pipelines and what do you think needs to be done in terms of policy to expand their use?**

Response: Composite materials have been used for decades to repair and reinforce existing pipeline systems, and composite repairs are incorporated into existing industry standards (e.g., ASME PCC-2). Composite materials have primarily been used for repair of defects that have been detected on pipeline systems and retrofitting existing pipeline systems to ensure integrity and safe transportation of energy products. As the energy pipeline industry looks ahead to the development of low carbon energy infrastructure, composite materials and flexible piping have been

identified as alternative materials to support the build out of new infrastructure, which is expected to be substantial. Additionally, advances in composite material application for retrofitting existing systems for conversion from hydrocarbon services to new energy fuel sources is being considered. A significant evaluation of composite and flexible materials being used to construct and rehabilitate pipelines is being conducted through research funded by government agencies and the industry, and API has promoted comprehensive studies of further use of composite materials as part of pipeline safety reauthorization. The outcomes of the research and continued industry experience in using composite and flexible piping systems should be incorporated in existing industry standards and support the development of new standards as needed. While the current regulations allow for use of materials other than steel pipe for transportation of energy products, policies should be expanded to allow for broader acceptance and allow for application of composite materials and flexible piping without requiring the use of the special permit program.