



**WRITTEN STATEMENT OF
TRISTAN BROWN
DEPUTY ADMINISTRATOR
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION**

**BEFORE THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENERGY, CLIMATE, AND GRID SECURITY
HEARING ON PIPELINE SAFETY, MODERNIZATION, AND EXPANSION ACT OF 2023**

January 18, 2024

Introduction

Chairman Duncan, Ranking Member DeGette, and members of the Subcommittee, thank you for inviting me to testify today on the U.S. Department of Transportation’s (DOT) Pipeline and Hazardous Materials Safety Administration’s (PHMSA) pipeline safety program. I appreciate this subcommittee’s support for strengthening pipeline safety across our country.

Safety is the top priority for DOT and PHMSA. Specifically, PHMSA is responsible for overseeing the safe transport of hazardous materials—through pipelines and also via other modes of transportation—including planes, trains, trucks, and vessels. PHMSA oversees the safe design, operation, and maintenance of the Nation’s nearly 3.3 million miles of oil, gas, and other hazardous materials pipeline and storage facilities, including for hydrogen, carbon dioxide, and other emerging fuels. Additionally, PHMSA’s oversight of hazardous materials via other modes includes nearly 1 in 10 goods that are transported in the U.S., everything from nuclear waste to lithium-ion batteries, to explosives used in excavation, mining, and energy production. PHMSA also chairs the International Civil Aviation Organization’s Dangerous Goods Panel, the international standards making body that sets the global framework for the safe and efficient transport of these materials across borders and around the world.

Under Secretary Buttigieg’s leadership, PHMSA has been focused on executing bipartisan congressional mandates in the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act of 2020), implementing historic infrastructure investments from the Infrastructure Investment and Jobs Act (IIJA) of 2021, strengthening our safety mission, and ensuring that the U.S. has the safest, most efficient and competitive transportation system in the world.

From the standpoint of the volume of work before us as an agency, the challenges in carrying out our safety mission have never been greater. We oversee an aging infrastructure that requires robust maintenance, and, when needed, replacement. Most of the cross-country pipeline infrastructure was built shortly after World War II—meaning many pipelines are over 80 years old—and there are even a few gas distribution segments that were installed during the Civil War era, more than 150 years ago.

PHMSA has been integral to the whole-of-government approach to mitigating unnecessary greenhouse gas emissions—an essential component of operating the safest, most efficient and economically competitive transportation and energy system of the 21st century.

Nearly two-thirds of the energy we consume in the U.S. is transported via pipeline. Over the past few decades, growth in energy production in the United States has increased to record levels. Concurrently, U.S. transportation of these products has necessarily increased, and exports of energy have—according to the Energy Information Administration—also reached record levels. This has placed new and heightened demands on our pipeline and refined products storage infrastructure, as well as export facilities, such as liquefied natural gas (LNG) terminals, which PHMSA also regulates.

The bipartisan PIPES Act of 2020 significantly strengthened PHMSA’s jurisdiction related to the minimization of methane emissions across all of our regulated entities in an effort to improve public safety and protect our environment. Our efforts on this front build on previous congressional mandates from 2011 which resulted in PHMSA completing three major legacy pipeline safety rulemakings, each of which was more than a decade in the making, including new regulations on 400,000 miles of “gas gathering” pipelines—significantly increased by the fracking boom that began in the 2000s but remained unregulated at the Federal level until completion of updated regulations in 2022. Since the enactment of the PIPES Act of 2020, Congress has added new incentives for infrastructure aimed at decarbonizing energy and industrial sectors while improving safety. Both the Infrastructure Investment and Jobs Act and the Inflation Reduction Act include significant incentives for the build-out of the hydrogen and carbon capture utilization and storage (CCUS) sectors. To address risks associated with the expansion of hydrogen and carbon dioxide pipeline infrastructure, both safety and environmental, PHMSA has focused on strengthening its regulations of these materials and expanding its safety research in these areas. On the other side of the agency, which focuses on hazardous materials transportation via other modes of transportation, the agency has focused on improving safety in the transportation of hydrogen and other cryogenic materials—via truck, train, plane, and vessel—which is seeing new technology development and investments from nearly every sector of the economy.

Also, since the enactment of the PIPES Act of 2020, PHMSA has awarded funding for its first-ever infrastructure grant program, via the Infrastructure Investment and Jobs Act. The Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) Grant Program provides \$1 billion spread over five years to improve the safety of high-risk, leak-prone, legacy natural gas distribution infrastructure with a specific emphasis on benefiting disadvantaged rural and urban communities, among other considerations. Eligible entities are municipality- or community-owned utilities, and funds are available to these entities seeking assistance in repairing,

rehabilitating, or replacing high-risk, leak-prone natural gas distribution infrastructure. Funds may also be used to acquire equipment to assist in identifying and reducing natural gas distribution pipeline incidents and fatalities. This grant funding is helping communities of all sizes make their infrastructure safer, creating good jobs, reducing heat-trapping methane from the atmosphere, and reducing the risks of fatality and serious injury for residents and businesses. For example, last year in your district, Mr. Chairman, we announced more than \$5 million for the Laurens Commission of Public Works to replace nearly 8 miles of natural gas main lines and more than 700 steel service lines. Similar projects were also funded through this program in and around Congressmen Pence's, Latta's, and Palmer's districts. In the coming weeks, we are planning to announce another \$400 million for projects like these—to modernize high risk, legacy natural gas distribution pipes—improving safety, saving consumers money, creating jobs, and reducing heat-trapping methane emissions.

Rulemaking

Our regulatory agenda over the past several years has been exceptionally full – due to the need for improved safety and oversight and this Administration's commitment to modernizing our nation's pipeline infrastructure. PHMSA has closed out years-long, and in some cases decade-long, efforts on final rules that respond to National Transportation Safety Board (NTSB) and U.S. Government Accountability Office (GAO) recommendations and congressional mandates, as well as publishing important new proposed rulemakings from the 2020 PIPES Act.

Notably, in April of 2022, PHMSA published the long-awaited final rule addressing NTSB recommendations and congressional mandates following the 2010 San Bruno, CA and Marshall, MI pipeline failures to require rupture detection and rupture-mitigation valve installation for many gas transmission and hazardous liquid pipelines, including to address a build out of new hydrogen and carbon dioxide lines. Among other important provisions, this rule requires the installation of remote-control or automatic-shutoff valves, or equivalent technology, that can close within 30 minutes of an operator being notified of a potential rupture—saving lives and reducing methane emissions.

In response to Congress' very stringent timeline for issuing a final rule for Coastal Ecological Unusually Sensitive Areas (90 days), PHMSA issued an Interim Final Rule to include additional coastal waters, the Great Lakes, and coastal beaches within the definition of an “unusually sensitive area” for the purposes of resilience and risk reduction through hazardous liquid pipeline integrity management—strengthening protections for these treasured natural environments. PHMSA subsequently held a Liquid Pipeline Advisory Committee meeting on the rulemaking and emerged from that meeting with recommendations to help finalize this rule while addressing stakeholder concerns.

PHMSA has published proposed rules on two priority rulemakings that look to address important PIPES Act of 2020 mandates and emerging safety issues. These rules address leak detection and leak repair and the safety of gas distribution pipelines (as directed in the Leonel Rondon Pipeline Safety Act). PHMSA continues to work on updates to the LNG facilities regulations, idle pipelines, and strengthening safety requirements for pipelines transporting carbon dioxide as well as many others.

For gas pipeline leak detection and repair, PHMSA’s proposed rule seeks to enhance public safety and lower methane emissions and other air pollution by significantly improving the detection and repair of leaks from new and existing natural gas distribution, gas transmission, and gas gathering pipelines. The Notice of Proposed Rulemaking (NPRM) updates decades-old, Federal leak detection and repair standards in favor of new requirements that add an additional layer of safety by deploying commercially available, advanced technologies to find and fix gas leaks that previously may have gone unrepaired in perpetuity. This rule would ensure that leaks—each of which involve a loss of pipeline integrity—are discovered and repaired before they can degrade into more serious ruptures. This rule also encourages innovation in technologies that help keep natural gas in our pipes instead of leaking into the atmosphere, which can be unsafe, costly for consumers, and harm our environment. As you are aware, PHMSA is required by statute to hold advisory committee meetings on our proposed rules to solicit recommendations to ensure our rulemakings are reasonable, feasible, cost-effective, and practicable. These advisory committee meetings help derive consensus around highly technical regulatory policies. PHMSA held a Gas Pipeline Advisory Committee (GPAC) meeting on the leak detection and repair proposed rulemaking in November of 2023, and has a second meeting on the proposed rule scheduled in March 2024. PHMSA will consider and address all Committee recommendations in finalizing the rulemaking. As required by Congress, PHMSA continues to update the Federal pipeline safety regulations (PSRs) to reflect new and revised voluntary consensus standards developed and adopted by standards-setting bodies (e.g., PHMSA’s periodic standards update rulemakings) that would be an improvement to existing regulations. We understand how important updating and aligning standards can be to ensure the PSR include up-to-date standards that reflect current best practices and technologies—and to serve as a higher bar, from which the regulated community can continue to improve.

Finally, PHMSA published an NPRM in October 2020 for Class Location Change Requirements. The PIPES Act of 2020 required PHMSA to hold an advisory committee meeting on the NPRM for this proposed rule. PHMSA planned to address this proposed rule in conjunction with the leak detection and repair proposed rule at the November 2023 GPAC meeting; however, due to the very technical nature of the Committee and the public interest in the leak detection and repair rule, additional time was needed to address each of the proposed rules completely. As noted above, PHMSA has scheduled a continuation meeting for both proposed rules in March 2024—the earliest available date for committee members.

It is important to point out that rulemaking is designed to be an iterative process that encourages maximum participation by all stakeholders and rigorous analysis in support of decision making. This process helps ensure the promulgation of comprehensive rules that protect the public and the environment and meet our statutory requirement for rules with benefits that are commensurate with their costs. PHMSA routinely holds public meetings and workshops and conducts significant outreach in advance of rulemakings, using the information gathered to establish a rulemaking record and to strive to craft the most effective rules possible. Such collaboration, well in advance of the rulemaking process, allows PHMSA to identify concerns and potential solutions and to allocate its limited resources where they are needed most. In the past, these comprehensive efforts have also helped avoid expending additional resources on legal challenges.

In addition to congressionally mandated rules, many of PHMSA's rulemakings underway address important recommendations from the NTSB, resulting from safety issues identified during investigations in the aftermath of some tragic accidents. PHMSA's rules also address recommendations from the GAO, the DOT Inspector General (DOT IG), and the agency's own safety findings. When PHMSA proceeds with such rulemakings identified by independent sources, it must make sure that its regulations account for known safety issues, technological feasibility, and cost-effectiveness.

Increased litigation

With all the good work that is being done to advance pipeline safety by the promulgation of new rules, PHMSA also faces a new normal in terms of increased challenges to its rulemakings. This results in longer development timelines and diversion of personnel resources to respond to legal challenges—which could otherwise be utilized to advance the myriad congressional directives and regulatory priorities of the agency and stakeholders.

PHMSA has also seen a dramatic increase in interest in its rulemakings pertaining to energy resources. By way of example, PHMSA's LNG by Rail Suspension NPRM, issued in November 2021, received nearly 10,000 comments—including multiple coordinated letter-writing campaigns by environmental advocacy organizations, dueling letters signed by coalitions of more than 30 State Attorneys General, as well as many members of the House of Representatives on both sides of the aisle. Meanwhile, our leak detection and repair NPRM received over 35,000 comments from industry stakeholders and trade groups, environmental groups, State Attorneys General, members of Congress, and the public.

Specifically, PHMSA has finalized five significant pipeline safety rulemakings since the beginning of the current Administration in 2021, each of which has been the subject of judicial and/or administrative challenges. PHMSA currently faces pending litigation brought by pipeline industry trade groups on the Gas Gathering Final Rule, the Coastal USAs Interim Final Rule, and the 2022 Safety of Gas Transmission Pipelines Final Rule from various stakeholder groups and governments.

PHMSA rulemaking resources are consequently spread thin. The same subject matter experts, attorneys, and economists who develop new PHMSA rules, who coordinate and respond to public comments to proposed rules and discussions during our mandatory advisory committee meetings, and who develop implementing guidance to assist stakeholders in understanding and complying with new requirements are also the same personnel who must help develop the briefs and arguments to respond to legal challenges after issuance. In furtherance of its rulemaking efforts and in accordance with the PIPES Act of 2020, PHMSA has hired additional employees to help finalize outstanding rulemakings and fulfill congressional mandates. In addition, the 2024 President's Budget requests a total of \$123.7 million for Pipeline Safety operations, which would fully fund PHMSA's rulemaking efforts and other critical pipeline safety work.

Enforcement and Compliance

While the number of PHMSA's enforcement cases have remained relatively steady, continued diligence of PHMSA staff to hold responsible parties accountable has resulted in the agency setting records for our civil penalties in 2021, 2022, and 2023. In 2023, PHMSA issued over \$12.5 million in proposed civil penalties against operators who violated safety regulations. This figure is the highest yearly amount in proposed penalties in PHMSA's history. Additionally, recognizing that timely enforcement is important to increase deterrence and shorten the time unsafe conditions are allowed to persist, PHMSA has substantially expedited its enforcement processes. From 2019 to 2023, for those enforcement cases involving civil penalties or proposed compliance actions, PHMSA reduced its average time to initiate and fully close an enforcement case by approximately 40%.

Additionally, as a mandate of the PIPES Act of 2020, PHMSA was required to conduct an inspection of implementation of the Act's self-executing mandate requiring operators to update their inspection and maintenance plans to address the elimination of hazardous leaks and minimizing releases of natural gas (including intentional venting during normal operations) from their pipeline facilities. In 2022 and 2023, PHMSA conducted 380 inspections of operators plans, covering 803 pipeline inspection systems, 39 federally inspected gas distribution systems, 37 federally inspected LNG units, and 178 federally inspected underground natural gas storage facilities, to ensure they addressed the congressional directive to assess the need to replace or remediate pipeline facilities that are known to leak based on their material, design, or past operating and maintenance history. In addition to the number of PHMSA-specific inspections, PHMSA's state partners conducted an additional 4,724 inspections. This is the first time PHMSA completed inspections of each operator that it regulates within a calendar year—and was a tremendous undertaking by our dedicated field personnel across the country and our state partners.

Of increasing interest to the agency is the safety and performance of pipes manufactured outside of the U.S. Many larger operators deploy their own inspectors when utilizing foreign-made pipe in their domestic projects—in order to ensure maximum safety and performance. However, when those U.S. companies find non-spec pipe (pipe not meeting Federal or industry standards), they may simply refuse to purchase it—which may result in another pipeline construction company ultimately purchasing or utilizing the same non-spec piping. On the hazardous materials side of our agency, PHMSA deploys inspectors across the globe to ensure products that are moving hazardous materials in the U.S. are inspected by U.S. inspectors—and non-spec products are appropriately identified and kept out of U.S. markets. PHMSA is conducting analysis to better understand if non-spec, foreign-made pipes are being utilized in the U.S.

Research and Innovation

While PHMSA continues to advance pipeline safety by strengthening its regulations and enhancing its inspector training, inspections, and enforcement programs, many of the root causes of incidents are best addressed through research and technological innovation.

PHMSA's Pipeline Safety Research Program works with academia, the regulated community, private research consortiums and federal partners to sponsor research and development (R&D) projects focused on providing near-term solutions for pipeline transportation infrastructure issues that will improve safety, reduce environmental impact, and enhance reliability. On October 31 and November 1, 2023, PHMSA held a Pipeline Safety R&D Forum. PHMSA periodically holds this forum to help generate a national research agenda that identifies technical challenges and fosters solutions to improve pipeline safety and protect the environment. The forum included five working groups focusing on carbon dioxide, hydrogen, leak detection/monitoring, threat prevention, and anomaly detection and repair. The forum identified research gap topics in these areas which PHMSA is currently reviewing to help inform the 2024 R&D projects solicitation announcement. The forum discussions regarding both carbon dioxide and hydrogen drew extended interest as more projects are being proposed for CCUS and hydrogen blending of natural gas pipelines. Both of these research areas are necessary and timely as we look towards transportation of gaseous carbon dioxide and varying hydrogen blending of natural gas pipelines, both of which may involve additional rulemaking efforts at PHMSA. Additionally, based on PHMSA's review of data and trends, there is a continued need to fund research activities intended to mitigate and evaluate threats to prevent damage to our Nation's infrastructure. The most present risks center around geohazard monitoring, data integration, and corrosion control.

Hydrogen/Carbon Dioxide (CO₂)

In FY 2023, PHMSA awarded approximately \$4 million in research investments on hydrogen projects. Specifically, under the Core Program, PHMSA awarded two projects: 1) to Investigate Damage Mechanisms for Hydrogen and Hydrogen/Natural Gas Blends to Determine Inspection Intervals for In-Line Inspection Tools, and 2) to Investigate the Integrity Impacts of Hydrogen Gas on Composite/Multi-Layered Pipe. In addition, PHMSA entered into an Interagency Agreement with the Department of Energy (DOE) to "Establish the Technical Basis for Enabling Safe and Reliable Underground Hydrogen Storage Operations." PHMSA currently has twelve active hydrogen projects from FYs 2021, 2022, and 2023 awards, totaling approximately \$11 million in research investments. These projects will research how to safely transport and store hydrogen and hydrogen blends by repurposing existing infrastructure used for natural gas transport and underground storage, improving hydrogen leak detection, and characterizing hydrogen specific pipeline integrity threats.

PHMSA also collaborates with the DOE's Office of Fossil Energy and Carbon Management to establish partnerships on R&D and safety associated with the transport of carbon dioxide via pipelines. Currently, PHMSA has four active projects to better determine impact areas for the safe operation of carbon dioxide pipelines to include potential impact radius for carbon dioxide, innovative leak detection methods, and material testing and qualification for repurposing pipelines and underground storage facilities for carbon dioxide transport and storage. The results of these may help inform a current rulemaking related to carbon dioxide pipelines.

PHMSA's funding for its Pipeline Safety-related R&D program is shared between pipeline and LNG research initiatives. For 2023, PHMSA was provided \$12.5 million for Pipeline Safety, and the 2024 President's Budget requests a total of \$15 million for these important research activities.

Liquefied Natural Gas

Global fluctuations in natural gas supplies and its availability continue to spark investments in LNG. Currently, there are eight LNG export terminals with a total LNG production capacity of approximately 14 billion standard cubic feet per day (bcf/d) in the United States. There are also 17 new facilities expected to be built within the next five years and seven more currently seeking federal approval, according to Federal Energy Regulatory Commission¹ (FERC; the agency which oversees approval and siting of these facilities). As the demand is expected to continue to increase, PHMSA continues to fund LNG safety-related research projects; with eleven completed/closed and five currently active projects, all totaling \$5.7 million.

The Consolidated Appropriations Act of 2023 provided up to \$8.4 million to PHMSA for the creation of a national Center of Excellence for LNG Safety (the Center), as authorized in Section 111 of the PIPES Act of 2020. The Center aims to position the United States as the leader and foremost expert in LNG operations—including safety and environmental performance. PHMSA has proceeded with establishing a Center which will enhance U.S. LNG operations and safety education and oversight and may result in LNG regulatory improvements. It will also serve as a repository of information and facilitate collaboration among stakeholders to enhance safety and environmental performance through research. For the last few months, PHMSA has been working to engage other relevant federal agencies with the goal of establishing a center that spans agency jurisdictions to address the most pressing issues and to have a larger impact. We have thus far received broad interest from other relevant agencies.

Funding for State Pipeline Safety Programs

Since 1970, when a national, uniform standard of pipeline safety regulations was published, states have had the authority, through PHMSA, to regulate the safety of intrastate pipelines. Under the authority of Sections 60105 and 60106 of Title 49 U.S. Code (49 U.S.C.) for state pipeline safety program certifications, states have been allowed to assume safety authority for the inspection and enforcement of intrastate pipelines. PHMSA sets the minimum Federal regulations for pipeline safety, which the participating states then adopt into their state code and enforce. States are allowed, under 49 U.S.C Section 60104(c), to adopt more stringent safety standards than the minimum standards PHMSA sets. This allows states to codify and enforce regulations that deal with specific, regional (or local) risks that might not be feasible or cost-beneficial to regulate at the Federal level. Many states have established safety regulations that are more stringent than the Federal regulations.

PHMSA relies on this extremely important partnership to accomplish its safety mission. New pipeline safety regulations and newly regulated infrastructure (such as additional gas gathering lines) continue to require state pipeline safety programs to increase staff in order to handle the additional infrastructure oversight responsibilities. These state pipeline safety programs employ approximately 444 inspectors who are responsible for inspecting over 85 percent of the Nation's pipeline infrastructure through certification with PHMSA.

¹ See <https://www.ferc.gov/media/us-lng-export-terminals-existing-approved-not-yet-built-and-proposed>.

Federal law allows PHMSA to pay not more than 80 percent of the total cost of the personnel, equipment, and activities reasonably required by the state agency for the conduct of its pipeline safety program during a given calendar year. However, for fiscal years 2021 to 2023 State Base Grant federal funding covered less than 70 percent of the actual total state program costs. The actual federal funding was 63 percent of the state program's total costs for fiscal year 2022. The 2023 federal funding is estimated to be only 56 percent of the total state program costs—due, in part, to the increasing workload placed on states because of the increase in regulated pipelines and expansion of pipeline safety regulations. The 2024 President's Budget requests an additional \$21.50 million for State Pipeline Safety Grants to increase the reimbursement rate to states to 80 percent of their pipeline safety program cost, the maximum authorized level, in order to address this need and more robustly support States' vital role in implementing many of the new regulations previously discussed.

Control Room Management and Cyber Security

Not only is the industry facing expansion in the number of regulated pipeline miles and changes in product demand, both industry and regulators are working to address the increasing number of cyberattacks. PHMSA, the Transportation Security Administration (TSA), and DOE have a shared responsibility in ensuring coordinated, consistent, and effective activities that improve pipeline transportation security. PHMSA's safety oversight of pipeline control rooms forms a nexus with TSA's cybersecurity oversight over pipeline systems, the Cybersecurity and Infrastructure Security Agency's (CISA's) role as the national coordinator for the security and resilience of critical infrastructure, and DOE's role as the Sector Risk Management Agency for the energy sector. The 2021 cyber-attack on Colonial Pipeline demonstrated how critical it is for a whole-of-government approach to safeguarding our Nation's critical infrastructure—as well as collaboration with the private sector when it comes to planning and communications.

PHMSA is leveraging its authorities to inspect and enforce three components of pipeline operations including pipeline control room regulations, integrity management requirements, and emergency response plan regulations by incorporating cybersecurity questions in inspections that focus on considering cyber risks and having emergency response plans in place that consider the threat of cyberattacks as well as envision measures to mitigate impacts to operations. PHMSA has also engaged with CISA and TSA on cybersecurity exercises for pipeline operators and will continue to emphasize cybersecurity by design in pipeline infrastructure improvements and investments.

PHMSA is increasing cybersecurity training opportunities for its staff, as well as the staff of its state and Federal partners. By expanding the knowledge base of inspectors, we are better positioned to identify risks during routine control room inspections and coordinate when needed with colleagues in TSA.

OIG audits, GAO audits, and NTSB recommendations

PHMSA's compliance and inspection program, underwent a 2022 DOT Office of Inspector General (OIG) audit to review PHMSA's implementation of its Integrated Inspection Program.

Throughout the audit, the PHMSA team provided detailed overviews and walkthroughs of its Integrated Inspection Program, including, but not limited to planning, training, inspection conduct, and governing policies. PHMSA even organized and facilitated the OIG's participation in several ongoing integrated inspections, and, at PHMSA's invitation, OIG personnel attended the Office of Pipeline Safety's annual inspection planning meeting in October 2022. The OIG provided helpful feedback and we consider the audit to have been beneficial to PHMSA's continual improvement. PHMSA learned valuable lessons and received three OIG recommendations. We continue to have a constructive working relationship with the OIG, and the audit helped us to continue to move toward our common goal of advancing pipeline safety.

The PIPES Act of 2016 included a provision for GAO to submit a report on PHMSA's gas transmission integrity management program following publication of the Safety of Gas Transmission and Gathering Pipelines final rule, including analysis of:

- stakeholder perspectives regarding ways to enhance pipeline facility safety, prevent inadvertent releases from pipeline facilities, and mitigate any adverse consequences of such inadvertent releases, including changes to the definition of high consequence area, or expanding integrity management beyond high consequence areas;
- the types of benefits, including safety benefits, and estimated costs of the legacy class location regulations;
- the impact that pipeline facility features have on safety and the risk analysis of a particular pipeline facility;
- challenges affecting federal or state regulators in the oversight of gas transmission pipeline facilities and how the challenges are being addressed; and
- any challenges affecting the natural gas industry in complying with PHMSA's programs, and how the challenges are being addressed.

In 2023, GAO and PHMSA met several times to review PHMSA's integrity management program and recent changes to the Federal PSRs stemming from PIPES Act 2016 mandates. PHMSA looks forward to GAO's report and findings related to the important topics addressed in the 2016 Act aimed at enhancing pipeline facility safety. PHMSA continues to work with NTSB to address recommendations that have been made following natural gas and hazardous liquid accidents. We collaborate with NTSB often, including opportunities for cross-training of our respective staff. Currently, PHMSA has 19 NTSB recommendations that are open, and we continue to work to resolve these recommendations—some of which are constrained by resources and some by statute—such as the congressional prohibition on applying the Automatic/Remote Shut Off Valve Rule to existing pipelines.

We'll continue to engage with NTSB as a partner in advancing safety. All of these efforts are important because continual improvement is a key principle of safety management systems and high-reliability organizations, and one we embrace for both the agency and the industries we regulate.

Transparency, Equity, Environmental Justice, and Outreach to Disadvantaged Communities

To implement the President's executive orders on equity (EO 13985 and EO 14091) and environmental justice (EO 14008 and EO 14096), as well as to help address historic inequities in the transportation system, PHMSA's Office of Pipeline Safety has expanded its efforts to make pipeline safety incident and enforcement data (which was also the subject of a GAO report that lauded PHMSA's transparency) easily accessible to the public. PHMSA, like the rest of the Federal Government, has been concerned with environmental justice and equity issues as a dimension of its historical safety mission for decades. Recently, PHMSA created and published on its website a publicly available interactive mapping tool that allows users to view the location of pipeline incidents, as well as a geographic overlay of underserved communities.

As part of PHMSA's ongoing equity efforts, PHMSA engages our state and federal partners, as well as stakeholders, to share our findings and encourage them to engage in dialogues with pipeline operators to ensure maintenance and operational safety measures do not leave disadvantaged communities behind. These communities are identified through U.S. Census and internal DOT/PHMSA data focused on transportation-disadvantaged communities that have experienced excavation damages, and other pipeline incidents and accidents.

PHMSA has also expanded its public outreach and education on pipeline awareness and safety as well as community-based excavation damage prevention initiatives to disadvantaged and socioeconomically challenged geographic areas. PHMSA has held or participated in several public meetings regarding the safety impacts of natural gas and carbon dioxide (CO₂) pipeline infrastructure. Specifically, in May of 2023, PHMSA held a first of its kind public meeting on CO₂ pipeline safety where we took the meeting closer to people potentially impacted by proposed projects. While the meeting was held in Iowa, the virtual attendance spanned the entire nation with approximately 1,100 people in attendance. PHMSA continues to provide public forums that give communities a voice in pipeline safety advocacy and provides an opportunity for PHMSA to engage directly with those most effected by the infrastructure we oversee.

Additionally, PHMSA's historical grant activity for pipeline safety transportation has been a boon for both rural and urban disadvantaged communities. PHMSA's Technical Assistance Grants (TAG) program provides funding to local communities and groups of individuals (not including for-profit entities) for technical assistance relating to pipeline safety. The TAG funding may also be used to help promote public participation in official proceedings. In 2023, PHMSA awarded over \$2 million in TAG funding to communities across the country. These awards directly fund improvements in local pipeline emergency response capabilities and safe digging programs, development of pipeline safety information resources, implementation of pipeline emergency response training best practices for events related to excavation damage, and community and pipeline awareness campaigns.

As mentioned previously, PHMSA's NGDISM Grant Program funds are benefitting disadvantaged communities in both rural and urban areas because the program is focused on improving the operation of distribution infrastructure, the pipelines closest to everyday consumers. In 2022, the first year of the NGDISM Grant Program, PHMSA received 179

applications totaling \$1.2 billion for the \$200 million in available award funding. Following this exceptional first round, in 2023, PHMSA received 184 applications totaling over \$1.7 billion. Because of the extraordinary demand for this program, PHMSA decided to make \$400 million available for the 2023 funding awards in an effort to accelerate the deployment of the funding and reduce the paperwork burden for applicants that would be resubmitting applications for fiscal years 2023 and 2024. Ultimately, these projects will advance the Biden-Harris Administration's U.S. Methane Emissions Reduction Action Plan, which enables the United States to leverage all available tools to reduce methane emissions while protecting public health, promoting U.S. innovation in new technologies, lowering energy costs for families by reducing inefficiency and waste, and supporting good-paying jobs for thousands of skilled workers across the country.

Increased Engagement with the Public

PHMSA is committed to enhancing all stakeholder engagement and has increased the number of public meetings and information briefings it hosts—holding three public meetings and information briefings in 2023, as well as the week-long November GPAC meeting that was open to public participation. Personally, I have visited community members and victims, on-site, where pipeline facilities have failed (e.g., Marshall, MI; Bellingham, WA; Sartartia, MS; and Freeport, TX).

PHMSA has also increased its engagement with public interest groups like the Pipeline Safety Trust, pipeline worker labor unions, and environmental groups, as well as relevant trade associations actively participating in conferences and meetings to hold a two-way dialogue on important pipeline safety issues, emphasizing that pipeline safety is a shared responsibility.

In 2022, PHMSA partnered with the DOE in a series of Community Engagement Workshops on Carbon Capture, Utilization, and Storage and continues to serve as a resource regarding pipelines to DOE and the public. PHMSA has also supported requests from individuals and groups to participate in meetings to discuss CO₂ pipeline projects, to listen to concerns on safety, environmental justice, environmental impacts, and emergency response preparedness, as well as met with representatives at the state legislature level to inform our oversight and safety efforts.

In 2023, PHMSA's Community Liaisons participated in nearly 195 public meetings, events, and conferences to educate our stakeholders on pipeline safety and damage prevention initiatives and to address questions about the Federal pipeline safety regulations or concerns about pipeline-related matters. Of the 195 event, 56 events were held in disadvantaged and underserved communities and 16 were engagements with individual landowners and local community representatives. PHMSA continues to promote the 'Call 811 Program' through participation in events as well as through social media and digital campaigns encouraging safe digging practices.

Efficiencies in Oversight, Taxpayer Stewardship, and Focus on Employees

Over the last five years, liquid pipeline incidents have fallen by 21% while pipeline mileage and barrels delivered have increased by more than 27%. Additionally, from 2020 to 2022, the number of PHMSA safety regulated miles for gas distribution, gas transmission, hazardous

liquids, and carbon dioxide pipeline systems increased by 36,000 miles, and a much larger number of gas gathering lines are newly regulated. As previously noted, and to put it simply, our oversight responsibilities continue to grow both in terms of the types of facilities we regulate as well as the number of facilities we regulate. PHMSA has increasing responsibility for LNG facilities, underground natural gas storage, as well as natural gas gathering lines. PHMSA's budget, excluding the Infrastructure Investment and Jobs Act's gas distribution grant program, does not grow at a rate commensurate with its responsibilities. Consequently, PHMSA has had to continuously operate relatively leaner as compared to our expanded universe of regulated facilities. To this end, PHMSA has utilized advisory bulletins, public meetings, research solicitations, and increased collaboration with co-regulators such as the Federal Energy Regulatory Commission (FERC), the Environmental Protection Agency, the Department of Interior, the U.S. Coast Guard, and our state partners through collaboration with the National Association of Pipeline Safety Representatives to meet the increasing regulatory demands.

Although PHMSA is facing fierce hiring competition from the private sector and other Federal agencies (e.g., FERC, NTSB) who are also competing with the same limited talent pools, hiring times at PHMSA have been reduced by 25 percent. PHMSA continues to explore ways to continue to improve the agency's hiring and recruitment to make it both more efficient and effective in recruiting and retaining talented applicants. PHMSA has hired a new HR Director, and the team is fully utilizing all approved recruitment and retention incentives and all other hiring flexibilities which has allowed PHMSA to increase hiring and we'll continue to do so in 2024. Specifically, special salary rates were approved in 2023 and PHMSA continues to implement programs to take advantage of all available hiring flexibilities.

We are grateful for the congressional authorities given in the PIPES Act of 2020 to improve efforts to attract and retain a talented pool of professionals. As noted, PHMSA has undertaken new recruitment and retention efforts—in coordination with the Office of Personnel Management—including, developing new tuition reimbursement efforts and utilizing new online recruitment methods. PHMSA is also utilizing the Department of Defense's Operation Warfighter (OWF) program that matches qualified wounded, ill, and injured service members with federal internships for veterans to gain valuable work experience during their recovery and rehabilitation—and create a pathway from the military to permanent employment. PHMSA has kept up with the PIPES Act of 2020 hiring mandates—both for inspectors as well as for regulatory personnel, that have helped lead the agency to some of its most productive years ever in terms of both finalizing regulations as well as enforcement actions and a reduction trend in hazardous materials and pipeline incidents.

PHMSA has also utilized technologies like iPads and inspection recording applications to eliminate paperwork for inspectors—which has resulted in more efficient use of inspectors' time and increased the accuracy and standardization of inspections. Furthermore, on an agency-wide basis, PHMSA has reduced or eliminated its use of nearly two dozen disparate software systems in favor of less costly, integrated systems. PHMSA is utilizing the cost savings of this nature to continue investing in more long-term, cost-saving programs.

Looking Forward: Pipeline Safety, Modernization, and Expansion Act of 2023

PHMSA is aware of congressional efforts to complete a reauthorization of its pipeline safety program. PHMSA has followed with interest of the efforts of both the Energy and Commerce Committee and the Transportation and Infrastructure Committee, particularly the Pipeline Safety, Modernization, and Expansion Act of 2023.

As has been mentioned several times throughout this testimony, the anticipated expansion of pipeline infrastructure to transport CO₂ has made PHMSA's update of current CO₂ pipeline regulations a top priority for the agency. PHMSA anticipates issuing a Carbon Dioxide and Hazardous Liquid Pipeline Safety NPRM early this year. The proposed rule aims to cover operational and maintenance safety issues relevant to all phases (e.g., supercritical, gaseous, etc.) of CO₂ transportation via pipeline—and to address each of the issues identified by PHMSA in its investigation and enforcement activities involving the 2020 pipeline failure in Sartaria, MS.

A topic of congressional interest during the March 8, 2023, House T&I subcommittee hearing titled "Pipeline Safety: Reviewing Implementation of the PIPES Act of 2020 and Examining Future Safety Needs," was implementation of the Pipeline Safety Enhancement Program (PSEP) authorized by the PIPES Act of 2020. The program directed PHMSA to evaluate innovative technologies and operational practices that may provide more robust protection of public safety and the environment than the existing Federal PSRs. The PSEP was authorized through December 2023; however, there were no applicants for the programs. At the T&I subcommittee hearing, industry representatives testified that the application requirements were so stringent that they were disincentivized from applying. While PHMSA followed congressional direction in the PIPES Act of 2020 in utilizing the review process of the existing special permit (waiver) program, I testified in March 2023 that PHMSA was amenable to working with interested operators to alleviate some of the application requirements while ensuring that an equivalent level of public and environmental safety was being maintained by any new technologies or operational practices being implemented on in-service, or active, pipelines.

Finally, another provision of the draft Pipeline Safety, Modernization, and Expansion Act of 2023 is the implementation of a voluntary information-sharing system (VIS) comprised of PHMSA, other federal and state agencies, the regulated industry (i.e., pipeline and facility owners and operators), and general public safety or environmental advocacy organizations. The VIS concept is one that is used successfully in other industries, particularly in the aviation field. PHMSA has worked for years on developing a VIS concept for the pipeline sector since the initial congressional mandate in the PIPES Act of 2016 to study the feasibility of such a system. PHMSA looks forward to Congress' guidance on implementing a program that seeks to encourage collaborative efforts to improve information sharing with the purpose of improving gas transmission, hazardous liquid, and carbon dioxide pipeline facility integrity and safety.

Conclusion: Continued Exceptional American Leadership in Pipeline Safety

In closing, I would like to thank you again for the opportunity to engage with you on the critical issues facing PHMSA and, in turn, facing a major component of the largest, most sophisticated energy transportation system in the world. Each of the areas I outlined above are areas in which

the rest of the world looks to America for leadership: leadership in the marketplace of products for which we are the most efficient in the world; leadership for establishing safety rules—that countries around the world have told me they often adopt “in whole” —to improve their own pipeline safety and environmental protection and harm mitigation; leadership in the rule of law when it comes to disputes and compliance; leadership in research, innovation, and new technologies to improve safety and environmental performance that are sold domestically and exported around the world; leadership in transparency and engagement with affected communities, which other countries also look to as a new standard; and leadership in efficiencies, for all the work that we do.

This work is the result of our collaboration with the committees that authorize our agency and fund our agency but the kudos for all of the achievement of our agency go to the more than 600 full-time federal employees and nearly 200 contractors that make up what I believe is the most unsung agency in the Federal Government.

Congress has charged us with tremendous responsibilities—from ensuring the safe transportation of some of the most valuable goods that move in commerce, like satellites and spacecraft, as well as some of the most essential goods like fertilizer used on our farms, which can be transported by pipeline. As we take on ever greater oversight responsibilities with oversight of the build-out of carbon dioxide and hydrogen pipelines and other energy products of the future, PHMSA must either continue to grow our resources, or continue to reassess multiple and increasing priorities with the same amount of resources.

We look forward to continuing to work with Congress to improve pipeline and hazardous materials safety and to reduce associated environmental impacts.

Thank you again for inviting me here today. I look forward to your questions.